

TRANSACTIONS
OF THE
ROYAL HAWAIIAN
AGRICULTURAL SOCIETY:

AT ITS FOURTH
ANNUAL MEETING, IN JUNE, 1854.

VOL. 2, NO. 1.

HONOLULU:
PRINTED FOR THE SOCIETY.
GOVERNMENT PRESS.
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LIST OF OFFICERS FOR 1854.

WM. L. LEE, *President.*

BENJ. PITMAN, P. CUMMINGS, L. L. TORBERT, C. B. ANDREWS, R. W. WOOD, H. A. WIDDEMAN,	}	<i>Vice Presidents.</i>
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GEO. WILLIAMS, *Treasurer.*

JNO. MONTGOMERY, *Corresponding Secretary.*

EDWIN O. HALL, *Recording Secretary.*

S. N. CASTLE, B. F. SNOW, C. R. BISHOP, S. REYNOLDS, W. NEWCOMB,	}	<i>Executive Committee.</i>
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PROCEEDINGS
OF THE
ROYAL AGRICULTURAL SOCIETY,
FOURTH ANNUAL MEETING,
HONOLULU, JUNE 13, 1854.

The Society was called to order by the President, Hon. WM. L. LEE, at 11 o'clock, and the minutes of the last Session of 1853 were read by the Secretary.

In accordance with the 9th Article of the Constitution, the President read a most interesting and valuable Report, which was accepted by the Society, and is as follows:

Gentlemen of the Society:

It becomes my pleasant duty again to congratulate you on the return of our annual festival; and, agreeably with our Constitution, to render you a report of the proceedings of our Society for the year which has just closed. I think there is no reason to doubt that our association is a useful one,—one whose influences for good are seen to some extent at the present time, in the increased interest manifested in the culture of the soil, the importation of new and improved breeds of stock, the introduction of new fruits, plants and flowers,—and one whose influences will be deeply felt in the bright future so sure to dawn upon these pleasant islands. That we have done good who will question? Still, I am not satisfied that we have done all we ought to have done; and I trust that our efforts for the future will be pushed with redoubled energy, and so directed as to confer the greatest amount of real, practical benefit upon the great cause we seek to promote. Let us take hold of the matter with a will,—remedy whatever defects may exist in our plan of operations,—and push our cause for the year to come with a life and vigor which shall greatly extend our usefulness.

Our Society is a progressive one. We have gained strength with every new year, increasing in members and funds, and adding, I trust,

to the increased interest which is manifested in all the various branches of Agriculture, Horticulture, Floriculture and Manufactures.

Soon after the last annual meeting, the Board of Managers held several conferences upon the subject of premiums, and the result of its deliberations was the resolution to offer to the public a list of 160 premiums, at a cost to the Society of about one thousand dollars. Most of these have been ordered, and part of them are now on their way to the Islands in the ship "Falcon." In my opinion, this list is greater than the Society can well afford; and it is a question of some importance, whether we could not benefit the Islands more by appropriating a less sum to premiums, and a larger one to the importation of stock and improved agricultural implements.

The Board of Managers has recently ordered from the United States a Devon bull and cow, several new breeds of swine, and taken measures to insure the introduction of a large variety of wheat, oats, barley and garden seeds, suitable to our soil and climate; and it has only been deterred from doing more in this line by the fearful risk incurred in importing stock such a long voyage and through so many changes of climate. Much has been done, also, by individual members of the Society, in introducing new stock, and many orders have been sent for horses, cattle and sheep, to California, New England and Australia, some of which have already arrived, while others are on the way.

The financial affairs of the Society are in a healthy and prosperous condition, and for a detailed account of the same, I beg to refer you to the report of our worthy Treasurer. The total receipts for the past year have been \$2,186 23, and we have the satisfaction of reporting that while we have added \$1,200 to our permanent funds, we have paid all demands, and still have a balance on hand sufficient to meet our ordinary expenses for the time being. If there is any one thing more than another necessary to the prosperity and usefulness of our Society, it is, in my opinion, the preservation of a sound and healthy state of our Treasury.

The cause of Agriculture in these Islands, I think, is decidedly upon the advance; and though some of us have been disappointed in our crops, though our trade with California—the great consumer of our

products—has diminished, and though the small pox has smitten thousands of our best laborers to the ground, we have great reason to rejoice in the general prosperity and abundance of the land. In several branches there has been great activity and progress, and such as cannot fail to gladden the hearts of all those who are fond of sweet flour, good mutton and tender beef.

WHEAT.—The rapid increase of wheat raising during the past year has been such as to mark a new era in the history of the Islands.—There has been sown in the region of Makawao, East Maui, during the last year, some 1,200 acres of this valuable grain; and though about 200 acres of it have been cut down by the pelua, it is estimated that the remaining 1,000 will yield at least 25,000 bushels of beautiful wheat, or an average of 25 bushels per acre. This, it is said, will make five thousand barrels of flour, or more than enough to supply our home consumption. It is indeed a glorious day when we can raise our own breadstuffs, and one which will be appreciated by those who for the last quarter of a century have been compelled to eat the miserable, sour, musty stuff called flour, which has been imported round Cape Horn, and after being mixed with about an equal quantity of saleratus, baked, and called bread. “I have little doubt,” as Mr. Green remarks in his valuable report on this subject, “that the ill health of many of the early residents of the islands had its origin in the character of the flour which was imported from abroad.” For the last three months I have made Makawao wheat my staple food, and I hope never to eat another ounce of imported flour. To the pioneers in this enterprise of growing wheat,—to those who have so faithfully persevered in raising their little patches of the beautiful grain in the face of the generally expressed opinion that neither our soil or climate was suited to its produce,—too much honor cannot be awarded.

In the early days of wheat sowing, when it was raised by the peck and bushel, the lava rocks were used as a threshing machine, and the mouth for a fanning mill; but lo! the Yankee has come with his reaping machine, his horse-power and steam mill, and he will wake up the slumbering soil, cause the fields to rejoice with beauty, gather in his harvest and his dimes, and give us plenty of sweet bread and to spare.

It has been generally thought that wheat would not grow and fill well at an elevation above the sea of less than a thousand to fifteen

hundred feet. This is a mistake; for Mr. Emerson, of Waialua, has this year sown a patch not ten feet above the level of the sea, which has filled admirably. Some of it is now here for exhibition.

Not the least among the wonders of the day is the new steam flouring mill, recently erected in Honolulu by that enterprising association the Hawaiian Steam Flouring Co., and to which we look the coming year for our bread. This mill, the engine and machinery, is the work of three worthy and ingenious Down Easters, who do everything upon honor, and who are a real blessing to the islands.

The new varieties of wheat introduced by the Society were sown late, and consequently cut down by the pelua.

CORN, BARLEY, OATS.—The corn crop of the islands is a very uncertain one, and is only remunerative in a very few locations. After being nursed through its infancy, and preserved from its great enemy the cut-worm, it is subject to be blasted in a single night by a smaller but more terrible foe. This is a tiny white insect, so small as to be hardly visible, which settles on the field in a cloud, as it were, and just as the corn begins to silk, and the heart of the husbandman gladdens with hope of an abundant harvest, the green field turns brown, withers and dies. The best corn is raised at Waialua, on this island, and finer meal than is made from it at the new Flouring Mill was never eaten. The kind generally planted is the yellow corn, of from 16 to 18 rows. Several new varieties were introduced by the Society last year, and scattered on the different islands, but I have had no report from them.

There is a steadily increasing demand for oats and barley, for horse feed, at about a dollar and twenty-five cents per bushel, and yet there is scarcely any raised. Why is this? Both will generally do well where wheat grows, and I should think the raising of them would be profitable. At least we ought to raise enough to supply our own market. At present our oats are mostly imported from the United States, by way of filling in boxes of hardware and other goods which they do not injure. From the varieties of barley imported by the Society last year I have not yet heard. Mr. Townsend is said to have a flourishing field of this grain growing, at Makawao, on East Maui.

SUGAR.—The growth and manufacture of sugar in this country is still in its infancy. The trials and difficulties of pioneers in this busi-

ness, remote from every means and facility for carrying it on, can never be told; but I trust the day has arrived when some, at least, of those who have persevered so manfully in rolling stones up hill, will be rewarded for their labors. The last year's crop has not equalled our expectations, though it has exceeded that of the year before. We estimate the whole produce of the islands for the last season at 800 tons, which, with the syrup and molasses, is valued at \$120,000. The great obstacles in the way of an increased produce of this article, as I have often before remarked, are the want of capital, and the still greater and ever increasing one of labor. Each successive year reduces the number of Hawaiian laborers, and whether this diminution can be profitably supplied by the importation of Coolies is still problematical.—The present crop of the Koloa plantation, on Kauai, owned by Dr. R. W. Wood and Mr. Burbank, will amount to 300 tons of beautiful sugar, which, at six cents per pound, makes the handsome sum of \$36,000. Its syrup and molasses I estimate at ten thousand dollars more, which shows a total of \$46,000. The whole expenses of the plantation per annum do not exceed, I am told, fifteen thousand dollars. Comment is unnecessary.

The Lihue plantation, owned by Henry A. Peirce & Co., only ten miles distant from that of Koloa, has been less favored. Owing to causes which no human agency could avert, the large crop anticipated has proved an almost complete failure. A year ago last December the prospects at Lihue were cheering in the highest degree, and we were sure that we should harvest a crop this season of at least 400 tons. The sun never shone on finer fields of cane. In January a storm came, accompanied with terrible thunder and lightning, and blasted our smiling fields as with the breath of fire. After the storm passed, the cane fields grew brown, rotted and died, and 400 acres that should have brought us at least \$50,000, hardly produced one-sixth part of that sum. The whole crop did not exceed fifty tons.—The cause of this fire blight is still a mystery. At first we thought that it might be the work of an insect, but the closest examination showed that we were mistaken, and we can ascribe it to nothing but some great convulsion in the atmosphere. In other words, our theory is, that it was the effects of the lightning, which flashed fearfully du-

ring the whole storm. The idea that the atmosphere, being overcharged with electricity, blighted our cane, may sound ridiculous to some, still it is the only explanation we can give, unsatisfactory as it may be to the wise and scientific.

Torbert's plantation, on the Island of Maui, which stands second to none in the general character of its products, is in a flourishing condition, and its proprietor, by the hardest toil and most indomitable perseverance, has overcome the greatest of difficulties; and, I trust, is on the high road to success. This plantation has very deep soil, and is said to produce more sugar to the acre than any other in the Islands. The only other plantations of East Maui now in operation, are those of Messrs. Wood and Spencer, and the Haalimaili plantation, belonging to Stephen Reynolds, Esquire. Owing to a variety of causes, these plantations have not made a large show of produce this year, but they are capable of great things in the way of sugar growing, which I hope we shall soon see realized.

The sugar plantations, belonging to the Chinamen, in the district of Hilo, Hawaii, I am sorry to say are at a stand-still. Their proprietors, so far as improvements are concerned, stand just where their ancestors stood 2000 years ago, and not a step will they advance. The largest cane I have ever seen was raised in Hilo, and a large part of the district is quite an Eden in the way of cane growing. The great objections to plantations in Hilo are the iron-bound coast and the impossibility of building a good road to their only harbor. Still, these obstacles are not insuperable.

Since our last meeting, we have imported, through the kindness of Capt. Edwards, of the ship "George Washington," some new seed cane direct from Tahiti, which will doubtless prove a valuable acquisition to our planters.

COFFEE.—Coffee is cash, and the demand for it the past year has been greatly beyond the supply, and that too at prices ranging from 12 to 18 cents per pound. The call for Kona coffee, which is said to be inferior to none in the world, is much greater than for any other kind, and it is a thousand pities that that beautiful district does not send more to market. The only planters of coffee to any extent in the Islands, at the present time, are Messrs. Cummings & Hall, of Kona, Mr. Pitman, of Hilo, and Mr. Titcomb and Messrs. G. Rhodes & Co.,

of Hanalei, Kauai, all of whom deserve praise, for all have had their trials to overcome, and have battled with them manfully. The greatest producer of coffee is Mr. Titcomb, of Kauai, who is famous for good management and thrift.

POTATOES—Two or three years since, the largest export from these Islands was that of Irish potatoes to California. To-day we are eating California potatoes of a better quality and at a less price than those of our own raising. How shameful! There is no soil in the world better adapted to the raising of this vegetable than the rich, mellow loam of Kula, East Maui; and I am happy to hear that the people of that region are beginning to wake up to the importance of raising a supply for our whaling fleet. The great potato man of the Islands is Mr. Torbert, and from him I learn that he has introduced the purple California potato into the uplands of Kula since our last gathering, and that it is fast becoming popular with the natives.—Thank God! that with all our indolence and neglect of the potato, we have as yet escaped that great scourge of other lands, the potato rot.

Of sweet potatoes we have a great abundance, probably because they are an article of food with the natives, who esteem Irish potatoes as little better than chips. But there is great room for improvement in the vegetable, and Mr. C. R. Bishop has been at much trouble and pains to introduce the seed of new varieties from the United States.—The Society has also taken steps to introduce new seed of this valuable plant.

TOBACCO—The seed of this plant, imported last year by the Society, from Cuba and the United States, was sent to Messrs. Archer and Gruben, of Kauai, and I learn some of it has grown, and gives promise of a good leaf.

GARDEN VEGETABLES, MELONS AND FRUITS.—Most of the garden vegetables produced at the Islands are raised at the hot sea-side, in a climate not the best adapted to their growth; and, consequently, many of them do not thrive, even with the best of nursing. Tomatoes, radishes, carrots, cucumbers, lettuce, egg-plants, beans and squashes can be grown in any quantity, with good care; but, generally speaking, beets, turnips, onions, parsnips, parsley, peas, cabbage and many other valuable vegetables, are of a very inferior quality, and require more watching and money than they are worth. Several natives grow

vegetables for market, on a limited scale; but the only foreigner who has prosecuted the business with much profit is Mr. Montgomery, who has gone into the work *con amore* and with gloves off. And here let me do justice to the pioneer gardeners of the Islands, Francisco de Paul Marin and Capt. Alexander Adams, who have done a vast deal for the fruits and vegetables of these islands.

For melons I think we may match the Islands against the world, in variety, quantity and quality. For this, blessed be the memory of Cook and Vancouver.

Of the fruits of the Islands little can be said in praise, as they are limited in quantity, and very often of inferior quality. To this general remark, however, there are some agreeable exceptions. Of bananas, figs and ohias there is a tolerable supply; but of oranges, limes, pine-apples, mangoes, grapes, peaches and other fruits suited to our climate, there is a great lack. A more genial soil and climate for the grape than Lahaina cannot be found, and I am glad to see that the growth of this delicious fruit in that place is rapidly increasing. Honolulu, owing to our trade-winds, has generally been considered too harsh for the culture of the grape; but a finer vineyard than that of Capt. Adams I never saw. His vines, which are trained after the French style, are loaded down with luscious fruit, and his garden, though two miles from town, will repay one for a visit. Several of the new varieties of grape introduced by Mr. Montgomery in 1852, are doing well, and a few of them are now in bearing. Mr. Dimond has a young but noble vine in full bearing, which grew from a cutting imported by Mr. Janion.

Of peaches, we ought to have an unlimited supply. I have eaten very good peaches, within the last week, from a tree only two and a half years old, which has borne one crop before. The tree is growing on the plantation of Messrs. Cummings & Hall, at Kona, Hawaii, and has this year produced nearly a thousand peaches. Mr. Parker, on Hawaii, has quite an orchard of peach trees, grown within the last 6 years, some of which are more than a foot in diameter, and have attained to a wonderful height and breadth. The fruit, however, is indifferent. Waikapu, Wailuku and Makawao, on Maui, are all kind to the peach; and Mr. Rhodes, on Kauai, grows very fine ones. Oahu has never seemed to favor this fruit, but the people of our city are fast

waking up to a renewed effort in its culture, and I doubt not they will eventually succeed. The best fruit of this kind I have ever seen at the Islands, grew on a tree imported by Mr. Janion from Mexico, which I am told has been slipped with entire success. I have also eaten a very good peach raised by Gen. Miller, from a slip given him by Mr. Rhodes, of Kawai, and another from the garden of Capt. Makee. Very fine and large ones, I am told, are raised by Messrs. Robinson, Holt and Lawrence, about thirty miles from Honolulu. The Society has ordered a lot of choice peach slips from the United States, which will be distributed among the members as soon as they arrive. Mr. Bates has an imported tree, said to be of a good variety, from which he would be happy to furnish cuttings to all who may desire.

One of our most delicious fruits is the mango, and it is very gratifying to see its growth increasing. The only bearing trees of this fruit in Honolulu, that I know of, are those of Capt. Adams, Paul Manini, Rosalie Jones and Dr. Judd; but there is quite a number of young trees, which give good promise for the future. The home of the mango, on these islands, is Hilo, where it grows rapidly and yields abundantly. Some new seeds of this fruit have been introduced this year from China and Manila, by the Hon. E. P. Bond, of Kauai.

FLOWERS.—Intimately associated with the subject of fruit is that of flowers, and it is cheering to see the activity, zeal and ambition manifested by our flower-loving friends of Honolulu, especially the ladies, in the delightful labors of floriculture. Many new, rare and expensive plants have been introduced since our last meeting, and our gardens begin to bloom with the beauties of every clime. The subject of flowers is a fertile one, and charming as fertile; but I leave it to the abler hands of the Chairman of the Committee on Floriculture.

CATTLE.—It is clear to me that the Islands, as a whole, are better adapted to pasturage than to agriculture; and hence the Society cannot devote too much attention to the improvement of our stock. Nearly, if not quite seven-eighths of all the surface of the group is unfit for the plough, while it yields the sweetest of pasture. There is a marked improvement in the breeds of our cattle within the last few years, and never has there been so much activity and interest manifested in the subject as within the last twelve months. Mr. Thomas Cummins, of Honolulu, has imported a fine bull, half Durham, from California,

and orders have been sent to the United States for other cattle of various breeds. Mr. Wyllie, Capt. Meek and myself have sent for an Ayrshire bull and cow; Capt. Meek, Mr. Allen and myself for a Durham bull and cow; Dr. Hardy for a Durham cow; Dr. Wood, Mr. Montgomery and the Society for a Devon bull and cow; and Mr. Armstrong, Mr. Reynolds and Mr. Harris are about to order a Hereford bull and cow; and, I doubt not, there are other orders with which I am not acquainted.

The subject of salting beef is closely connected with that of cattle, and one which I hope will receive more attention than has hitherto been bestowed upon it. We have plenty of cattle and to spare, and why is it that we allow our market to be supplied, in a great degree, by salted beef imported from the United States? Some say our salt is not good; others, our climate is too warm, and consequently the beef cannot be cured so as to keep well. As for salt,—if ours is not of the requisite quality, the best can readily be imported; and as for climate,—we can choose almost such a temperature as we like. The subject of salting beef is one with which I am not familiar, but there are those in our Society that can handle it with ability. I can see the evil, and believe it has a remedy. I take pleasure in laying before you a communication on the subject, from Mr. Wyllie. We ought to export largely of both beef and butter; and I believe the time will come when we shall do so.

HORSES.—The Society has taken no new steps this year for the introduction of horses, owing to the great risk and expense of the business, but has left it entirely to private individuals. Two American mares have been recently imported by Dr. S. P. Ford, from California, and one by Mr. R. H. Bowlin, and Mr. Paul Manini is daily expecting a fine American stallion. Good horses are increasing, but not so fast as poor ones, which in some districts outnumber the cattle, and are a downright nuisance. For valuable suggestions in reference to these miserable nags, and the subject of horses generally, I beg to refer you to the report of the Committee having that subject in charge.

SHEEP.—The business of raising sheep has taken a start this year almost equal to that of wheat growing, and is fast acquiring an importance second to no other. It ought to be very profitable, for the price of mutton is high, and the rapidity of increase beyond all precedent.

I have known of some flocks that have trebled in the past year, and I hear that Mr. Moffitt has one ewe with five lambs,—mother and children all doing well. The Merinos imported by Mr. Moffitt, and the South Downs, by Mr. Cummins, are thriving, I am told, and in a short time we may promise ourselves a large export of good wool, and the luxury of the best mutton. Dr. S. P. Ford, who has entered largely into the business of raising sheep, has now on the way to the Islands, in the ship "Falcon," four French Merino and two South Down rams, which will infuse into our flocks some fine blood. Mr. Montgomery has also gone extensively into the business, and has ordered from Australia a choice lot of rams, which may be expected to arrive every day. Capt. Meek has also ordered some South Downs from Vancouver's Island. The Society has recently received a donation of valuable books from the Hon. B. P. Johnson, Corresponding Secretary of the New York State Agricultural Society, among which is the "American Shepherd," a treatise on the breeding and management of sheep, of high repute. For this, and many similar acts of kindness, Mr. Johnson merits our best thanks. While speaking of sheep I ought not to forget the burr, which is one of the greatest pests of this island, and is fast spreading to Maui and the other islands, being carried hence in the manes and tails of horses that were better dead than alive. I hope the Society and Legislature will take means to prevent the increase of this nuisance.

SWINE.—The Suffolk pigs introduced by the Society last year, have flourished finely. The use of one of the boars was sold to Mr. C. B. Andrews, of Molokai, for one year, at \$10, and the other boar and two sows are still in the keeping of Capt. John Meek. A nice Suffolk sow has just been imported by Capt. Robertson, of the American brig "Noble."

We have lately ordered a fresh supply of swine from the United States, consisting of a pair of Suffolks, one of Berkshires, and another of the breed known as the Irish Graziers, and I hope the shark and alligator breeds will soon disappear from the islands.

POULTRY.—The only importation of poultry this year has been that of a pair of White Dorkings, by Mr. H. M. Whitney. A pair sent out to the Society in the same vessel, died on the passage, and also two pairs of Polish golden top-knots. These fowls, which were very ex-

pensive, were presented to the Society by Mr. Eben Wight, of Dedham, Mass. Chickens command a ready sale and high price in Honolulu, but you are not much surer of them after they are hatched than before. For some reason, our climate, so genial to every other creature, seems peculiarly fatal to chickens, and not one in five that are hatched is reared.

Quite an acquisition has been made to the feathery tribe of the islands this year, by the importation of a pair of black swans, from Australia, by Mr. C. A. Taner, and a pair of white ones from the Arctic regions, by Capt. Fales.

HONEY BEE.—The hive sent out to the Society by Mr. Henry A. Peirce, packed in ice, arrived in a sad plight, and was sold at auction for \$13. The purchaser, Mr. C. R. Bishop, took every pains to save the few bees that were living, but without success. Mr. Peirce incurred an expense of about \$150 in this enterprise for the benefit of the islands, and for his generosity he deserves the gratitude of our Society. Both he and Capt. Charles Brewer, of Boston, are Life Members of our Society, and more liberal and efficient ones are not on our list.

In conclusion, let me call your attention to the subject of manures, as one worthy of some notice, and at the same time to lay before you a communication on the subject, from His Excellency the Minister of Foreign Relations.

In a letter lately received from Mr. Henry A. Peirce, he says:—"Improving the soil makes me think of Bird Island, and the thought which has often occurred to me, whether there is not a large deposite there of guano. It has long been noted for the immense flocks of birds by which it is inhabited. Would it not be a good thing for the Government to examine the island? Should I send a vessel out to the Islands in the course of this year, I shall, I think, let her visit Bird Island, to ascertain the facts about guano."

On motion of R. W. Wood, seconded by R. C. Wyllie, it was unanimously resolved, That the thanks of this Society be tendered to Hon. W. L. Lee, President of the Society, for his indefatigable labors in behalf of the Society, and for his Report to which the Society has just listened.

Mr. George Williams, Treasurer, read his Report, which was adopted.

FOURTH ANNUAL REPORT.

Mr. President and Gentlemen of the R. H. Agricultural Society:

It is with pleasure that I have to report the very prosperous condition of the Society. We now number 158 annual members; an increase of 32, or about 25 per cent. over last year. Had we been able to retain all the former subscribers, the number would have been much greater. Of the 126 members of last year, four have become life members, seven have left the Islands, twenty have declined or neglected to pay, and five have deceased. This reduces the list to 90, which shows that 68 new members must have been added to make up the present number. Seven life members have also been added to the list, making twenty since the organization of the Society. This large increase proves conclusively, that the objects of our organization are appreciated, and gives us just grounds to believe that the Society is one of the very few on the Islands destined to endure, and that its course is onward,—prospering and to prosper.

In accordance with the Act of June 18th, 1851, I made an exhibit in the month of January, to the Minister of the Interior, of the receipts and disbursements, and received his order on the Treasury for five hundred dollars, which was promptly paid.

The receipts, (exclusive of the payment of a mortgage of \$500, which sum was again loaned,) are \$2,186 23, being an excess over the receipts of last year of \$844 34, or nearly 63 per cent. This great difference has been occasioned partly by the interest, the liberal donations from the Honolulu auctioneers, the amount received for refreshments, the proceeds of the auction, and the sale of "Transactions;" but the principal cause is an increase of \$530 in the amount of subscriptions.

Although the Board of Managers have appropriated nearly seven hundred dollars for the purchase of premiums and the introduction of improved breeds of cattle, swine, &c., but little money has been drawn for this purpose, as the premiums that were intended for distribution at the present fair have not arrived. The sum of \$107 25 has been paid for premiums, and \$150 have been forwarded to the United States for stock. Only one money premium of five dollars has been paid.

To meet the expenses of the premiums to arrive, we have on hand

over five hundred dollars, which, with \$130 interest to be collected, will be more than amply sufficient.

I have loaned, on good landed security, the sum of \$1,700, and have had a former loan of \$500 returned; thus adding \$1,200 to the invested funds, which now amount to two thousand and seven hundred dollars

With the large amount of interest to be received, and an increased subscription list, I think we shall be able to pay all the expenses of the coming year, and have a surplus of from five to eight hundred dollars to add to our investments.

The receipts and disbursements have been as follows:

RECEIPTS.

Cash from R. G. Davis, former Treasurer,	-	-	-	\$164 73
Donation from Honolulu Auctioneers,	-	-	-	60 00
Proceeds of Refreshment Table,	-	-	-	75 50
Donations of articles exhibited and sold at auction,	-	-	-	211 60
Cash received of H. M. Whitney,—sales of "Transactions,"	-	-	-	4 80
Cash received from Hawaiian Treasury,	-	-	-	500 00
2 Subscriptions for membership, 3d year,	-	-	-	10 00
Interest on fourth loan,	-	-	-	48 00
" second loan,	-	-	-	64 33
" third loan,	-	-	-	60 00
Amount second loan returned,	-	-	-	500 00
158 Annual Members, each \$5,	-	-	-	790 00
7 Life " each \$50,	-	-	-	350 00
Sales of "Transactions," 24 copies, each 50 cents,	-	-	-	12 00
Total,	-	-	-	<u>\$2851 02</u>

DISBURSEMENTS.

Cash Premium to H. M. Whitney,	-	-	-	\$5 00
" Loaned on Note and Mortgage,	-	-	-	800 50
" Paid for Recording " "	-	-	-	3 00
" Paid B. F. Snow for Premiums,	-	-	-	107 25
" Paid for printing Blank Receipts,	-	-	-	9 00
" Paid for use of Bethel,	-	-	-	5 00
" Loaned on Note and Mortgage,	-	-	-	900 00
" Paid for releasing second Mortgage,	-	-	-	1 00
" Paid for printing No. 4 of "Transactions,"	-	-	-	324 76
" Paid for recording Mortgage,	-	-	-	3 00
Certificate of Membership to F. H. Marshall,	-	-	-	5 00
Cash forwarded to the U. S. for stock,	-	-	-	150 00
" Paid Agent of "Argus,"	-	-	-	25 00
Balance on hand,	-	-	-	503 01
				<u>\$2851 02</u>

Respectfully submitted,

GEO. WILLIAMS, Treasurer.

On motion, it was resolved, That a Committee of five be named by the Chair, to nominate *Judges* for the Fair to be held to-morrow. The

following gentlemen were appointed said Committee: Messrs. E. H. Allen, C. R. Bishop, H. Robinson, John Li and B. W. Field.

The following Reports were read and accepted:

REPORT OF THE COMMITTEE ON SUGAR.

As an article of export from the Sandwich Islands, it has been the opinion of those best acquainted with their agricultural capabilities, that sugar would stand second to none. For home consumption, other products may have an equal claim to attention. But without an export, it is difficult to comprehend how these islands, dependent as they are upon foreign countries for most of the necessities, and all the luxuries of life, can make any considerable progress in wealth or population, or their present retrograding tendencies be prevented. In this view, the present prospects of the Islands are less flattering than could be desired.

In respect to the production of sugar, the operations for the last year do not promise a speedy increase much beyond the average annual amount of previous years. More, however, could scarcely have been expected, following so immediately the heavy losses sustained by the planters during the years 1851-'2. That there is no want of confidence, however, in the ultimate success of the enterprise, may be inferred from the zeal and energy with which those plantations now in operation have been prosecuted the past year, by their respective proprietors, notwithstanding their recent reverses.

On the Haalimaili, East Maui and Honuaula plantations, on the Island of Maui, and on the Lihue and Koloa plantations, on the Island of Kauai, comparatively large investments have been made, in additional buildings, new and improved machinery, and in extended cultivation.

On the Lihue plantation, there has been put in operation, within the last year, a new train of boilers, with clarifiers, and two steam engines,—one auxiliary to the water power and the other to work the separators. The boilers, constructed by Mr. Weston, of this place, are on a new plan, and the improvement consists in the substitution of sheet iron for tiles, which gives them the advantage of greater strength and durability.

On the Koloa plantation, there has been erected within the same period, an additional train of boilers and clarifiers, a new mill, and

also a water-wheel on a new plan, manufactured under the direction of Mr. Weston, which has given entire satisfaction.

The Haalimaili plantation has suffered the loss of one crop, on account of some radical defects in the mill,—the fault of the manufacturer. With the aid of Mr. Weston, these defects have been remedied, and the mill is now in successful operation. Its proprietor, Stephen Reynolds, Esq., has had many difficulties to contend with, which might have daunted the resolution of many younger men.

In reviewing the improvements made within the last four years, the substantial mills and buildings, which have taken the place of the temporary contrivances of previous years, have, in the opinion of your Committee, placed this branch of industry upon something like a permanent basis.

In this respect, the mill on the Lihue plantation has been most admired, for the substantial nature and workmanship both of its machinery and masonry; and the entire establishment, in respect to its arrangement, fitness, completeness and durability, is highly creditable to the Islands, and may be safely followed as a model.

There is now under cultivation, on the Islands of Maui and Kauai, twelve to fourteen hundred acres of cane, all of which is said to be in a flourishing condition. The proprietors of the Lihue plantation have, within the last year, introduced the Tahitian cane, which for many years has had so high a reputation in the West India Islands. They intend giving it a thorough trial, the result of which may be made known at the next annual meeting of the Society.

In respect to the plantations under the direction of Chinese, on the Island of Hawaii, your Committee are informed that Asing, in despite of the usage of his countrymen, the Celestials, is availing himself of the improvements of the day, and by the use of the new separator, is producing a superior quality of sugar.

Connected with the subject of this report, there is a question of some importance, which remains to be considered.

The first attempt to manufacture sugar in the State of Louisiana was made in 1796, by a Mr. Bore, who was said to be a man "reputed for his daring and energy," and who "formed the desperate resolve of making sugar!"

At that time, the only question relating to Mr. Bore's experiment,

in which the public were at all interested, was, "will it grain?" Nobody presumed it would ever pay.

But to the planters, as well as all other business men in these Islands, the question of paramount importance is, *will it pay?* At present, any unfavorable conclusions, drawn from the experience of the past, would be premature, and ought not to be taken as decisive, since, till within a few years, the production of sugar on these Islands has not been attempted to be prosecuted in a systematic manner, with the requisite capital. The oldest plantation now in operation on the Islands may be said to have been initiated in 1835. Until 1841, however, no mill worthy the name had been erected. For several years the undertaking appeared to most of the foreign residents to be quite as Quixotic in its character as did that of Mr. Bore to the people of Louisiana. In consequence of the financial embarrassments of the original proprietors of this estate, it fell into a state of dilapidation in 1844, in which it continued till 1848, when it changed hands. To restore the property to a healthy condition was not the work of a single year. In 1850, three new sugar estates were commenced nearly simultaneously. Yet in respect to the requisite buildings, machinery, fences, stock and utensils, it is only within the last year that they may be said to have been completed.

It has been somewhat discouraging to the planters, that their first systematic endeavors to extend this branch of industry should have been followed so immediately by a series of disasters. It was an unfortunate coincidence that whilst the planters on one island were subject to heavy losses by the failure of their crops, those on the other islands suffered nearly simultaneously, by an extraordinary depression in the sugar market. It may not be improper to mention that another circumstance which has contributed to involve some of the planters, was the unfortunate speculations in California, into which they were tempted, in 1851,-'2.

But too much stress ought not to be laid upon failure and losses, which are entirely incidental, and not likely to recur again for many years to come. Such a drought as that on Kauai, which destroyed the crop of 1852 and proved so injurious to that of the year following, has not before been known to the oldest resident. And the same ob-

servation is true in respect to the blight, so fatal to the crop of Lihue the last year.

In respect to the production of the great agricultural staples,—sugar, cotton and coffee,—the value of an investment cannot, like that of bank stock, be determined by the profits or losses of a single year. The returns of a single crop may show apparently extraordinary gains; were it otherwise, the planter would not be able to sustain contingent losses, which, from the nature of his business, are inevitable. To arrive at correct estimates, the only reliable data must be the aggregate results of operations for a number of years.

The following communication to the Chairman of your Committee is from Mr. Clough, formerly a resident of the State of Louisiana, and as it presents, in some particulars, an interesting parallel to the culture and manufacture of sugar in these Islands, they beg leave to introduce it.

HONOLULU, Feb. 4th, 1854.

DEAR SIR:—I cheerfully comply with your request to furnish you with a comparative statement, in detail, of the cost of producing sugar, and of the mode of culture and manufacture, in the State of Louisiana. A long residence in that State has familiarised me with the culture of cane and the manufacture of sugar, as there conducted. I had long desired to witness for myself the capabilities of these Islands for the production of sugar cane, and on my arrival here, in October last, I availed myself of the earliest opportunity to visit the plantations on the Islands of Maui and Kauai. I find a wide difference in the seasons of the two countries, and consequently in the mode of proceeding in the culture and management of the crop.

In Louisiana, the commencement of the new year is usually celebrated by ending the last of the old crop. During the month of January, nearly the whole force of the plantation is employed in clearing out old ditches and digging new ones. The surface of the ground, so nearly level and but little above tide water, renders artificial channels absolutely necessary to carry off the surplus water, which falls in torrents at some seasons of the year. During this month, the ground is so much saturated with water to admit of ploughing. This operation usually commences about the first of February, and with the planting, occupies the entire force. The ground is broken up with

mules or horses. As soon as it is ready, one gang is employed in planting, and another at the bed of seed cane, in stripping and topping. The top being too watery to support the young plant, is discarded.

By the beginning of March, the planting is usually finished. Then commences the cultivation of ratoons. In the cultivation of the previous year, the earth had been hilled up around the cane stocks. The plough is now used to throw the earth away from the hills. The ground is also well loosened between the rows. On the first of April the ratoons show well above the surface. During the early part of this month, the grounds reserved for the corn crop,—usually the poorest,—are broken up and planted with corn, to which is added a crop of field peas, to be succeeded the following year by a crop of corn.—During the remainder of the month, the plant cane not being sufficiently advanced to require much cultivation, the laborers are employed in ditching and cutting fire-wood.

As soon as the cultivation of the cane and corn commences, it proceeds, without intermission, till about the middle of July or August, by which time the crops are sufficiently advanced to render further cultivation unnecessary.

During the month of September and early part of October, nearly all hands are employed in cutting and hauling fire-wood, preparatory to the boiling season. The quantity of wood varies with the size of the crop. Three cords to the hogshhead of 1200 lbs. is the usual allowance for open kettles. The corn is also harvested in this month, and the pea vines hauled and stacked, to feed the stock during the grinding season. For a plantation producing 200 acres of cane, 100 acres of corn is required for the stock. The last work preparatory to taking in the crops, is putting up the seed cane in what is termed a "mattress." For this purpose, the best cane is selected and carted to central places, and there laid in large beds. The heavy leaves of the top effectually protect the stocks from the frost. For an estate of the size above named, fourteen acres of good seed cane is required.

The grinding usually commences by the last of October or first of November, and unless a heavy fall of rain should prevent, proceeds without interruption, day and night, until the crop is in. This usually happens about the last of December or first of January.

Very rarely is a crop taken in without injury to the latter part of it by frost. Should this part of the crop not be matured, which is seldom the case, the frost greatly deteriorates the quality, and also reduces the quantity of the product. Sometimes the cane is so much injured that it can be manufactured only into very indifferent syrup.—Heavy losses are sometimes sustained by the planters from this cause. Should the growing season be unfavorable, or the operations of the mill be retarded by heavy rains, these circumstances greatly enhance the injury by frost and the planter's losses.

A few years since, a considerable portion of the sugar region of Louisiana was occupied by cotton plantations. For several years previous to 1846, the price of cotton continued so low that the planters became discouraged, and great numbers commenced the cultivation of sugar. Availing themselves of the experience of the older planters, and adopting the improved kinds of machinery, they were entirely successful. From 14,000 hogsheads, in 1846, the production increased to 350,000, in 1852.

In addition to frosts, there are other drawbacks upon the planters of Louisiana, from which the Islands are exempted. For two months in the year, the whole force of the plantation is employed in ditching, and in cutting and hauling firewood. The bagasse contains so much water that it cannot be used for fuel, unless cured by means of artificial heat. This mode of curing has been found too expensive to be made available. To cure it by means of solar heat has been found impracticable, as the frequent showers render it more incombustible than when first delivered from the mill. One plan has partially succeeded. By means of railways, large sheds are filled with bagasse, where, by fermentation, it cures in the course of the year, and may be used in part for fuel for the next ensuing crop. But this plan is objectionable on account of the expense, and more generally the bagasse is stacked in large piles, and advantage taken of every turn of dry weather to burn it on the ground.

There is in Louisiana a pest, called the coco grass. It has overrun the whole State, and can only be kept down by continued and thorough ploughing.

On visiting the plantations on these Islands, at the close of summer,

I was struck with the abundance of good grass, and the excellent condition of the stock. Gentle summer rains, dews and moist winds appear to be sufficient to keep the grass green the year round;—an advantage unknown to the planters of Louisiana.

With regard to the seasons of these Islands, there appears to be properly no other divisions than wet and dry. In proof of this, it may be observed that many plants,—annuals in the United States,—are perennials here. The cotton plant, which dies annually in the Southern States, may here be seen bearing full-grown bolls and blossoms at the same time.

In respect to soil, that of Louisiana, for depth and fertility, is unsurpassed by any in the world; and no one can envy the planters this redeeming feature of their country, for they have had all the elements both of heaven and earth to contend against.

High water in the Mississippi is usually five or six feet above the level of the cane-fields. It is confined in its channel by embankments 150 miles in length, on either side. In a single night a crawfish may perforate the bank, opening a channel, through which there is a rush of waters; the levee is washed away, the country is deluged, and the labor of a whole year destroyed. Should the planters escape such a catastrophe, there is yet another, to which they are sometimes exposed, nearly as fatal in its consequences. An early frost may attack the cane, and the fields which a few days previous looked so promising, appear as if a fire had swept over them.

The following is an estimate of the original cost and current expenses of a plantation in Louisiana, capable of producing 200 hogsheads, equal to 140 tons of sugar:

500 acres of land,	-	-	-	-	-	\$20,000
Buildings,	-	-	-	-	-	18,000
Mill, engine and boilers,	-	-	-	-	-	5,300
40 negroes, at \$800 each,	-	-	-	-	-	32,000
20 infirm do. and children, \$200 each,	-	-	-	-	-	4,000
6 domestics, \$600 each,	-	-	-	-	-	3,600
Total,	-	-	-	-	-	<u>\$82,900</u>

CURRENT EXPENSES.

Chief items as follows:

Overseer's salary,	-	-	-	\$1,200
Shoes and clothing	40 hands, \$12 each,	-	-	480
do	20 infirm do,	-	-	200

39 bbls. pork, \$14 each,	-	-	-	546
900 bbls. corn, 75 cts.,	-	-	-	675
Clothing 6 domestics,	-	-	-	72
Feeding do.	-	-	-	216
Engineer, carpenter and cooper,	-	-	-	500
Total,	-	-	-	<u>\$3,889</u>

PRODUCE.

240,000 lbs. of sugar, at 6 cts.,	-	-	\$14,400
900 galls. molasses, at 31 cts.,	-	-	2,790
Total,	-	-	<u>\$17,190</u>

Respectfully yours,

JOSEPH CLOUGH.

This estimate in respect to the comparative cost of labor is worthy of a passing notice. The average cost of importing coolies into these Islands, engaged for a period of five years, may be taken at \$50 per head. Wages at \$3 per month, and keeping, but very little exceed the cost of feed and clothing for negroes. The comparative cheapness, therefore, of cooly labor, must forever preclude the possibility of competition, in these Islands, of negro slavery.

As to the general adaptation of the soil and climate of these Islands to the growth and manufacture of sugar, there is no longer any question. Within the last year, on the Island of Kauai, the produce of about one hundred acres of cane has been ascertained to be 151 tons of sugar, with a proportion of molasses varying from 100 to 120 gallons to the ton, and the burden of cane per acre was not apparently superior to what has been observed in former years, and on other Islands. From one field, containing between 20 and 25 acres, the yield was 42 tons and upwards. This was regarded as an extraordinary yield, especially as the land had been cropped several times, some years previously. In Louisiana, one ton per acre is considered a large average yield.

In respect to markets, the locality of these Islands could scarcely be more favorable. The abundance of grazing lands, suitable for all kinds of stock; the salubrity of climate, and many other natural advantages, peculiar to the Islands, have been the subject of frequent observation. Nothing appears to be wanting but the requisite capital, skill and labor, which, if they have not been availed of in their full extent, are within the compass of man's control.

In conclusion, your Committee may hope the time is not far distant when, in respect to the question of remuneration, relating to this branch of industry, they may have it in their power to announce to this Society, (with all the assurance and exultation with which Mr. Bore's sugar boiler announced his success,) *it pays!* and that, instead of the pitiful figure of 700 tons,—the aggregate product of 1853,—they may be able to show an increase in some degree commensurate with the vast tracts of virgin soil now lying unoccupied.

R. W. WOOD,
W. A. ALDRICH,
H. HACKFELD.

The Committee to procure seed from sugar cane reported verbally, by the Chairman, E. P. Bond, who stated that no progress whatever had been made in arriving at the result desired; and read a letter from B. Pitman, Esq., a member of the Committee, which is appended:

Hilo, 10th May, 1854.

To the Chairman of the Committee for producing seed from Sugar Cane.

SIR:—I had, last year, the honor to submit to you my opinion on the subject of causing the sugar cane to bear seed, in Hilo, and am this year more convinced of the impossibility of making it produce seed by artificial means. Having attentively examined the different sugar plantations in this district, I find the soil, at the depth of a few inches, to be a hard, stiff clay, produced probably by volcanic action on the substratum of tufaceous lava, or, by its decomposition, re-agglutinated into a firm clay. Such is the nature of the soil generally throughout this district, on the table portions of lands situate between the ravines, varying in depth according to its proximity to larger or smaller ravines. It would therefore be impossible, from the nature and composition of the soil, to create such a chemical affinity as Mr. Teschemaker proposes; and unless such combination be effected, I can well conceive that there cannot be either seed or pollen. These remarks, however, apply particularly to Hilo. There are portions of South Kona and Puna where it might succeed; yet even then it would remain to be tested whether such seed would grow in so humid an atmosphere as Hilo possesses; or whether, by re-planting the tops of such plants here, they would not deteriorate. It would undoubtedly prove a most

beneficial acquisition to the Hawaiian group, could the seed be produced; but it must be in a drier climate than that of Hilo.

Most respectfully, your obedient servant,

B. PITMAN.

REPORT OF THE COMMITTEE ON COFFEE.

By R. C. WYLLIE.

To the Hon. W. L. Lee, King's Chancellor and Chief Justice, President of the Royal Hawaiian Agricultural Society, &c, &c., &c.

ROSEBANK, 5th June, 1854.

SIR:

As the Society did me the honor of constituting me Chairman of the Standing Committee on Coffee, for the present year, along with B. Pitman, P. Cumings, G. Rhodes and S. Reynolds, Esquires, and Dr. T. C. B. Rooke, in proof that I have at least attempted to obtain some useful information, I annex, marked No. 1, copy of a circular letter, which, on the 6th of May last, I addressed to each of the gentlemen above named, as well as to yourself, you being then on the Island of Maui.

I append, marked No. 2, the reply which, on the 14th May, I received from Dr. T. C. B. Rooke. So far as I can judge, his remarks are of practical importance.

I also append, marked No. 3, copy of the reply which, on the 30th May, I received from Mr. Rhodes. His observations will be read with much interest, especially his replies to my queries Nos. 19 and 21.

On the 5th inst, I received from Mr. Pitman the letter of which I annex a copy, marked No. 4. In his opinion, the essay on Coffee by Mr. Rhodes, recorded at page 54, of No. 2, Volume 1, of the Transactions of the Society, embodies all that can be said on the subject.—I myself was much pleased with that essay; and the importance of the subject induced me to make my communication on the actual outlay and return of certain coffee estates on the Island of Ceylon, with forms in which the accounts are kept, published by me in the *Polynesian* No. 27, of 15th November, 1851.

By reverting to the *Polynesian*, of 26th February, 1848, you will see certain *pro forma* account sales of coffee and of sugar, imported

here from Manila, from which I inferred that the former could not be imported from the Phillipine Islands, so as to sell here with a profit, at less than about 9 cents per lb., nor the latter at less than 5 1-4 cts. per lb. These *pro forma* account sales were furnished by me, with certain remarks, on which Mr. Hitchcock framed his editorial, adding other observations of his own.

I received, on the 8th inst., the answer from Mr. Cumings, of which I add copy, marked No. 5. It is well worthy of perusal, with reference to my queries, and the other replies to the same.

I am inclined to believe that in regard to the article of coffee, we can compete successfully with other importers in the markets of California and Oregon, and in fact in all markets, excepting those of countries where coffee is a staple production.

And I further add, marked No. 6, copy of Mr. Reynolds' reply, of 7th June, which I received this morning.

From what I have been able to observe, I have long thought that the best flavored coffee is that which comes from the leeward side of Hawaii. Of that coffee the berry is small, brittle and shabby looking. So are the berries of the celebrated Mocha and Yungas coffees, which, nevertheless, are the best in the world. Judges unacquainted with this fact, would be apt to consider the largest and best formed berries the best coffee, and award the prize accordingly. Superior excellence is to be determined by superior flavor alone, of which I hold that ladies, distinguished for their coffee making, would be the best judges. Humbly begging the pardon of Mrs. Dominis for placing her at the head of ladies so distinguished, I would say, respectfully, that were the prize for coffee left to the decision of a well selected Committee of ladies, presided over by her, it would be awarded in the justest possible manner.

With the highest respect, I have the honor to be,

Sir,

Your most obedient humble servant,

R. C. WYLLIE.

P. S. I crave leave further to request your attention to what the celebrated statist and political economist, Dr. Bowring, writes of the price at which sugar cane can be produced in Java, recorded at page 13 of my Report as Minister of Foreign Relations, marked No. 7, of which I enclose copy.

R. C. W.

No. 1.

[CIRCULAR.]

ROSEBANK, 6th May, 1854.

MY DEAR SIR:

As you are named with me on the Standing Committee on Coffee, appointed at the last meeting of the Royal Hawaiian Agricultural Society, I beg that at your earliest convenience you will furnish me with your remarks on the following points, viz:

1. What soil, from your observation, you would recommend as best for the cultivation of the coffee tree.

2. The best mode of planting, weeding and rendering the tree productive.

3. How far apart the trees should be planted.

4. How long it is after being planted before the trees begin to bear, and how long they will continue to bear.

5. The average production of each tree, when in full bearing.

6. Average daily wages of native laborers employed on coffee estates; average daily expense of feeding them; average daily wages of Chinese coolies, and average daily expense of feeding them.

7. Average cost at which coffee can be raised per pound.

8. How many coffee trees can one acre of land bear?

9. How many coffee trees can one laborer take care of?

10. What extra assistance, beyond the regular laborers, is required during the picking season? Can women or boys be procured? What wages would be given them?

11. At what season of the year does the picking commence, and how long does it last?

12. Best mode of drying the coffee and preparing it for market.

13. Proper mode of packing it, and how many pounds each package should contain.

14. How many hours do laborers work on coffee estates per day? What periods are fixed for meals? What time is allowed for meals? At what hour do laborers commence their work in the morning, and at what hour do they leave off in the evening?

15. Which is the most productive, native labor or Chinese labor?

16. How are the laborers lodged on coffee estates? How many men are usually lodged in one hut? What is the cost of erecting

such a hut? Are they allowed to cultivate any ground for themselves, or to keep poultry, pigs, &c.?

17. How much land, more or less, exists on the Island of ———, susceptible of cultivation for coffee?

18. What are the chief obstacles to a more extended cultivation, and what suggestions can you make to remove them?

19. What measures would you recommend to encourage a more extended cultivation?

20. What injury is done to the young trees by grubs, worms, or insects of any kind, and how can that injury be prevented?

21. Do the natives use coffee; and if they were to use it, would its use tend to supersede the use of awa and those deleterious intoxicating compounds, to which they are said to be addicted in some places?

You will oblige me by returning an answer to each of these questions, to the best of your knowledge, experience and observation, placing the number of the question in the margin, so that it may clearly appear to what question your remarks apply.

As the next meeting takes place early in June, it is desirable that your reply should be received by me at the earliest date possible.

I remain, my dear sir,

Yours truly,

(Signed,) R. C. WYLLIE.

No. 2

HONOLULU, May 13, 1854.

SIR:

In answer to yours of the 6th inst., enclosing twenty-one queries, relating to the cultivation of coffee on these Islands, I would state that I have not been engaged in that branch of agriculture since 1846, and am therefore unable to answer some of your questions as being ascertained by my own personal observation, and have therefore to depend on the best information I can at the moment obtain.

Query 1. On the Island of Oahu, the best places for planting coffee are in the sheltered ravines, on the declivities and the alluvial deposits immediately at the foot of the mountains, having easterly or westerly aspects, where the soil is composed of the debris of lava and decayed vegetable substance, especially that of the kukui tree, (*Alcy-*

rites *Triloba*,) and elevated about 700 to 1,000 feet above the sea. If on the plain, it requires a light alluvial soil, well irrigated, and in all cases sheltered from the trade winds.

2. The only locality in which I have reared coffee has been in the mountain ravines. The following is the method I pursued there, primitive no doubt, but the most successful of all the ways I tried. I first selected a sheltered ravine, having a growth of large kukui trees. I then proceeded to grub up and clear away the undergrowth of shrubs and weeds, and to lop off the lower branches of the large trees, which I left standing for the present, leaving also the uprooted weeds strewn over the ground, to prevent evaporation. I then loosened the earth in holes one foot square and 10 inches deep, at intervals of 9 or 10 feet; (I first tried 6 feet but found that it was too close;) in each of these holes I transplanted, either from the nursery or from underneath the old trees, three young "shoots,"—when about 9 or 10 inches high they transplant best. The ground should be weeded about once a month, with the hoe, or what is better for a native, a common blubber spade or oo. When the "shoots" become vigorous, remove the two weakest. Keep the ground well weeded, and when the plants are 18 or 20 inches high, fell the kukui trees, leaving a row on each ridge for shelter from the wind. They will not materially injure the plants in their fall, and if cut down in early winter, and cut into short pieces, will in a few months be rotted into manure, and materially assist the growth of the young plants.

3. As I have before stated, 9 or 10 feet interval each way is best for hill and plain.

4. The trees generally commence bearing in about three years, but I have not yet ascertained how long they will continue bearing, when taken care of.

5. The quantity of fruit a tree bears, depends upon the situation, soil, irrigation, care, and various other circumstances. The late Antonio ———, at Waikapu, had trees which produced above 20 lbs. annually, but this is an exception to the general average, which, in favorable situations, will not exceed 2 lbs. to each tree, on the plain, and not so much on the hill, where the tree has more leaf. In some localities the seasons alternate good and bad crops.

6. The amount paid natives for labor varies, (as I am informed,) on the other Islands, from 18 to 25 cents per day, with a house to live in, and find their own food. I do not think that steady labor could be procured at the above price, on the Island of Oahu. The proprietor of one of the best arranged plantations, who is now in the city, informs me that his cooly labor cost him about 30 cents per day, including board and lodging.

7. By the same authority I am informed that the cost to him of raising coffee is not less than four cents per lb.

8. Assuming an acre to be thirty-five fathoms square, superficial measure, from 500 to 530 trees could be planted per acre.

9. It depends upon the nature of the land under cultivation, how much one man can take care of. I cannot answer this.

10. In the picking season you require all procurable labor, especially that of women and children; the wages vary from 12½ cents per barrel of berries, upward.

11. The picking season, without much change, commences in November and terminates in January.

12. The method of drying the coffee must always depend upon the climate of the locality in which it is raised; the manner of preparing for the market also depends upon what market it is intended for; for instance, I have had a higher price awarded in Liverpool for coffee sent there in the parchment, than others had for cleaned coffee,—as much as 6s. per cwt. in advance,—but the freight is of course higher.

13. The quantity in each package also depends upon the market it is intended for.

14. The hours of labor are different on each plantation, and are also dependent on the weather.

15. This question of whether native or cooly labor is the most valuable, is difficult to answer. As far as I can ascertain, it amounts to this. One person, by his knowledge of native character and his method of management, will get more labor done, and corresponding results, by one native, than another will out of five. The same may be said of the coolies. One man that can get along with the coolies, cannot get along with the natives, and *vice versa*. With both races, I believe, as much depends upon the employers as upon the employed.

16. The laborers on Mr. Titcomb's plantation are lodged in native

houses, generally six in each. The cost of these varies extremely on different islands and localities.

17. There is much land, accessible and inaccessible, on the Island of Oahu, fit for the cultivation of coffee; but how much it is impossible even to estimate.

18. The chief obstacles to the more extended cultivation of coffee, are the want of capital to carry it on on a large scale, the dearth of labor, and the expense of transport. How can coffee which costs 4 cents at the plantation without other charges of portage, freight, packages, &c., &c., compete with that of Manila or Brazil? The converse is the remedy, which cannot be applied until the price of the staple food of the workmen is more moderate. As I view it, the price of food regulates that of the laborers' pay.

19. A legislative question this, but the preceding observations, No. 18, are equally applicable here, especially to the Island of Oahu.

20. There is little injury done to coffee by the worms or grub, and that only when young; careful weeding will generally prevent this.

21. The natives are not generally fond of coffee; but they will use it if they cannot get tea, of which they are extremely fond. Its use would not interfere with that of awa.

Such are the hasty answers to your questions with which my memory has furnished me. As I before observed, I have not been lately engaged in the cultivation of coffee, and am not aware of the method now used.

I have the honor to be

Your most obedient servant,

T. CHAS. BYDE ROOKE.

To R. C. WYLLIE, Esq., &c., &c., &c.

No. 3.

REPLIES TO THE QUESTIONS IN MR. WYLLIE'S CIRCULAR LETTER OF MAY 6, 1854, RELATING TO THE CULTIVATION OF COFFEE.

1. The soils best adapted to the cultivation of coffee are, in my opinion, alluvium, rich vegetable mould, and, generally, the debris from the mountains. The situation for a coffee plantation should be chosen, if possible, in a spot sheltered from the violence of the trade winds, with a moderately moist climate, and with the soil at least three feet deep.

2. The best method of growing the coffee tree, according to my present experience, is from young plants about two years old, which are drawn, trimmed of their tap and lateral roots, cut to a length of about two feet, and planted at a depth of about eighteen inches, thus leaving six inches above the earth. Plants of the above description are readily found about old plantations, and the superiority of the trees raised from them over the common seedlings is easily discernible by a practised eye. When these plants cannot be obtained, the seed should be sown, and the young plants treated as described by Mr. Duncan, in his Essay on the eradication and prevention of worms, read before the Royal Hawaiian Agricultural Society, in 1852. The general method of extirpating the weeds is with the common plantation hoe. In dry seasons, when the trees are young, also, for a few months after crop, when they have arrived at maturity, a single horse plough may be driven through them with good effect. The tree, in my opinion, after its arrival at maturity, is rendered more productive than it otherwise would be, by a light annual pruning.

3. At three years old from the seed, the tree bears a few berries; at five years old it attains its full bearing point; and, according to the works to which I have had access, it continues bearing to the age of thirty, and sometimes fifty years.

4. I consider eight feet between the trees to be a very good distance, but in a rich soil, with abundance of labor and land, I think nine feet apart would be preferable; under any circumstances I would not plant at less than eight feet distance.

5. The average production of each tree ought not to be less than two pounds. Much depends upon the seasons, method of culture, &c. It frequently happens that the crops are alternately large and small. I have heard of as much as thirty or forty pounds being obtained from a single isolated tree, but I apprehend that no such amount, nor even an approximation to it, can be obtained on a plantation.

6. The wages paid to native laborers are twenty-five cents per day; they feed themselves. The wages paid to the coolies are twelve and a half cents per day, and the expense of feeding them amounts to twelve and a half cents more; so that, independently of the cost of introduction of the latter, the cost of employment of the two races is

about equal. When regular communications are opened between these islands, Manila and China, I have no doubt the daily expense of feeding the coolies may be reduced to nine or ten cents each.

7. According to an estimate I enclosed to you on the 7th October, 1852, and which I see no reason to alter, six and a half cents per lb. is an approximation to the cost at which coffee can be grown on these Islands.

8. At a distance of eight feet between the trees, 680 can be grown on an acre, or of nine feet, 537.

9. In dry climates, one laborer ought to attend to five or more acres of land, or say 3,000 trees; but in moist climates, where the trees grow rapidly, and labor cannot be constantly performed out of doors, I think it doubtful whether the average will be higher than three acres, or about 2,000 trees, for each laborer.

10. Ordinarily, in crop time, as many more persons are required to collect the coffee as are engaged in its cultivation. A diligent picker can gather about three bushels, equal to thirty pounds of merchantable coffee, in one day; but the persons engaged seldom work steadily, nor do they work more than five days in the week; so that a larger number is required than would be the case if they worked steadily. Picking coffee is an employment generally liked among the natives; men, women and children seek it in the crop time; they are paid at the rate of twenty-five cents for a measure of about three bushels.

11. Picking commences from the beginning to the middle of August, and lasts till the middle of January.

12. The coffee is divested of its outer skin and pulp, by being passed between a cylinder, on which a stream of water is kept falling, and a bar of wood lined with metal; it is then soaked for twenty-four hours, washed, dried and passed through the peeling mill; by this last operation it is divested of the parchment and silver skin; it is then winnowed and packed for market. Coffee requires five or six days uninterrupted fine weather to cure it; consequently, when the crop is large, extensive terraces or platforms are required to spread it on; but it is difficult to find anything at once durable and cheap, that will answer this purpose. I have hitherto used terraces made of common stones, plastered with mortar. The great objection attending these

is, that being exposed to the action of the weather, they frequently need repairing. Sand and small pieces of mortar are broken off and mixed with the coffee, rendering it more difficult to be cleaned; besides, lime is not always obtainable. The system of drying on mats is at once expensive and troublesome, as the mats made by the natives are very frail, and at night, or in the event of a shower, they require housing as well as the coffee. Could flagstones, or other materials that would bear exposure and rough usage, be imported, and sold at a cheap rate, they would be of great service to coffee planters.

13. The packages I prefer for coffee, are the mat bags brought from Manila or China; double, they cost twelve or fourteen cents, and will contain from forty to seventy pounds. Formerly, I used bags made by the native women, of rushes, which grow all over the Islands. A double bag of this description cost twelve and a half cents, and contained about 30 lbs.;—latterly they have not been obtainable. I have used Osnaburg for bagging, but cannot recommend it.

14. When the days are long and the weather is fine, the laborers commence work in the morning at half past five, and leave off in the evening at six, thus, including meals, working twelve and a half hours per day. During the short days, they commence about half past six, and leave off about half past five; so that the length of their day's work, also including meals, is then eleven hours. They are allowed half an hour for breakfast, at 8 A. M., and an hour for dinner, at 1 P. M. Natives seldom work on Saturday, except in crop time.

15. Chinese is in my opinion, preferable to native labor; in fact the latter is now difficult to be obtained. The native does not like regular and systematic labor; it is irksome to him. He will seldom enter into an agreement to work for a specified time; and if employed by the day, at the very time his services are most required, he will frequently absent himself, or refuse to work without higher wages. Under a foreman, the native is perhaps able to perform more work than the Chinese, but he does not bear to be left by himself. The cooly, if left alone, will continue his work, but he is frequently difficult to manage, and very quarrelsome.

16. The natives on the estate of G. Rhodes & Co. are generally lodged in huts of about 10 by 14 feet, built in the native fashion and

thatched. A man and his wife generally occupy one hut; sometimes there will be in these huts, besides their regular occupants, men or women; or both. The houses are generally built by themselves, the proprietors furnishing the materials. There are several houses on the estate built by the proprietors, for which they cannot find occupants. All natives living on the estate are allowed kalo and other lands, besides pasture for their horses, rent free; with the understanding that when their services are required, they shall work at the customary rate of remuneration. The coolies occupy houses of a better description, which have been built by the proprietors of the estate, at a cost of about \$100 each. There are two of these houses, each 15 by 30 feet; they are framed, thatched at the sides, with the roofs boarded and covered with felt. Nine men occupy each of the houses; they are allowed to take in and cultivate as much land as they can. Some of them keep poultry and pigs, and two or three own horses.—Some are very industrious, and raise large quantities of vegetables. I long since promised that if any of them should find native wives, I would build them separate houses; but there seems no inclination among them to marry. They roam about a great deal at night, and frequently become diseased.

17. I am unable to form any estimate as to the quantity of land on this island capable of the cultivation of coffee. The tracts that are adapted to it are generally in the immediate vicinity of the mountains, mostly covered with forest trees, at present difficult of access for want of roads, and distant from any port from three to twelve miles.

18. The principal obstacles to a more extended cultivation are, in my opinion: 1st. The scarcity of settlers with sufficient capital and agricultural knowledge to undertake any operation of importance.—2d. The insufficiency of agricultural laborers; and 3d, The high rate of interest obtainable for money, for purposes of speculation. It is my belief that if a plentiful supply of cheap capital could be introduced into the country, a large quantity of it would necessarily and profitably find employment in agricultural enterprises.

19. The measures I should recommend, generally, to extend agriculture, are the encouragement of settlers and the visits of the shipping, by the removal of all restrictions on commerce and manufac-

tures; by stated periodical sales of Government lands, or fixed prices, upon payment of which any applicant may obtain them; and by entire freedom of the Government mountain lands to all persons desirous to cut timber or firewood. Although, as a general thing the natives are very indolent, there are amongst them many industrious and enterprising men. If markets could be opened for these people to dispose of their produce, the sight of their prosperity would undoubtedly stimulate others to follow their example, and abandon their lazy habits.

20. At Hanalei, the coffee tree does not suffer from the attacks of insects of any kind.

21. But very few of the natives with whom I am acquainted use coffee; those that do are generally industrious and respectable in their sphere; nor am I aware that many in my neighborhood use awa or any intoxicating drink. To elevate the native character, steady employment is, I feel persuaded, one of the very first requisites. Unfortunately, the inculcation of this doctrine has been but too much neglected. I write from experience. The natives are docile and good natured, but in my opinion, they have never had a fair chance.

The cultivation of coffee is as easy, pleasant and profitable to natives as any I know of.

GODFREY RHODES.

No. 4.

HILO, 10th May, 1854.

R. C. Wyllie, Esq., Chairman of the Committee on Coffee.

SIR:

It occurs to me that *all* which can with effect be said on the subject of coffee has appeared before the Society in the able and most admirable essay, furnished by Godfrey Rhodes, Esq., and recorded in the "Transactions" for 1851;—not a point, in my opinion, having been either slighted or neglected by that gentleman; and so thoroughly convinced am I that his *theories* combine *all* that is needful to render the *practice* of coffee growers productive of the most advantageous results, that I must plead guilty to a certain lukewarmness on the subject. It is good, I opine, to "let well alone," in cases where reason

dictates that a better result cannot possibly attend our further endeavor; with which sage axiom, (as I hope you will indulgently consider it,) I will further merely remark that our trees and young coffee plants are all in apparent thrifty condition, and that the blight or fungus, (to which I had the honor to allude in a communication to Mr. G. Rhodes, and to which he courteously replied, in his Report in the "Transactions of 1852,) although still indulging its parasitical propensity, does not, I am happy to remark, appear thus far to have any tendency to injure the trees; although possibly a better yield would be the consequence following its disappearance.

I have the honor to be, sir,

Yours, very respectfully,

B. PITMAN.

No. 5.

NAPOOPOO, May 30th, 1854.

MY DEAR SIR:

Your much esteemed Circular, dated Rosebank, May 6, 1854, has just come to hand.

I am very sorry to say that I am one of the most-ignorant persons you could have applied to for information respecting the cultivation of coffee. All that I know about it is from the little experience I have had in carrying on the small plantation in which I have an interest. I have never been on any other coffee plantation. However, I will answer your questions, so far as I am able.

1. I do not know what kind of soil to recommend. Coffee flourishes in all soils, or no soil, among the rocks, provided there is sufficient moisture. I think the coffee tree would not flourish at an elevation of more than 2,000 feet.

2. Loosen the earth to the depth of one foot, (we have to do it by hand, the land being too rocky for the plough,) let the weeds dry, cover the ground with fern, six inches thick, measure off for planting, remove the fern, loosen the earth to the depth of 15 or 18 inches diameter, say 3 feet; plant the tree, leaving the roots in their natural position as far as possible; then replace the fern. If treated in this

manner, the ground will not require any farther attention for two years.

3. Eight feet apart.

4. If good, healthy trees are planted out, say two years from the seed they will bear in one year; that is, in three years from the seed. On the 26th of this month,—May, 1854,—I saw four coffee trees that were in full bearing in September, 1832, and were some 6 or 7 feet high at that time, (1832.) They are now as fine, healthy looking trees as any I know of.

5. Do not know.

6. Average daily wages of natives, 20 cents, food $12\frac{1}{2}$ cents,— $32\frac{1}{2}$ cents. Average daily wages of coolies, 17 cents, food 16 cents,—33 cents.

7. Cannot answer.

8. See answer to question 3.

9. Cannot answer.

10. No assistance is required beyond the regular laborers. Women and boys cannot be had.

11. The season for picking commences in October; coffee all off by the first of January.

12. Dry the coffee whole, as it is taken from the tree. We pound it in mortars; would use machinery if we knew what to get.

13. In sacks,—100 pounds in each.*

14. Work from sun to sun. Saturdays, leave off work at 3 P. M. Breakfast at 7, dine at 1, supper after they quit work. Three-fourths of an hour is allowed at breakfast, one hour at dinner.

15. Coolie labor the most productive.

16. Eleven in one house. Walls stone, roof thatched. Berths like those on shipboard. Cost \$50. This is for the coolies;—natives in a separate house,—have things their own way, native fashion. Cultivate land if they choose;—have pigs and poultry.

17. Cannot answer.

*My correspondents in California recommend for that market small bags, of at most 50 lbs. each, very carefully and nicely put up, marked, &c., and say that from want of attention to these *minutia*, and to proper cleaning, Sandwich Islands coffee has never had a value in that market proportionate to its superior flavor.—R. C. WYLLIE.

18. I am not aware of any obstacle.

19. *Good roads.*

20. Very little injury is done to coffee trees by insects; during the month of May, a tree here and there may be very slightly injured by insects. I do not know what they are, nor how to stop them.

21. Natives are very fond of coffee and tea; will drink both, if made for them, and sugar furnished. I think the majority of natives would leave tea, coffee, sugar and all, for anything that would intoxicate, provided they could get it *malu*.

The foregoing remarks are intended only for our little district of Kona, Hawaii. If you think they can be of any service to the public, you are at liberty to make them known.

I am, my dear sir,

Your very obedient servant,

P. CUMINGS.

R. C. WYLLIE, Esq., Chairman of Com. on Coffee.

No. 6.

HONOLULU, June 7, 1854.

SIR:

In regard to raising coffee, I am without any practical knowledge. I know nothing of the best soil for planting the trees.

Two years ago, Benjamin Pitman, Esq., at Hilo, picked upwards of thirty pounds from one tree, which he sent as a sample to the Royal Hawaiian Agricultural Society's Fair. From the fact that Hilo has more rain than other places, I conclude moist soil and rainy weather are best for coffee.

Of the expense of preparing and cultivating an acre, until the trees begin to bear, I have no knowledge from which to give a correct statement.

Believing Messrs. Rhodes, Pitman and Cumings will give all the information on the various particulars in raising coffee, from their practical experience, I trust an able Report will be laid before the Society.

Your obedient servant,

STEPHEN REYNOLDS.

To R. C. WYLLIE, Esq., Chairman of Com. on Coffee, &c., &c.

No. 7.

In a letter dated London, 23rd August, which I had the honor to receive from the justly celebrated John Bowring, L. L. D., he writes as follows :—" I spent a few weeks in Java and its neighborhood, on my way home. The productive sources of these Islands are wonderfully great, and *unless you can produce sugar at something like ten shillings per cwt., I do not think you can expect to compete with them. Java is so well supplied with labor that the importation of Chinese Coolies is now prohibited.*"

The Select Committee appointed to nominate judges for the Fair, to be held to morrow, made the following report, which was adopted:

REPORT OF THE COMMITTEE ON JUDGES FOR THE FAIR.

The Committee appointed to nominate persons to act as judges in the awards of premiums, for articles which may be exhibited for the Annual Show and Fair, held at Honolulu this day, would respectfully recommend the following persons :—

ON CATTLE.—L. L. Torbert, J. Piikoi, R. Moffitt, G. Risely, J. Janion.

ON HORSES.—H. Robinson, Liholiho, L. H. Anthon, H. S. Howland, C. W. Vincent.

SHEEP AND SWINE.—J. E. Barnard, J. Ii, S. P. Ford, C. B. Andrews, John Montgomery.

POULTRY AND DAIRY.—S. C. Damon, A. Paki, John Ladd, Gust. Reiners, T. C. B. Rooke.

SUGAR, SYRUP AND COFFEE.—S. N. Castle, W. B. Rice, W. A. Aldrich, James Makee, Robert Clouston.

GRAIN, FLOUR, SEEDS AND FIELD CROPS.—B. F. Angel, R. W. Wood, R. Armstrong, T. Mossman, H. Rhodes.

VEGETABLES AND FLOWERS.—A. B. Bates, E. P. Bond, G. Rhodes, P. Cumings, D. Baldwin.

FLOWERS.—E. G. Beckwith, E. Hoffmann, G. H. Luce, B. W. Field, J. Fuller.

FARM IMPLEMENTS, DOMESTIC MANUFACTURES, &c. &c.—Stephen Reynolds, J. H. Wood, D. M. Weston, N. M. Mitchel, James I. Dowsett.

The presentation of Reports of standing committees was resumed, and the following were read and accepted.

REPORT OF THE COMMITTEE ON INDIAN CORN.

By WM. REYNOLDS.

The following Statement is respectfully submitted by the Chairman of the Committee upon Corn.

MALUMALU, Kauai, May 15th, 1854.

The attempts to cultivate corn, upon this Island, within the past year, that have come to my knowledge, have met with very little success.

The climate and the soil seem favorable enough for the growth of this grain, but its insect enemies are so numerous and voracious as to set at defiance every calculation as to the best period for planting, and every precaution for the preservation of the crop.

The nights are too cold at our elevation, to admit of planting earlier than May. At this time last year, the heavy rains had ceased, and with them, the cut-worm disappeared; now, we have had a dry spring, and the rain coming later, that worm is just ready, doubtless waiting for the corn to show itself, to fall upon it tooth and nail. However, our ground being all prepared, we have planted and shall take the risk.

The caterpillar is to be feared at any time of the year, except, perhaps, during the winter months, and last season a new enemy entered the field. When the corn was going into ear, small and colored moths came in clouds, and deposited their eggs upon the stalks, which in a few days were so completely covered with minute insects that at a little distance, they seemed to be encrusted with shells. These invaders speedily extracted most of the juice of the plant, the leaves withered, the stalks became black and stony, the ears ceased to grow, and the final yield was next to nothing.

A neighboring field at Lihue, escaped from these fatal visitors, and produced a fine crop of large-eared and large-grained corn.

Two Californians commenced operations at Kolau last spring, planting a number of acres in corn, but the cut-worm and caterpillars destroying three successive sowings, they abandoned the place.

Small crops have been gathered in that region, at Koloa and at Waimea within the year, but thus far, there has not been sufficient success with corn to allow its being classed with the staple productions of this Island.

I cannot say what ought to be the yield per acre, with all things favorable.

After breaking up the land, the cost of cultivating, harvesting, and preparing for market, is but trifling, particularly if corn-planters, cultivators and shellers are used; the freight to Honolulu has hitherto been a much more expensive matter, out of all proportion to the market value of the corn.

Hon. WM. L. LEE, President R. H. Society.

P. S.—Since writing the above, the cut-worm, has eaten the best part of my field. Mr. Wideman's has escaped and is thriving finely.

It has been stated that the cut-worm will abandon ground that has been cultivated for some time, but certainly he is in no particular hurry to quit "these diggings." It is nearly two years since the land was broken up; since then, it has been re-ploughed twice, harvested four times, and constantly stirred by the cultivator, yet the cut-worm re-appears this season, in the same spaces, as were most favored by him last year.

I am now planting arrowroot in the furrows vacated by the corn, and shall have 20 odd acres finished next week. It is rather late for this work, but the natives say it will grow well and be ripe at the usual time.

W. R.

May, 24th, 1854.

REPORT OF THE COMMITTEE ON SWINE.

By C. B. ANDREWS.

To the President and Gentlemen of the Hawaiian Agricultural Society.

A Report "on Swine," requires a better acquaintance with the animal than has come to my observation. In common with most persons, your reporter, has a better knowledge of the good qualities of their flesh, than of the manner of obtaining it. Praise of sweet pork is reiterated by all who eat it, whether feasting on the suckling roaster, on "spare ribs," or the great hog with fat like whale's blubber. Those of us who have eaten of the lank genus at these islands, have been ready from its insipidity, to deny its species.

But "pig is pig" every where, despite difference of taste. His flesh is too unlike that of any other quadruped, (except dog,) to be improperly classed.

It is their great variety that has almost transformed the extremes of swinish character to different classes of animals.

We learn first of him as an unclean beast whose flesh was forbidden to the Israelites. Afterwards we are told of the wild boar in the forests of Asia, whetting his tusks on trees and boughs, a most dangerous opponent to man or beast. In many countries he was an animal of the chase, hunted for danger's sake, and for gammon. Again we read of him, as fattened upon mast in the forests of Europe, and whose flesh thus made, was esteemed a great delicacy on the tables of the rich.

Thenceforth a generation of the animal has come down to our day, by cultivation so regenerated from the original savage, as to become a very respectable tenant of the farm, a genuine domestic animal.

But piggie will degenerate as well as improve. Carried to the woods of America, we find a new strain with long nose, flat sides, and bearing the significant name of "windcutter."

Such he was in Western Pennsylvania. The worm-fence of rails was no fence against him, for being "flat like a flounder," he had only to make a pass through sidewise. The way to fence against him, farmers said, was to split out rails from winding trees, and lay them to twist together. Then as the windcutter made a pass through,

he would be carried around by the twist, out on the the same side he went in.

Pork-fattening in Michigan would indicate that the windcutter was among the first breeds there. It was told of the squatter that he would first build a pen as tight as he could ; then as he caught and penned his pigs, he would tie a knot in their tails. If one should find his way through a crack in the pen, he would hang by the knot in his tail and squeal, which would fetch the owner to return the pig, and stop the crack. Then after their skeleton frames had soaked in Michigan mud until they would hold swill, the process of fattening would proceed more kindly.

In pork raising the great thing desired is to get the best pork in the most economical manner.

To accomplish this, breed from those which will accumulate the most flesh and fat out of the least food.

The Chinese are capable of teaching us in this respect. Pork to them is the same as fish to Hawaiians, and an unmixed China pig is worth studying by the pig-grower. He is the very essence of economical growth, as may be seen in the short nose and limbs, and rotund body, all indicating to a glance, that food given to him will be disposed of to the best advantage. The English bred swine, at first with the idea of making large hogs,—but now, as do the Chinese, with the idea of making pork economically.

Pork growers around Cincinnati, the greatest pork mart in the world, have discarded breeding large hogs as unprofitable. Out of the hundreds of thousands slaughtered there yearly, few exceed 250 pounds weight, and fewer still weigh less than 200 lbs.

Growers there breed from those which are small boned, barrel shaped, and having short noses and legs, and come quickly to maturity, without reference to name or blood. Almost all of them are white.

Pork can be raised economically nowhere on food that commands otherwise a good market. Most hogs eat up more than their bodies will fetch, and many a man has fed to his swine twice or thrice the worth of food that his pork would command after they had eaten it. Near a city where most kinds of produce are in demand for human consump-

tion, nothing but house or dairy slops, and butcher's offal, can be fed economically to pigs.

In this country feed the best pig for fattening in the best locality, on corn, potatoes, or taro, raw or cooked ; and the nominal price of the food he eats up to the time of slaughter, will exceed the price of his flesh all told. Where roots can be raised, more than natives consume, and their freight to market is large in proportion to their worth, pork can be raised to good advantage.

The price of pork therefore must ever be high here, until the plow increases vegetable food far more than is needed for human consumption, which the *oo* cannot do.

REPORT ON TOBACCO.

BY A. ARCHER.

POKII, June 3d, 1854.

HON. WM. L. LEE, *President of the R. H. Agricultural Society.*

Sir :—

As chairman of the committee on tobacco, I feel it my duty to present the following for the consideration of the Society, although having been but one year engaged in its cultivation, my report cannot be expected to be so complete, as those to be found in publications devoted to the subject. As, however, the mode of agriculture best adapted for one country, does not always prove the best for others, I will give the experience of the Kauai planters for the benefit of those who may wish to begin the business on any of these islands.

It was in the beginning of 1852, that Mr. J. R. Opitz, first determined to plant tobacco at Waiawa, a place about four miles to the westward of Waimea ; but before all his preparations were made the season was so far advanced, that he could not raise his plants, but was obliged to purchase them from the natives. He did not get all his plants set out till the middle of March, a very late period for a place where rain seldom falls from the end of January till the middle of November. The year '52 however, while very dry on other parts of this Island, proved very rainy on the western side, and he

had a beautiful field of tobacco ; from which however, he derived no advantage, having made it into cigars before it was properly cured. During the summer of the year in which Mr. Opitz had reaped his first crops, Mr. Gruben determined to begin another plantation at Pokii, (a piece of land adjoining Waiawa) and of course both he and Mr. Opitz, who was not daunted by his first failure, gave all their thought to finding out the best method of curing tobacco. They planted in February and the beginning of March, but the year '53 proved so much drier than the previous one, that they had to go to the extreme of watering by hand, to get their plants to grow. In the beginning of June, when Mr. Gruben began to cut his crop, he purchased a small quantity of tobacco of the previous year's growth from a native, which on making into cigars, he found to burn better, than any other Kauai tobacco he had then seen. As getting the tobacco to burn was the great difficulty, he at once applied to the native from whom he procured the tobacco, for his method of curing, and put the whole of his crop under the process the native had used, confident that his tobacco would be fit to manufacture into cigars soon after it was housed. It was at this time I joined him, in the full belief, that we would have had cigars in the market before now, but we had to suffer disappointment, and have now discovered, that the tobacco purchased from the native, did not owe its burning to the manner in which it was cured, but to its age ; and it is only now that our last year's crop is beginning to improve. It will yet be several months before we can venture to put it in the market.

Last year did not however pass without teaching us some things that will be to our advantage for the future. Mr. Gruben's crop was larger than he expected, and he had not enough room to put the last of it under cover. He therefore hastily put up a shed, that was so thinly covered, as not completely to exclude the sun, and we have found that the tobacco cured in it, is superior to that which was cured in a close house. Of this discovery we have of course taken advantage in building our curing-houses.

We had this year intended to plant 20 acres, but from the great want of rain we only got in 16, which we have been obliged to raise by irrigation. This of course, has been a very great expense, but

now, that we have become acquainted with the seasons, we do not think that we shall again be obliged to have recourse to it. Our heaviest rains fall during December and January, and by raising our plants by irrigation, (one half acre of plants will plant out 20 acres,) we can have them ready to set out by the beginning of December ; and such will in future be our method. A great advantage that will accrue from early planting, besides obviating the necessity of hand-watering, is the immunity we then enjoy from both the cut and tobacco-worm, neither of which appear before March.

Having mentioned some of the mishaps through which we have arrived at what we know about the cultivation of tobacco, I will state as briefly as possible our present method.

And first I would say a few words, as to the best locations for growing tobacco.

My knowledge of these islands is confined to Oahu and Kauai, but presuming that all of them are affected alike by the change of seasons, my remarks may probably apply to the group.

I should then say that the only part of these islands, that will produce good tobacco, is the southern and western, or leeward side. In general the leeward side of these islands present a very barren appearance, but this is not owing to the greater poverty of the soil on those parts, but to the want of rain during the summer months. I believe that the rest the ground enjoys during the long drought, enables it to produce a better crop during the rainy season, than can be got from those parts where rain is general during the year ; in proof of which I would mention the fine corn grown at Waialua, Oahu, and Waimea, Kauai. The very best soil should be chosen for tobacco, and one can have no better guide in looking for such than observing the weeds that grow on it, particularly the castor-oil, and bur, (native kikania.) Where weeds grow well, we may feel sure, that most crops will grow with proper care. Having chosen ground, it ought to be carefully ploughed before the rainy season sets in, and a place set apart for a seed-bed, which ought to have more than common attention bestowed on it, so as to have it well broken up. If the seed-bed could be enriched by having goats or sheep penned on it, during the summer, it would be a great advantage. Tobacco seed is very

fine, and it would probably be best, to mix it with double its quantity of ashes, to make it scatter evenly. It will take about two months if watered well daily, between the sowing of the seed, and the plants attaining such a size as will fit them for transplanting.

As I have before said, our rainy season begins in December, and we therefore intend sowing our seed about the middle of October; and I think it would probably be the best time, for any plantation on the leeward side of these islands. After sowing, the beds must be watered *well every working day*, or the seed will not spring, but as a small piece of ground will raise plants enough for many acres, this will be no great expense. If the water is close at hand, two men will raise plants for 20 acres. If, when the plants are ready for transplanting, sufficient rain should have fallen to wet the ground thoroughly, they ought to be set out, in rows four feet apart, and a space of 2 1-2 feet betwixt each plant in the row. When the plants are first set out, they are very tender, and it is therefore necessary to protect them from the sun, unless rain be falling. We do so by pulling grass and making a couple of handfuls of it into a knot, which we lay over the plant. We line out our land in the morning, and make a hole with a hoe, at each place where a plant is to be set out, covering the holes with the grass, to prevent the sun's acting upon them. During the middle of the day, the men pick grass for next day's planting, and in the afternoon plant the ground, that was prepared in the morning. After the young plant has taken firm root, the grass ought to be removed from over it, and placed round the stem.

It will be necessary to keep the ground very free from weeds, which must be done with the hoe. Not to take up time with things that may be better learned from works relating to the cultivation of tobacco in the United States, I will refer to them, for all regarding suckering, &c., and will merely state that we top the plant, when it has 16 leaves, removing 2, and leaving 14 to grow, and proceed to give the plan of curing tobacco, our *present* experience has shown to be the best.

For curing tobacco, houses are required, and we have divided our land into strips of one hundred yards broad, separating each by a house, running the whole length of the field. As the land we have

planted this year, is somewhat above 300 yards in length, we have built two houses, the joint length of which is 1,832 feet. They are 6 feet high to the top of the wall plate, 7 feet broad, and thatched down to the ground, but so thinly that the sun shines through them at a great many points, though not in large patches. A house of the above dimensions, will contain the tobacco grown on ground of its own length, and 100 yards broad. When the tobacco is ripe, which is known by its acquiring a mottled appearance, it is cut down, care being taken, not to begin till the afternoon, for fear the sun should burn it. It is left, when cut, till next morning, when it is carried into the curing-house, laid on a mat side by side, three or four rows deep, and covered by another mat. It is left in this way till it has sweated profusely, but it is impossible to give the exact time it will require to do so, as it depends much on the state of the weather, and likewise on the quantity of tobacco in the heap. The best plan is to see to it frequently after 36 hours have passed, that it may not get so much heated as to spoil. It is generally two days, and sometimes more, before it ought to be removed. It is then taken, and hung by the bottom of the stem, to sticks placed from wall plate to wall plate of the curing-house. If the plants are large, there ought to be six inches betwixt each plant, and the cross stick's places eight inches apart. The plants should be left thus for six or seven days, till they are almost dry, when they are taken down for the second sweating, and treated as for the first, only that they are laid 7 or 8 rows deep and left for a longer time. There is now much less danger, of their getting overheated, than at first, but still great care must be taken, and it is best to look to them after the second day. When they begin to get rather warm and assume a brown color, they are taken out, the leaves stript clean from the stem, tied in bunches of 30 or 40, by the small ends, and again hung up to dry. It is necessary, that the tobacco get the second sweating, before it is quite dry, or it will not begin to heat, and that the leaves, be hung up to dry by the small ends, or the stems will rot. The tobacco will now take about a fortnight to dry, and it may then be packed away in mats, and sent to the tobacco house. As it will probably be so dry, as not to bear handling without

injury, it is best to expose it to the dew, for one night, before packing away. We put about one hundred pounds in a mat, and pack it as hard as possible. I believe that tobacco treated in the above manner, will be fit for the cigar maker, in one year after it is cut. In referring to the report of J. F. B. Marshal, Esq., Vice President for Kauai, for June, 1853, I find that he suggests "that means be taken by the Society, to procure for the tobacco planters, such information, from tobacco-growing countries, as to the best method of raising, and process of curing, as may be useful to them." If his advice has been acted upon, I hope we may soon hear in reply, as there can be no doubt that we have much yet to learn.

We have this year, four different kinds of tobacco in our field, and as some of them are much better than others, I will say a few words about each.

First, Native tobacco ; I have not been able to learn, when tobacco was first introduced into these islands, nor from what country the seed came ; but there are two kinds cultivated by the natives, one with a large round leaf, and the other with a smaller and more pointed one. I have not been able to discover much difference in their qualities, and I hope that the cigars we this year send to the show, will prove, that neither of them are to be despised.

Second, We have some plants from seeds introduced from Havana by His Excellency, R. C. Wyllie. Both in appearance and flavor, his tobacco bears a strong resemblance to the broad-leafed native kind, and none but one well acquainted with tobacco, could distinguish them.

Third, We have a few plants from seed sent us by our President, Hon. William L. Lee, procured by him from the Secretary of the N. Y. S. A. Society. From some cause this seed did not come up well, and we have only enough to give us seed for next planting. It has a very small, round and fine leaf, and we hope to find it a superior tobacco, but will not be able to give a decided opinion until we have some of it cured.

Fourth, From seed sent by John Montgomery, Esq. I am not aware from whence this seed was procured, but the plant is so different from any other we have seen, that we suppose it must be from

Manila. The stem does not attain the height, that the other kinds do, but the leaves are so large, and placed so close, that it produces a far larger quantity of tobacco. The beauty and symmetry of the plant, induces me to suppose, that it has for many years received great care in its cultivation, and from the little I have seen of it I think it will prove not only a fine, but good burning tobacco. It will easily be distinguished from the native tobacco, sent to the Fair, by the great size, and more pointed character of its leaves. It is more than probable, that the greater part of our field, will next year be planted with this kind, and I shall then be enabled to supply the Society with the seed, which I am prevented doing this year, by the small supply we have for our own use.

The expense of raising 20 acres of tobacco may be estimated as follows :—

Clearing and ploughing land,	- - -	at \$5. per acre,	-	\$100 00
10 pounds of seed,	- - -	at 3. " pound,	-	30 00
Preparing plant-bed and raising plants,	- - -	- - -	-	35 00
Setting out plants	- - -	- - -	-	150 00
Curing-houses,	- - -	- - -	-	500 00
10 men for 3 months,	- - -	- - -	-	180 00
Mats for packing tobacco,	- - -	- - -	-	100 00
Tobacco-house,	- - -	- - -	-	80 00
Total,	- - -	- - -	-	\$1175 00

The second year's expense will, of course be less, by the cost of the curing and tobacco-houses, or nearly one half. We have not ascertained what quantity of tobacco one acre will produce, but we think it a low estimate at 1200 lbs., which will make some 80,000 cigars.

In conclusion, I would say, that in spite of the disappointments we have met with, from want of that knowledge of the climate of the district where we are situated, and of the manner of cultivation best adapted to these islands, which is only to be got by experience, that I am more than ever convinced, that tobacco will ultimately be one of the best paying crops raised here, and that nothing but time is required to enable us to compete successfully with Manila or Havana.

Respectfully submitted,

REPORT OF THE COMMITTEE ON THE HONEY-BEE.

BY W. CHAMBERLAIN.

To the President and Members of the R. H. A. Society.

GENTLEMEN: Few insects or animals, furnish more materials for instruction or reflection, than the honey-bee; their wonderful instincts, their labors, their social regulations, are alike deserving the study and notice of all; and as their labors contribute so much to the comfort of man and furnish a source of profit as well as luxury, they become especially a worthy object to receive a share of the attention of this Society in its desire to encourage the introduction of valuable animals, insects, &c., into these islands.

It was hoped at the last annual meeting of this Society, that we should, ere another year had passed, be in possession of this interesting insect, as we had been informed of the shipment at Boston, of two hives, on board of the Bark "Matanzas" bound for Honolulu, and with such precautions as seemed to justify the hopes that they would reach us in safety; but we have again been called to experience disappointment in our expectations,—only a small number being found alive on the arrival of the "Matanzas."

We are informed that the failure in this enterprise was not occasioned by any lack of care and attention; but by the unexpected appearance of that enemy of the insect,—the bee-moth,—within the hives a few weeks previous to the arrival of the vessel at this port, and we are encouraged to believe that, with great care in the selection of hives free from moths and their eggs, and with due regard to the season of their shipment, that they may be safely brought hither, even from New England, by the same method as that adopted in the "Matanzas." It is reported that the honey-bee has recently been introduced into California, and we may hope to import some swarms at a future day from that State with little inconvenience. At present however, we are aware of no locality nearer than the Eastern States of America, from whence they may be transported conveniently hither; though it is stated that they are raised in Australia and New Zealand, which are nearer to us in point of distance.

There are some important considerations which come up, as we anticipate the time when the honey-bee shall be introduced into these islands, and among these we would notice, the location best adapted to their thrift ; the materials from whence they are to procure their honey, &c. ; and the care and attention to be paid to them.

The honey-bee, when it shall fortunately be brought here, will find itself in a new climate, where winter never comes to benumb their energies or to paralyze their activity ; and it would seem desirable in the first experiments with these insects, that they be taken to a situation and climate as shall nearest correspond to that from whence they came. The most favorable of which we are aware, are the elevated regions of East Maui, and of Hawaii, and the island of Kauai, where bee-forage may exist. Relative to this point, I would extract from a communication received from E. Bailey, Esq., a member of your committee on the honey-bee, and whose views are ever entitled to regard for their practical character. He says:—

“ The character of sweet flowers, such as would produce good honey, is not very abundant on the islands, so far as my observation extends, only one plant having a sweet flower, such as would be good bee-forage, exists in sufficient abundance to feed any considerable amount of swarms, viz : the common clover of the islands, known in Hawaii as *Zizania*. I would therefore recommend that on the arrival of bees in future, that they be taken without delay to some elevated quiet region where this plant is abundant and the climate for the most part like that of their own fatherland. Such places are Makawao, and Ulupalakua on Maui, and the latter has this decided advantage, that it is free from strong and continued winds, damp, rough atmosphere, and frequent drizzling rains, while the clover is in great abundance and widely disseminated. It might also be advisable to plant an extra amount of cucumbers in their neighborhood, to furnish them bread till they get initiated to the use of island plants for that purpose.”

The species of clover mentioned by Mr. Bailey, is in our opinion one of the most reliable plants for the support of the honey-bee ; it is easily introduced even into rocky soil, and spreads widely and rapidly. It is found in many sections of Oahu as well as Maui, and we believe on other islands.

As bees never make honey, but extract it from such flowers and other substances as yield it, there is very great difference in its quality as made in different places, owing to the nature of the flowers &c., from which it is taken. Bees always extract more or less of the peculiar matter of plants with the honey. It is said that the honey of a considerable district on the south-east shore of the Black Sea, is noted for its intoxicating or maddening qualities when new, which is supposed to be owing to a species of *hypericum* which abounds in that region, while the honey of Majorica and Minorica, is said to have a superior flavor which is derived from the blossoms of the orange and lemon, and it is well known in the United States, that the honey derived from white clover is far superior in quality to that which is taken from buck-wheat. The character of the materials from whence the bee may extract its honey at these islands, is therefore worthy of our attention. It is presumed that the blossom of the banana will furnish good honey, but it remains to be tried, as also many other plants and flowers peculiar to these islands. Imported varieties of flowers may be relied on as furnishing superior honey. Among them the mignonette, thyme, especially lemon-thyme, the jessamine, heliotrope, hollyhock, marigolds, lilies, the sun-flower, also sage and mustard; the flower of the bean, melon, cucumber and squash; but in our opinion these are not yet cultivated extensively enough to furnish a constant supply for numerous swarms to depend on throughout the year. When we consider the number of these insects which compose a single hive, (from 10,000 to 30,000,) it is plain that they must have an abundant supply of flowers or other material from whence to extract honey. In our opinion the sugar plantations of these islands would be a desirable locality for the bee in respect to material from which they may extract honey, as much of the matter which is thrown aside from the mills will afford a large store for their wants; though the quality of honey so derived, may not be quite as fine as that obtained from flowers. It would seem to be an important consideration that the bees have ample provision for their wants within a short distance of the hives, so that they may not be forced to stray a mile or two away, thus incurring a great liability to accidents.

Much care should be given to the situation of the hives. It is essential that they should be sheltered from the wind and rain, and also from the noon-day sun which would injure the honey and melt it, and for this purpose the bee-stand should be placed in a small open shed; a few shrubs about the stand would also be good as an additional shelter, while the whole might be shielded from the wind by a high wall or fence.

Noisy places and the neighborhood of offensive odors should be avoided as they may cause the bees to desert the hives. The bee hives should never be placed *close* to each other, for bees are naturally very irritable and pugnacious insects, and if two colonies be kept too near each other, battles will take place, and the weaker hive be injured or destroyed. Regard should be had to the proximity of hives to ponds, as in such a case, thousands of bees will be lost by being blown into the water when returning heavily laden to the hive. Water is essential to their welfare, but it must be presented to them judiciously, or it will prove a greater evil than good.—It would be well to place near the stand, small shallow pans of water and put some pebbles into them for the bees to rest on while drinking; the water should be changed daily.

The honey-bee at these islands, will be subject to the annoyance of many enemies,—rats, mice, lizards, caterpillars, spiders, ants and poultry. It will require great watchfulness and ingenuity on the part of the bee cultivator, to protect them from their enemies.

In regard to hives and boxes for bees, there are many varieties invented by individuals who have given much attention to the insect, and some of them seem to be most admirably adapted to the convenience both of the bee and to the bee cultivator, who would take the honey without depriving the insects of life. Such hives may be imported when the bee may have been found to do well here. Glass hives are not to be recommended, as the bee loves darkness and hates light and observation. Hives or boxes which will answer for bees, may easily be constructed by ordinary mechanics, the chief essential to be kept in mind, being good material and tightness, so that there may be no harbor for moths to deposite their eggs, or for other enemies to conceal themselves.

To those who would cultivate the honey-bee, it is indispensable that they should previously become acquainted with the natural history of the insect ; otherwise they will find their object fail, without being able to assign a reason ; while by making themselves acquainted with it, they will remedy many unexpected disasters by simple expedients.

As justice on this subject cannot be done in a brief report, I would refer any who may be interested in this insect, to the following treatises, viz :—"Townly on Bees," "Smith on Bees," "Allen's Bee Cultivator," "The American Bee Keeper's Manual" and "Week's Manual on Bees."

As within the past year two gentlemen,—Henry A. Peirce, Esq., of Boston, and Capt. Stearnes of the Bark "Matanzas," have interested themselves to introduce here the honey-bee, for the benefit of our islands, at their own individual expense and with much pains, which enterprize unfortunately failed, as also a previous similar attempt by Mr. Peirce, we would recommend that this Society take measures to assure these gentlemen of our high appreciation of their interest and services in so laudable an undertaking. Relative to these efforts, I have received a very interesting letter from Charles R. Bishop, Esq., who is in possession of more information and experience on this subject, than any other member of the committee, and which I herewith append.

Respectfully submitted.

HONOLULU, May, 26th, 1854.

W. CHAMBERLAIN, *Chairman of the Committee on the Honey-Bee.*

DEAR SIR: Being one of your committee, and having had within the last year a little experience with an unfortunate colony of these interesting insects upon which you are expected to report, I will give you what information I can, relating thereto.

I believe that each year since the formation of the R. H. A. Society, except the present, there has been offered a premium for the introduction of the honey-bee into these islands. The only persons

that I know of who have really been at any expense and trouble to accomplish so desirable an object, are Henry A. Peirce, Esq., of Boston, a life-member of the Society from its foundation, and contributor to its objects in various ways, and Capt. Stearnes, of the Bark "Matanzas."

In 1851, Mr. Peirce put on board the ship "R. B. Forbes," one swarm of bees, and offered the mate a liberal reward if he would take care of and deliver any of them here safely. The hot weather in the South Atlantic melted the honey and drowned all the bees in the hive. In February, 1853, he procured another fine swarm, well stocked with honey, and was at a large expense (some \$140) in having it secured on the deck of the Bark "Matanzas," in such a manner that seemed to insure its safe arrival here. The hive was placed in a strong box, leaving a space of six inches all around for air, between the hive and box, then a packing of ice two feet thick, above, below, and on each side, outside of which was a space of six inches filled with charcoal, and all enclosed in a case eight feet square, having 2 lead pipes three inches in diameter, running from the outside to the hive, to supply the bees with air. Capt. Stearnes also purchased a swarm, and placed the hive inside a box having wire-cloth nailed across openings in the sides, and hung it up under his boat, just forward of the cabin. The bark had a long passage, (150 days,) and being becalmed a number of days in the vicinity of the equator, in the Atlantic, a part of the ice melted, and during the rough weather off Cape Horn, thumped against the box so heavily as to jar many of the bees down into the water. After they doubled the Cape, Capt. S. had them taken out of the large case, and hung up under the boats with the other swarm, where they both appeared to be doing well, until they arrived within about ten days of this port, when moths made their appearance in the boxes, and the bees commenced to die rapidly,—Capt. S.'s swarm more than the other. When the bark arrived off Honolulu, (in August, 1852,) I went on board, examined Capt. S.'s hive, and found large numbers of moths, worms, larvæ, and some dead bees inside, but no live bees. The other hive was in very bad condition, containing swarms of moths, worms and larvæ among the honey comb. A few of the bees were living, and they had plenty of

honey,—some 12 to 15 lbs,—a part of which, in the chamber of the hive, was very handsome. I took the hive to my garden, where, with the kind assistance of Capt. Stearnes and others, we removed as many as possible of the moths, and cleared the hive of worms, dirt, etc., as well as we could, and afterwards removed nearly all the honey.—There appeared to be from 40 to 60 bees living, among them the queen. The hive of bees and honey was put up and sold at auction, in order to give persons understanding the management of bees, or wishing to have them, an opportunity to purchase. I purchased them, had a new hive made, and tried to induce them to occupy it, but without success. After a few days, I thought they seemed to be less active than usual, and upon examination, found but three or four bees remaining, and a day or two after, none at all. As there were no dead bees in the hive or on the boards underneath, and no birds about to destroy them, I concluded that they had found some place more to their fancy than the hive, and that I should again see them or hear of them, but I have not, and am unable to account for their disappearance or fate.

Capt. Stearnes took excellent care of the bees, as well as of the South Down sheep brought to Mr. Thos. Cummins, and Spanish fowls to H. M. Whitney; and had he had a short passage, or even a passage of from 130 to 140 days, would have delivered both swarms in good order; which proves that they can be brought from the U. S., via Cape Horn, without any great expense or trouble, except to have them secured against wet, excessive heat and rough handling. But great care should be taken in the commencement, to select hives free from moths and their eggs.

Had the swarm mentioned arrived here in better condition, it probably would have been better to have sent it immediately to a cool locality, on Maui or Kauai, in the vicinity of sugar plantations and banana fields; but it was too far gone to admit of any delay in removing the destructive enemies of the bees. We have great varieties of moths and ants in the Islands, from which it would require constant care to protect the bees.

I have lately learned that honey bees have been recently introduced into California. By and bye, we shall probably be able to get them from there, more easily than from any other place.

The thanks of the Society are due to Capt. Stearnes; and Mr. Peirce should, in my opinion, be partly, if not entirely remunerated, for the expenses incurred in trying to supply us with so interesting and useful an addition as the honey bee.

Respectfully yours,

CHAS. R. BISHOP.

Adjourned till this evening at 7½ o'clock.

Evening Session, June 13th.

The exercises commenced with singing, by the Honolulu Amateur Musical Society. After which, the President introduced to the audience the Hon. D. L. Gregg, who had kindly consented to deliver the Annual Address before the Society. Mr. Gregg's address,—which was an eloquent production,—was listened to with admiration and much attention, by the crowded audience, and elicited, during its delivery, frequent applause, and at the close, a long and continued round from the whole assembly.

The following is the

ADDRESS

OF HON. DAVID L. GREGG.

The cultivation of the soil stands first in the list of pursuits which occupy the attention of mankind. All others sink in the scale when compared with it, for it is the foundation of them all. It is the grand source from which they derive support, and are fostered into being. It is enjoined upon man by the behest of Heaven, and though the penalty of prevarication and crime, acquires dignity from the high sanction by which it was imposed. Holy Writ informs us that "the Lord God sent him out of the paradise of pleasure, to till the earth from which he was taken." (Genesis: iii, 23.)

Agriculture may well be styled the mother of wealth, of prosperity and of civilization. Commerce is but the handmaid of agriculture; she spreads her wings but to distribute the riches which spring from the bosom of the earth; she is not the creator of wealth, but the messenger of those by whom it is called into existence. The ship that

unfurls its canvass to the breeze, and ploughs the bosom of the ocean, would rot in idleness were the hand of labor to become paralyzed, or harvest no longer bestow upon industry its accustomed reward.

The wealth which the plough turns up, and the toiling hand develops from the soil, constitutes so large a proportion of the whole in existence, that all else sinks into insignificance. The gold-fields of California, of Australia, and of all the world besides, afford but a mere item in the general account. Agriculture is the great producer, and mother earth yields from her teeming surface the material, not only to supply the wants, the comforts and the luxuries of individuals, but to enrich nations.

Material prosperity follows close in the wake of agricultural skill. The rudest people and the poorest are those who have no fixed residence,—no individual ownership in the soil, and no skill in its cultivation. Savage tribes are uniformly wanderers, knowing but little of the endearments of home, and possessing only the germs of those generous sympathies and affections which distinguish man in his highest state of improvement. In their condition seems almost to be realised the curse of Cain, condemned to perpetual flight, endless mistrust and never-ceasing warfare.

Improvements in the social state are marked by more distinct ideas of property, superior industry, and greater dependance upon the cultivation of the soil. The bow and arrow give place to the spade; the hatchet and war-club are surrendered for the hoe and the plough; the spear yields to the pruning hook; the forest disappears, and where, before, its dense shadows only fell, fertile fields exist; towns and cities rise; schools and churches spring up, and the true God is worshipped. The wanderer has at length a fixed habitation. No longer the mere serf of a despotic chief, he can look abroad upon his own possessions, call himself a MAN, and within his proper sphere, enjoy the blessings of independence.

This is civilization, and thus does civilization pay homage to agriculture, its invariable attendant, and, next to Christianity, its most effective agent. The cultivation of the soil is inseparable from an enlightened state of society. The world affords no example of permanent social or national prosperity, where labor was not respected and invested with its proper dignity.

The subject, then, which engages your attention this evening, is one of no ordinary magnitude;—certainly one far above the experience or the knowledge which I am able to bring to its discussion. Had I reflected well upon what was before me, and what ought reasonably to be looked for on such an occasion, I should doubtless have occupied the position of a listener, instead of attempting to address you, and beyond all question, you would have been gainers by such an arrangement. But in an evil hour for myself, I listened to the flattering persuasions of the distinguished gentleman who presides over your Society, and in consequence, stand here in a predicament from which I can only hope for a safe deliverance, through your kind indulgence.

With only a limited knowledge of agriculture, acquired in a climate widely different in most of its characteristics, how can it be expected that I shall be able to bring before you considerations either scientific or practical?

“Of speaking well, these are the chiefest springs,—
To know the nature and the use of things.”

Without this intimate knowledge, so essential on such an occasion, and so desirable to every man of intelligence, the most which I can hope to accomplish, is to manifest, in some small degree, my interest in the efforts which you have made, and are still making, to develop the resources and secure the prosperity of these Islands.

In looking over the proceedings of the “Royal Hawaiian Agricultural Society,” in past years, I have been much struck with the high degree of intelligence manifested in every department of its operations. Under such auspices, there surely can be no failure to accomplish the objects which it has in view. Agricultural pursuits will not languish when supported by knowledge, by enterprise, and a fixed determination to surmount every obstacle. The time will soon come, if it has not already arrived, when the fruits of your labors will be distinctly seen, in multiplied productions of the earth,—in increased wealth,—in a higher state of refinement in every grade of society.—The friends of improvement cannot be insensible to the merits of these exertions, nor can they remain indifferent to the purposes to which they are mainly directed.

So far, as any actual developement of their resources is concerned, the Hawaiian Islands may be considered as yet in a state of infancy.

A large proportion of their surface is still unreclaimed from the dominion of nature,—still a barren waste, affording no support to population, and making no addition to the general resources of the country. A different state of things ought, at least, *to begin* to exist.—Rescued from heatherism, it seems reasonable to expect that the Hawaiian group will soon present to the world some of the evidences of material prosperity and progress. These always mark the advance of civilization;—they afford an unerring criterion by which we may judge of the interior condition of any people. When the plough, the anvil and the loom are at work, public and private coffers will be well filled, contentment will abound, and confidence prevail.

According to official accounts, the eight inhabited islands of the Hawaiian Archipelago contain an area of 6,090 square miles, or 3,897,600 acres. I have endeavored to form some reasonable estimate of the proportion of their soil incapable of cultivation, but it was impossible to obtain such *data* as could be considered reliable. Perhaps it may be safely assumed that it is not greater than in the West Indies and other countries of similar structure. Several intelligent gentlemen, from whom I have sought information, suppose it to be less. It would not, I am satisfied, be far wrong to assume that three-eighths of the surface is susceptible of easy cultivation.* And who can doubt that in addition to this, most of the hills and mountain slopes now so barren and forbidding, may by industry and enterprise be converted into fruitful fields?

Look abroad, and see what obstacles the patient hand of industry has overcome! The British Islands, less than twenty times the extent of this group, rescued by toil from barrenness, give support to nearly thirty millions of people, and can boast of a commerce which extends throughout the world.† The once forbidding mountains and

*This is the opinion of Judge Lee, whose views and conclusions on all subjects connected with the Islands are justly entitled to great consideration. The Island of Jamaica, which contains an area of 6,250 square miles,—only 160 more than the inhabited islands of the Hawaiian group,—has a much less proportion of soil easily capable of cultivation.

†The British Islands contain 116,700 square miles. Harte, (*Essays*, p. 188,) says, their “soil is not fertile enough to make men indolent, nor barren to such a degree, as to deny grateful, if not ample returns to the industrious cultivator.” In 1710, the population of what now constitutes the United Kingdom, was 7,650,000; in 1750, 9,670,000; in 1800, 15,800,000; in 1850, 27,435,325. The amount of cultivated land

hills of France, Germany and Switzerland, as rough and as desolate as those which lift their heads in these Islands, are covered with productive farms and fertile vineyards, and as the traveller passes along at their base, his eye is greeted by the cheering landscape which proclaims that nature has been made subservient to civilization.* So also of New England,—the birth place of many of those whom I see around me. Her sterile rocks, her barren soil, her ungenial climate presented no obstacles to a hardy and virtuous race, but, on the contrary, were only incentives to that restless and untiring energy which no circumstance slackens, no climate repels, no adversity subdues,—which gathers tribute from all quarters of the globe, and fills her storehouses with the productions of every nation. Her whole surface is renovated;—barrenness has given place to fertility;—the rose blossoms where the briar grew;—villages and cities have sprung into existence, filled with men of thought and action; and her sons, trained in the schools which she holds up as her highest, proudest boast, go forth armed with intelligence, to compete with the world.

But it is needless to seek for illustrations of what is apparent to all, and will be universally admitted. There is hardly an object which enlightened labor will fail to accomplish; and what is there to hinder these beautiful Islands, the fairest gems of the Pacific, from blooming as a garden, and yielding abundant harvests, as the reward of their cultivation? Nature has been lavish of her bounties.* She has provided a climate more genial, perhaps, than can elsewhere be found upon the surface of the globe. Here the wintry blast is never felt. Save upon the lofty summits of Mauna Loa, the snow never reflects the sunshine; the frost never glitters in the moonbeam. "Spring reigns perpetual," and spreads, through the whole year, its flowers and fruits and verdure. And yet so admirably arranged is the tem-

is 48,779,615 acres; of uncultivated land, 28,227,435 acres. The annual production has been estimated at £59,750,000. See McCulloch's Geographical Dictionary, title "British Empire."

*France has an area of 203,736 square miles. The population, which in 1801 was 27,349,000, had increased in 1821 to 30,461,875; in 1831 to 32,568,223; in 1836, to 33,540,910, and in 1846, to 35,400,486. The quantity of vineyard land is about 4,265,000 acres, or 1-26th part of the entire surface. Germany as well as France, is famous for its wines and grapes. The lands usually appropriated to vineyards in these countries are on the mountain and hill sides, where the soil is far inferior to that of the plains and valleys. McCulloch's Geog. Dic.

perature of the different islands and positions of the archipelago, that the productions of nearly all climates may be cultivated with success. The fruits and vegetables of the tropics grow almost side by side with those peculiar to colder latitudes, thus affording a variety scarcely known in other countries.

Experience has shown that wheat and most of the cereal grains, heretofore supposed to flourish only beyond the tropics, do well in the upland regions of Hawaii, Maui and Kauai.* The question which once existed, has been solved, and all doubt on the subject is dissipated. I have seen specimens of the last wheat crop, equal in appearance to the best qualities in New York, Michigan, Illinois and the other wheat growing States of the American Union. Flour is now imported for consumption, from the United States and Chile; but it may, I think, be anticipated that the Hawaiian Islands will soon produce their own supply; thus relieving the people, to a great extent, from the high prices at which their daily bread must now be obtained. The recent establishment of a flouring mill in this city,—the first in the Islands,—is an event of some moment, not only to the wheat grower, but to the consumer, from which both are likely to derive much advantage.† It is evident that wheat is henceforth to be included among the productions of Hawaiian soil, and it is manifestly the interest of every inhabitant to encourage its growth, at least to the extent of supplying the demand for domestic consumption.‡ So also of the other grains in use, now wholly or in part obtained from abroad,—such as oats, barley, corn and rice. There is no sound policy or good sense in relying on a foreign market, when they can be far more cheaply obtain-

*Though the upland regions, at an elevation of 1,000 to 1,500 feet above the sea, are doubtless best adapted to wheat, yet it seems to do well nearer the level of the sea. A very good specimen exhibited at the Fair, was produced at Waialua, where the elevation is less than ten feet.

†This Mill was erected in December, 1853, under the superintendence of Jotham S. Graves, millwright, and Thomas Hunter, builder and master miller. It is owned by the "Hawaiian Steam Flouring Company," the stockholders of which are George D. Gower and H. J. G. Crosswell, of Lahaina; Andrew Crosswell, of San Francisco, and Henry M. Whitney, Jacob Hardy, Asa G. Thurston, R. Armstrong and J. S. Van Ingen, of Honolulu. Capital stock \$12,000;—cost of building and machinery \$10,000. At present it has but one pair of stones, although there is machinery for three pairs. In this connection may also be mentioned the iron works and foundry of D. M. Weston, erected in December, 1853.

‡The crop on Maui, for this year, is estimated at 25,000 bushels. The average yield per acre is about 25 bushels.

ed at home; nor does it seem reasonable to be content with a mere domestic supply, when so many inducements are held out to go beyond it.

From the able reports submitted to your Society this morning, it appears that sugar and coffee may be cultivated with entire success, and the time ought not to be far distant, when the annual production of these staples shall be increased a thousand fold. There is probably no climate,—not even that of the West Indies, or the Philippine Islands, upon the whole better adapted to the sugar cane. Although no intense heat exists to bring forth the crop to early maturity, as in other sugar-producing countries, it grows up certainly, if slowly, throughout the year. No frosts or floods, as in Louisiana, occur to cut short the anticipated supply; and even the ordinary yield is supposed to be beyond the usual average elsewhere. The quality of the manufactured article is also of a high standard, and will not suffer by any comparison which can be made.

The growth of coffee, likewise, is promoted by circumstances of a most favorable character. Hawaiian coffee has already acquired a name in commerce, and by competent judges is held to rank higher in quality than that of Rio or Java. The efforts of your Society have done much to encourage enterprise in this respect; and its views, wisely promoted by the encouragement of public authority, will continue to be directed to the development of interests which must naturally constitute the most important resources of the country. The time will doubtless come, when silk and indigo will be added to the list of island staples, and contribute largely to the general wealth. It is admitted that there are no obstacles of *nature* to their production, and as soon as enterprise can find assurance of an adequate reward, from their manufacture, they will be seen in your markets, and help to build up your prosperity.

I must also be permitted to allude, in general terms, to one or two other objects of industry, which might profitably engage the attention of the agriculturist, although aware that in doing so, I run the risk of conflicting with the opinions of many respectable individuals, whose views are entitled to a careful consideration. In the report on that subject, read this morning, tobacco is said to be congenial, in a high degree, to the climate of the Islands, and its culture would undoubt-

edly afford a profitable equivalent to industry. Why then should its production not be encouraged? Why should not the agriculturist be commended for his efforts to cultivate it? Is there any sound reason for cutting short the public resources by placing it under the ban?—Does any principle of sound morality or political economy require this sacrifice?

It will be conceded that tobacco, in its various forms, is an article of extensive consumption. It is alike used as a luxury by

“The grave, the gay, the lively, the severe;”

By the moralist and the man of the world,—by the divine and by the artizan. In all classes you find it; in every circle, short of those graced by female presence, it is introduced.

It is an article entering largely into the business of the world. Its cultivation and manufacture are a source of individual and public gain, legitimate in every sense of political economy in which the subject can be viewed. The question is, whether this country shall produce its own supply, and contribute, as it may, to the general stock of commerce, or pay, as has heretofore been done, a large tribute to other nations for ministering to its wants. Shall the Hawaiian nation continue to be drained of its circulating medium, to enrich the Philippine Islands, or put forth its own energies to supply the demands of necessity,—or if you will,—luxury, at home?

The demand exists; it will continue to exist, and must be answered at home, from the productions of the soil, or “*the life of the land*” diminished to provide for it.

I speak of the subject as one of political economy alone,—as a question of necessity,—as a matter long since settled by experience; not as a question of mere theory, but of established fact. In this sense nations must deal with each other and with themselves; they must take things as they are, not as theorists would have them to be; and conform to existing public usages and customs sanctioned by the moral sense of mankind, with some degree of “generous confidence” in their propriety and justice.

Were the question merely upon the introduction of tobacco into use as an article of luxury, it might, perhaps, be discussed with effect from a different point of view; and even “*Counterblast*es,” I doubt not, could be fulminated, almost, if not quite as irresistible as that of

the pedantic British monarch, who, as the witty Rochester wrote of his successor, the second Charles,

“ Never said a foolish thing,
And never did a wise one.”*

The vine is another production which might, unquestionably, be turned to profitable account. What is there to hinder your thousand hills from being converted into fruitful vineyards? The climate moderated by the trade winds blowing fresh from Oregon and California, unlike that of most other regions within the tropics, is favorable to the growth of the grape in a high degree of perfection.† Why, then, is not its culture extended? Why are your tables so rarely and so meagerly supplied with this delicious fruit, when not only abundance, but profusion might exist? Is it because the wine cup is filled from the grape? Shall the gifts of Providence be rejected, because they are sometimes perverted and abused? It was not thus that the Savior of the world judged, in providing for the marriage feast in Galilee. It is not thus that the statesman should reason, in his efforts to promote the public welfare. The abuse of Nature's bounties is a crime;—their perversion from a proper end is a crime;—but it is no

*In 1837, the total value of tobacco and cigars exported from Cuba was \$1,828,444. I have not been able to refer to the statistics of subsequent years. In the same year, the exports from Manila amounted to above \$2,000,000, of which cigars constituted a large item. The annual product of tobacco in Virginia is not far from 80,000,000 lbs. The amount annually inspected in Baltimore is about 30,000 hhds. It would be easy to extend these illustrations of the immense importance of tobacco as an article of commerce.

†There are many exceptions to the general rule that the grape does not flourish well in tropical regions. In Peru, which lies between 3° and 21° of south latitude, grapes of an excellent quality are cultivated without difficulty, and the wine produced from them will suffer but little by comparison with the best specimens of Sherry and Madeira. This I am able to state on the authority of H. B. M.'s Consul General, who was for many years an able and distinguished officer in the Peruvian military service. In Jamaica, and several other of the West India Islands, the vine flourishes.

A word here in regard to grape culture in the United States. In 1853, upwards of half a million gallons of wine were produced in Illinois, Indiana, Ohio and Kentucky, from about 2,600 acres of vineyard. There is no doubt that the entire success of this branch of industry in those States, will soon lead to more extended operations. If it be true that in vine-growing countries the terrible evil of drunkenness prevails less extensively than elsewhere, it is worthy of consideration whether the encouragement of vineyards would not be a judicious and effective *temperance movement*. In the extensive prairies of Illinois, the spread of fire is sometimes checked by what are called *back fires*, which consume in a harmless way, the material which would otherwise contribute to a destructive conflagration. So it may be that the general use of cheap and light wines would counteract the tendency to indulge in more injurious and intoxicating beverages.

crime to employ them as their Good Giver intended, in moderation, and with a thankful spirit.

The cultivation of fruit, it is gratifying to observe, is beginning to receive its proper attention. It is only strange to me that where so many advantages exist, they have not been turned to better account. If there have been doubts as to the practicability of fruit culture, the experience of the last few years has scattered them to the winds.—Any one may be satisfied on this point by a brief visit to the establishment of the worthy and venerable Captain Adams, in Kalihi valley; where may be found, in the most flourishing condition, the grape, the fig, the mango and the bread fruit,—the orange, the date and pomegranate,—the chirimoya, the lemon, the lime and the alligator pear; and where, also, will be met the genuine old school hospitality, which always pleases and never tires. Would that its days were not so nearly numbered! It is fast yielding to the mercenary spirit of the age, and will soon be forgotten. And yet, what is more worthy of being perpetuated? The good old times of which our fathers have told us, and of which we have occasionally seen an example, were indeed the days of social enjoyment,—of refined courtesy,—of high-toned hospitality. They have given place to selfishness; they are superseded by the passion for gain,—for personal aggrandizement,—for individual prominence. The altars of Mammon are erected where once stood, as objects of universal reverence, the shrines of hospitality.

But let us return to Kalihi, and once more pay our respects to the courteous old man whom for the moment we have left. He ranks among the patriarchs of the kingdom. For nearly half a century he has been a resident. He was a cotemporary of the great Kamehameha, a monarch distinguished for his foresight,—a monarch who, under the auspices of civilization, would have ranked among the first men the world has produced. He can tell you the whole history of the rise and progress of the Hawaiian nation; of its divided dominion,—its strifes,—its wars,—its final consolidation. He saw the dawn of Christianity upon the Archipelago, and has been spared to witness its triumph. His words are full of instruction; his mind well stored with the incidents of the past; and he takes delight in telling of the marvellous things he has witnessed, and of which, in the language of the poet, he might say,

“———— quorum pars magna fui.”

It is time to close the interview. We leave him with regret, but with the hope that it may be often repeated before the twilight of his mortal career has vanished.*

The success of others, also, in the culture of fruit, might be pointed out, as illustrative of what industry and perseverance can accomplish.† But it is scarcely necessary to occupy your time in such a manner;—at least it would be out of place for me to give lessons on the subject, when I have scarcely attained the elements of that familiar knowledge of it, which you all possess.

I will, however, detain you for a moment, by speaking of the peach and its successful cultivation. Though not an indigenous fruit, it is evidently at home in your soil and climate, and there is no reason why it should not be produced in abundance. Here, as elsewhere, it requires care;—it is the product of labor, and will not grow up spontaneously in the forest or neglected field. It has been said that its usual flavor and richness, in colder countries, is wanting here, but such is not my experience. It is not many days, Mr. President, since you and I were favored, through the kindness of Her Britannic Majesty's Consul General, with the taste of peaches from his own grounds, and I think you will agree with me in saying that they were equal, in most respects, to those of New Jersey,—the most famous of the American States for the richness of its fruits.

The growth of the peach tree, in some parts of the Islands, is almost a subject of wonder, and the real facts in respect to it may well

*Capt. Alexander Adams was born in 1780, in Forfarshire, Scotland, and came to the Hawaiian Islands in 1811. In 1817, he aided efficiently in expelling the Russians from Kauai, and in 1820, his influence, together with that of John Young, the father of the present Premier, was efficiently exerted in favor of allowing the American missionaries to land and take up their residence on shore. Latterly, Capt. Adams has chiefly directed his attention to agriculture and the cultivation of fruits, &c.,—having introduced from China the peach, lachee, Chinese lemon, dwarf orange, prembalo and several other fruits; from Columbia River, apples, currants, gooseberries, hops, &c.; from Central America, the mammee apple and the rose apple; from South America, the alligator pear, the plum, the pear, apple, almond and other plants; and the olive from California.

†Don Francisco de Paula Marin, who came to the Islands in 1791, and died in 1887, introduced many valuable trees and plants. For an interesting account of his operations and pursuits, see the able address of His Excellency R. C. Wyllie, delivered before the R. H. Agricultural Society, on the 12th of August, 1850, and published in Vol. 1, No. 1, of the "Transactions." The missionaries, also, have done much in the way of encouraging the cultivation of fruit and ornamental trees. The same must likewise be said of the great mass of foreign residents.

challenge incredulity. But we cannot doubt what we have seen with our own eyes, or heard from those entitled to confidence. An extraordinary instance is to be found on the plantation in possession of Mr. Preston Cumings, at Kealakeakua, on the Island of Hawaii, where a tree, *but three years from the seed*, is eight inches in diameter, and now laden with its second crop of nearly a thousand peaches.* Where can you find a rival instance? What soil affords better evidence of fertility and fitness for the cultivation of a fruit everywhere sought for, everywhere admired?

The cultivation of trees, whether for fruit or ornament, may almost be said to come within the proper range of the duties of every citizen,—at least, of every man of intelligence. There is no better evidence of refinement than a love for trees and flowers;—no better proof of goodness than an admiration for the loveliness of nature. The individual who despises trees and flowers is an alien to the best feelings of the human heart, and may justly incur distrust and suspicion.—Here is a criterion of character which never fails. The perverse heart is unmoved by the grandeur of the Creator's works,—it finds no pleasure in the warbling of the bird, the rustling of the foliage, or the murmuring of the brook. It is filled with corrupt fancies, which ever exclude the highest forms of beauty and the purest sources of delight. Trust not those who are thus perverse, for they are incapable, in any great degree, of generous or noble sentiments. It is from the ranks of such that crime finds its abettors, and infamy its victims. Innocence and purity always look with a delighted eye upon the face of nature, and revel in the magnificence of her charms.

It has been said that he who makes a tree or a blade of grass grow, where none grew before, is a public benefactor. If this be so, there is evidently a chance to do the state, or at least society, some service, in this metropolis, where vegetation is but little inclined to spring up spontaneously, and irrigation alone preserves it from destruction, when once fostered into existence. That so much, under the circumstances, has been done, is a matter of wonder, rather than that more has not been accomplished. The skill evinced in many instances, in

*Mr. C. represents the peaches from this tree to be of good size, one of which he found to be 7 1-4 inches in circumference. On Hawaii, the peach tree sometimes attains a diameter of from two to three feet.

the cultivation of trees and shrubs and flowers, bears testimony to a high degree of taste; the praise of which, undoubtedly,—as in most cases where taste and elegance are concerned,—will be conceded to the female portion of the community. A thousand blessings on the ladies! They are always foremost in every good work. It is to their foresight that we owe half our comforts. Without them, we should soon degenerate into savages. The poet indulged in none of the usual license of his art, when he said,

“The world was sad, the garden was a wild,
And man, the hermit, sighed, till woman smiled.”

Hitherto, I have spoken of the soil and its products. Let me now refer for a moment to a kindred topic. How is it with the raising of cattle and sheep on these Islands? Look abroad upon your mountains and hills, and see the bounteous provision which nature has made! Perennial fields spread out their inviting surface, and afford a constant pasturage. No care is demanded to provide for the storms of winter; the whole year is propitious; the herdsman may fold his hands, and count the rapid increase of his flocks. Stock raising cannot be otherwise than profitable in such a country, if its immense advantages of position are wisely turned to account. What is there to prevent Hawaiian beef, confessedly equal to any, from acquiring a prominent place in commerce? My views on this point may be wrong, but I cannot avoid the conviction that your grazing lands, properly employed, will hereafter prove one of the chief elements of public and individual prosperity.

It may be considered remarkable that sheep thrive so well, and remain entirely free from the diseases which prevail in other countries. It is said on good authority, that wool, instead of deteriorating in quality, as frequently happens in warm climates, improves in fineness, even without the usual crossings of breed, and other expedients, well known among wool growers.* The rapid multiplication of flocks will be a matter of surprise to those whose experience has been confined to colder latitudes. An instance of this extraordinary productiveness was mentioned to me, a few days since, by the intelligent and enter-

*This statement was made upon the authority of John Montgomery, Esq., and is fully confirmed by the testimony of Mr. Robert Moffitt and other intelligent wool growers, with whom I have conversed on the subject.

prising gentleman* who addressed you so instructively, on a similar occasion last year, as having occurred within his own experience.— On the 7th of January, 1853, he purchased a flock of ninety-six ewes, which, at the end of twelve months, from natural increase alone, numbered three hundred and eleven! Here was an annual production of more than two hundred per cent.,—an astonishing fact in sheep raising, but not, as I am assured, without its parallel. It is represented to be no unusual thing for ewes to produce two or three lambs at once,—a single lamb being commonly the exception and not the general rule. On the other hand, also, there are exceptions, such as that which occurred last spring, in the flock of Mr. Robert Moffitt, at Kahuku, where five lambs were dropped at the same time, by one ewe,—all vigorous and healthy, and still doing well.† With such facts before you, how can you doubt that wool growing is destined to be a successful and extensive branch of industry!

But this and the other resources of the Islands can only be developed by capital and labor. The presence of the former will depend upon the security of investment, and upon fair returns. Where confidence exists that these ends can be attained, it is never found wanting. Efficient labor is within the reach of capital, and will find a proper level in the competition which it excites.

The position of the Hawaiian archipelago is such as to present advantages to the agriculturist, rarely to be found. Lying directly in the track of commerce between the American and Asiatic coasts, this group seems destined to afford refreshment and supplies to the vessels of all nations, engaged in carrying it on. A market is thus brought to your very doors. There is no need to go abroad to find purchasers for the great mass of your productions. They are sought for in your own ports, and every year is likely to increase the demand. In 1853, the total number of vessels of all classes, in your harbors, was *seven hundred and forty-three*, and in the preceding year it was about the same.

Look again at the place your Islands occupy in the Pacific. Just

*John Montgomery, Esq.

†On the 5th of November, 1853, three ewes of the same flock dropped *ten* healthy lambs;—one ewe dropping *four*, and the other two, *three* each.

within the northern tropic, between $18^{\circ} 50$ and $22^{\circ} 20$ of north latitude, and $154^{\circ} 53$ and $160^{\circ} 15$ of longitude west from Greenwich, they stand, as it were, a central point, or house of rest in the ocean, holding out invitations to two continents, and giving assurances of hospitality and comfort to both. According to a statement of Nicolay, in an address before the "British Association for the Advancement of Science," in September last, their distance is,

From San Francisco,	-	2,083 miles,
Vancouver's Island,	-	2,293 "
Central America,	-	4,023 "
Callao, - - -	-	5,060 "
Valparaiso, - -	-	5,905 "
Japan, - - -	-	3,853 "
Chusan, - - -	-	5,301 "
Singapore, - -	-	5,832 "
Sydney, - - -	-	3,500 "
Auckland, - -	-	3,817 "

Hereafter, when lines of steamships shall be established, as they soon will be, depots of coal will be required for their convenience, at some place as nearly equidistant as possible from their points of termination. Where can such a place be found but in this archipelago? Go elsewhere, whichever way you will, the distance is too great.—Here, then, must be the chosen spot. Thus, the very necessities of commerce will tend to build up your interests, and add to your prosperity.

But it will never do to rely upon this alone. Those who expect a continuance of benefits from others, must be liberal in return. The policy which in the end always answers best, is that which gives while it enjoys,—which courts, and does not repel,—which imposes no unwise exactions, but is content with reasonable and just advantages.

How can it be, that with all these circumstances of soil, of climate and position, so favorable, the Hawaiian Islands will not soon attain a high degree of prosperity! Is there a blight spread over them, that they cannot flourish? Nature seems to have designed them for the garden of the world. Here it is, if anywhere, in the fallen condition of man, the idea of Eden may be realized. Here it is that the grains,

the fruits, the flowers,—in short, nearly all the productions of the earth,—grow side by side with each other, and flourish as if they were alike indigenous.*

Capital, enterprise, industry, alone are wanted. All these it is the purpose of your Society to encourage, and I trust it may be your fortune to point out the way to a noble result.

I have already attempted to illustrate, by example, the effects of industry, vigor and enterprise, upon national prosperity. Permit me, once more, to direct your attention abroad; and I may, I hope, presume that you will not take it amiss if I refer to my own country, instead of others with whose history I am less familiar; conceding, as I most freely do, that other nations might present instances which would answer my purpose just as well. I wish to show how successfully the hand of labor may contend against obstacles far more serious than any that are to be encountered here. See how some of the smaller American States have grown up, and become wealthy and respectable communities, and then take courage in the hope that the Hawaiian Islands may some day be their rival!

Connecticut, containing only 4,750 square miles,—1,340 less than this group,—has a population of 370,792, or 78.06 to the square mile, with 1,752 school districts, and a school fund of \$2,049,482 32. Besides, she can boast of her higher literary institutions,—of her public improvements,—of her universal and increasing prosperity; in short, of a condition almost without parallel in political history.

Delaware, with an area of 2,120 square miles,—3,970 less than the Hawaiian Islands,—has 91,532 inhabitants, or an average of 43.17 to a square mile. In 1853, her expenditures for schools amounted to

*The banana, yam, sweet potato, bread-fruit, cocoa nut, kalo, arrowroot, sugar cane, raspberry, strawberry, ohia and ohelo are indigenous and abundant. Most of the esculent fruits and vegetables,—from both the temperate and hot regions,—have been successfully introduced. Irish potatoes, of an excellent quality, are cultivated. On the Island of Maui, fields of sugar cane and wheat grow side by side, and both do well. Cotton, oats, barley, indigo, corn, tobacco, rice, &c., can all find a congenial soil.—Melons, cucumbers, oranges, guavas, pine-apples, grapes, citrons, peaches, figs, tamarinds, turnips, squashes, pumpkins, beets, carrots, onions, tomatoes, beans, peas, radishes, limes, lemons, &c., &c., might be enumerated among the varieties of fruits and vegetables brought from other countries. A citizen of the United States, coming here, will miss but few, if any of the articles of food which were his favorites at home, besides finding a great variety in addition. The flowers of all climates bloom in perfection, but those from northern regions lose somewhat of their native fragrance.

\$44,209 38, and her railroads and other sources of income, exclusive of taxation, produced a revenue equal to her public expenditures.

Rhode Island, with 1,120 square miles,—but little more than one-fourth the size of the Island of Hawaii,—contains a population of 147,545;—more than double that of this Kingdom, and more than ten times as many inhabitants to the square mile.* Her schools, also, are flourishing, and she annually expends over \$100,000 to support them.

New Jersey has 6,851 square miles,—only 761 more than the Hawaiian Kingdom,—with a population of 489,555, or 71·46 to the square mile. Her school districts number 1,612, and in 1851, the amount applied to their support was \$119,869 49. Yet her people are without taxation; the income from her railroads and public works being sufficient to meet the entire expense of the State.

Massachusetts, with 7,250 square miles,—1,160 more than the Hawaiian group,—has a population of 994,514, or 137·17 to the square mile. In 1851, she provided \$965,490 for her public schools, which numbered 3,987, and, in addition, sustained 69 incorporated academies, and 785 unincorporated institutions of a similar grade.† Her resources are immense, but they are chiefly derived from the enterprise of her people, who “compass land and sea,” in pursuit of gain, or on missions of philanthropy.

These are the smallest States of the American Union. Connecticut, Delaware and Rhode Island, as I have shown, are each smaller than the Hawaiian group; Massachusetts and New Jersey are only a little larger, and the same might be said of New Hampshire and Vermont. None of them can boast of natural advantages equal to those you enjoy; none of them had, originally, so many of the elements of prosperity.

The Hawaiian Islands, in December last, contained 73,140 inhabitants, or about 12 to the square mile; exceeding in density of population, Arkansas, California, Florida, Iowa, Michigan, Missouri, Texas and Wisconsin. Of the States corresponding more nearly, in density of population, to this group, may be mentioned Alabama, Georgia, Illinois, Louisiana, Maine and Mississippi. But all these, though now

*Number of inhabitants to the square mile, 122·95.

†See American Almanac for 1853, p. 241.

sparsely inhabited, are flourishing and improving States. Their borders are open to the emigrant and the exile of every land; their march is onward,—their population rapidly on the increase; and in less than a quarter of a century, they will each number more people than many of the Kingdoms of Europe. Bound by an inseparable chain to the Union, they will share in its wonderful progress, and contribute to its glory.*

The statistics of these Islands show a rapid diminution of population. In 1778, Capt. Cook estimated the number of inhabitants as high as 400,000; in 1823, it was reckoned at 142,050; in 1832, at 130,313, and in 1836, at 108,579. In 1850, the number had fallen to 84,165, and at the close of last year, it was only 73,140!

Whence is this contrast? How comes it that in the one case there is prosperity without parallel, while in the other, where nature has conferred superior advantages, the languor and decay of death are seen? But it is useless to speculate upon the causes of such a decline in population,—such a stagnation in all the channels of prosperity. It is enough to know, and to lament that since the day when the “Resolution” and “Discovery” made their appearance in Kealakeakua Bay, the progress of the Hawaiian race has been stayed, its energies have been paralyzed, and, apparently, it is fast verging to extinction. Shall such be its fate, or do the prospects of a better destiny exist?

I have faith to believe that there is a limit to this retrogression. I think I can see the signs of a brighter era in the dim twilight of the future. As the decaying plant sometimes throws off the disease which has almost sapped its vitality, and springs up to healthful maturity, so will Hawaii burst from her bonds of lethargy, and stand before the world, clothed with prosperity and strength.

I have full faith in all this. I have full faith that a people who have cast off the yoke of Paganism, and learned to adore the God of Heaven, will not be permitted to sink back into a worse state than that from which they emerged.

*The population of the United States, at the different periods of enumeration, was as follows:—In 1790, 3,929,872; in 1800, 5,806,952; in 1810, 7,239,814; in 1820, 9,688,181; in 1830, 12,866,920; in 1840, 17,063,353; in 1850, 23,191,074.

“There is a *Providence* which shapes our ends,” and that Providence will guide them safely through the dark and trying hour. The destiny of Hawaii is a grand, a noble destiny; a destiny which unwise counsels may retard, but never change. It is written in her position; it is manifest in her resources; but more than all, in her schools, and the thirst for knowledge which distinguishes her sons.

Your Society, under the patronage of Royal authority, has assumed, and will perform an important part, in seeking to revive the slumbering energies, and give direction to the industry of the nation. It is no idle work in which you are engaged. It is a work rising above the interests of individuals, and pertaining to the highest considerations of public good. While it may, and should conduce to individual gratification and advantage, its general influences will be felt in a wider circle, and be seen beyond the generation in which you live. The lesson that industry is the mother of prosperity, when enforced by example, never fails to make a lasting impression, even upon the rudest natures. Let it continue to be taught and enforced with a patience that never tires,—a perseverance that knows no end.

Its results will not long be withheld; they are, even now, beginning to appear; and with no great stretch of fancy, you may contemplate the time when your hills and your valleys shall no longer lie in desolation;—when your Island homes will be surrounded with fertility and beauty, and the whole land send up its incense of flowers and fruits to Heaven;—when the poet’s prophetic strain shall be verified, and you may say,—not in the language of prophecy, but of reality,—

“The reproach
Of barrenness is past; the fruitful fields
Laugh with abundance, and the land, once bare,
Or fruitful only in its own disgrace,
Exults to see its deadliest curse repealed.”

On motion of Mr. S. N. Castle, seconded by R. W. Wood, a vote of thanks was unanimously passed to Mr. Gregg, for his eloquent address, and the Secretary was instructed to request a copy for publication in the “Transactions.”

The exercises of the evening closed with a fine and well executed piece of music by the Amateur Musical Society; when, on motion of S.

Reynolds, seconded by R. C. Wyllie, a vote of thanks was unanimously passed to that Society.

Adjourned to 12 o'clock, to-morrow, to attend the Fair.

WEDNESDAY, June 14, 1854.

The Society met at 12 o'clock, and the Committees chosen proceeded to judge of the productions exhibited. The following are the Reports:

REPORT OF THE COMMITTEE ON CATTLE.

The Committee on Cattle reported as follows, and their Report was accepted:

Mr. President and Gentlemen of the R. H. Agricultural Society:

Your Committee of Judges on Cattle have awarded:

For imported, short-horned Durham Bull, \$20, or Silver Cup, to Thomas Cummins, of Honolulu.

For best native Bull, "Derby," \$10, or silver cup, to Thos. Cummins, of Honolulu.

For best native Cow, \$10, or silver cup, to Paul Manini.

For best fat Ox, over 4 years old, \$5, or medal, to J. Holmes.

For best fat Steer, under 5 years old, \$5, or medal, to Paul Manini.

For best Working Oxen, \$5, or medal, to J. S. Emerson.

We regret that exhibitors did not comply with the rules of the Society in entering their cattle, as by failing to do so, they put it out of our power to award the premiums which we could otherwise have done. It is to be hoped that, in future, the regulations will be understood, and that exhibitors will take the trouble to regard them.

L. L. TORBERT,

JNO. JANION,

R. MOFFITT,

J. PIIKOI.

REPORT OF THE COMMITTEE ON SHEEP, SWINE, &c.

The Committee on Sheep, Swine, &c., reported as follows, which was accepted:

To the President of the R. H. Agricultural Society:

The Committee on Sheep, Swine, Wool and Terriers, do report that they have awarded prizes to the following exhibitors:

No. 32—Best Merino Ram, R. Moffitt, \$10, or cup.

38—Best native Ram, do. Morrell's Shepherd.

41—Best 3 Fleeces, do. silver medal.

44—for Terriers, Paul Manini, \$10, or collar.

45—Best Boar, imported, John Meek, \$5, or medal.

46—Best do native, Prince Liholiho, \$5, or medal.

47—Imported Sow, John Meek, \$5, or medal.

48 owner unknown.

49—Lot of Pigs, R. Moffitt, \$5, or medal.

In numbers 33, 34, 35, 36, 37, 39, 40, 42 and 43, there were no competitors.

Your Committee remarked two Wethers of native breed, of superior quality, and worthy of notice, exhibited by Thomas Cummins.

Respectfully submitted for Committee.

JNO. MONTGOMERY.

REPORT OF THE COMMITTEE ON FLOWERS.

The Committee on Flowers reported as follows, which was accepted:

To the President and Members of the R. H. A. Society:

GENTLEMEN:—

Your Committee on Flowers have examined with care the various bouquets and collections of Flowers, on exhibition at your Fair, and would report the following as deserving of the premiums under their several classes:

No. 130—Best collection and greatest variety of Flowers, Mrs. Hillebrand, \$10, or cup.

No. 131—Second do. do., Mrs. William Ladd, medal.

No. 132—Best Floral Design, Mrs. Judd, pair of vases.

No. 133—Best Boquet, Mrs. Makee, boquet holder.

No. 134—Most beautifully arranged basket of Flowers, J. Montgomery, do. do.

No. 135—Greatest variety of Roses, Mrs. Makee, do. do.

Your Committee have found no little difficulty in selecting from so

rich and beautiful a collection of boquets and groups of flowers, those most deserving of premiums; and they cannot conclude their report without expressing their satisfaction, in view of the progress in floriculture, since the last Fair, and their admiration of the many beautiful specimens exhibited, which, in an ordinary collection would have demanded prizes. Among the new gems of the floral exhibition, we would particularly notice the splendid blue lily of Mrs. Makee.

J. H. FULLER.

G. H. LUCE.

E. HOFFMANN,

B. W. FIELD.

REPORT OF THE COMMITTEE ON GRAIN, FLOUR, &c.

The Committee on Grain, Flour, Seeds and Field Crops, reported; their report was accepted, and is as follows:

The undersigned Committee, to whom was assigned the duty of determining as to the best specimens of "Grain, Flour, Seeds and Field Crops," exhibited at the annual Show and Fair of the Royal Hawaiian Agricultural Society, held this day, have had but a very limited amount of labor to perform, owing to the want of competition in this particular department of the Exhibition. We have been informed that various farmers, upon East Maui alone, have raised, the present season, upwards of fifteen hundred acres of wheat, of a good quality, which has yielded an average of more than twenty bushels to the acre! This is above the average yield of the best wheat growing regions of the United States, and but a little below the average in the wheat districts of Great Britain. The average produce in the State of New York is but fifteen bushels, and in the celebrated wheat region of Western New York, but nineteen bushels; while in England it is but twenty-two bushels, and in Scotland only thirty. Individual instances of the produce of fifty bushels to the acre, in New York, and of sixty in Scotland, are, however, by no means rare.

With such reported success in wheat culture, upon the windward islands of this group, it is a source of much regret to the Committee, that but a single specimen of about two bushels was offered for a pre-

mium. This is marked No. 1, and was raised by Messrs. Croswell and Gower, of East Maui, and, in the opinion of the Committee, is entitled to the premium of ten dollars or a silver cup. The berry is full, of a medium size, but does not bear the clear, distinct, glossy appearance of the Valparaiso, Soule's red chaff, flint blue stem, or Crate's wheat,—or, indeed, of any of the best winter varieties, as grown in the western portions of the United States.

Its general appearance is much like the spring varieties, especially such as is known as the Mediterranean spring wheat, at present raised to a considerable extent in the middle and eastern parts of the State of New York. This variety is very good for family consumption, and the bread made from it retains a pleasant flavor; but as its flour is not as white, and will not absorb as much water, it is not sought for by bakers, and is less valuable for export.

There was no flour on exhibition, and the Committee are therefore unable to determine what grade or quality of flour can be manufactured from the wheat of these Islands, but we are of opinion that the quantity and quality would be alike satisfactory, and that wheat growing will be a most profitable pursuit, on all those portions of the Islands where it can be raised. In this respect, the wheat region does not seem to be limited to the high lands of East Maui and Hawaii, as a very creditable specimen was shown us, which was raised by Mr. Emerson, of Waialua, only a few feet above tide water.

In Corn, we award the premium for the best twenty ears, to specimen marked No. 2, and for the best bushel of Indian Corn, to specimen marked No. 1,—both raised by Mr. W. Chamberlain, of Oahu.

The corn upon the ear is a superior quality of the twelve-rowed yellow variety, and we have seldom seen, in the most favored corn countries, a better specimen of the kind.

We award the premium for the best sample of white beans, to specimen No. 4, presented by Mr. Dole; and for the greatest variety of garden seeds, to Mr. Eugene Bal, who exhibited upwards of seventy choice kinds, all apparently in good order, and raised in the garden of J. Montgomery, Esq., of this city.

Very fine tobacco, and only tolerable cigars, were exhibited by Messrs. Archer & Gruben, of Kauai; and the Committee award the

premium of ten dollars or a cup to Mr. A. Archer, for the best half acre of tobacco.

Several varieties of Beans were shown by Mr. W. Chamberlain, but as the rules of the Society confined the award of a premium to white beans, we can only refer to them for the purpose of commending them to the attention of cultivators.

Mr. Emerson, of Waialua, had on exhibition, specimens of wheat, barley and oats, in the ear, raised by him on land but slightly elevated above the level of the sea, as an evidence that grain, contrary to the generally received opinion, can be successfully grown within the tropics, and near the sea coast. We commend the enterprise and perseverance of Mr. Emerson, as an example worthy the attention and imitation of the members of the Society.

The Committee observed, with much pleasure, a dozen ears of sweet corn, raised by Capt. Makee. This is the variety known in the United States as the Tuscarora or sugar corn, and is a most delicious vegetable for the table at all seasons. Its cultivation should be encouraged, and we recommend a premium, in the present instance, of two dollars, and that, in future, a suitable premium be offered by the Society for the best twenty ears of sweet corn.

Respectfully submitted,

B. F. ANGEL,
R. W. WOOD,
R. ARMSTRONG,
T. MOSSMAN,
H. RHODES.

Committee.

REPORT OF THE COMMITTEE ON SUGAR, SYRUP, AND COFFEE.

The Committee on Sugar, Syrup and Coffee, made a Report, which was accepted.

The Committee appointed to award the premiums on sugar, syrup and coffee, beg leave to report that, having examined the several specimens submitted by the different competitors, their award is as follows:

ON SUGAR.—1st premium to Alexander McGregor, for 100 lbs. exhibited, being a sample of thirty-four tons, manufactured at Koloa, Kauai, within the last year, as attested by the requisite vouchers,—\$20, or a silver goblet.

2nd Premium to L. L. Torbert, for 100 lbs. exhibited, being a sample of 15 tons, manufactured at Honuaula, East Maui, within the last year, as attested by the proper vouchers,—\$10, or a silver cup.

3d Premium to L. L. Torbert, for the best 100 lbs. exhibited,—\$5, or a medal.

ON SYRUP.—Premium to L. L. Torbert, for 20 gallons of syrup exhibited, being a sample of about 300 barrels, manufactured within the past year, as attested by certificate,—\$10, or a cup.

ON COFFEE.—1st Premium to Cumings & Hall, for over 25 lbs. exhibited, being a sample of 10,000 lbs. raised by them, at Napoopoo, District of Kona, Hawaii, within the past year, as per certificate signed by "P. Cumings,"—\$15, or a silver cup.

2nd Premium for over 25 lbs. exhibited, being a sample of at least 20,000 lbs. raised by natives in the District of Kona, Hawaii, and collected by P. Cumings, as certified by Aldrich & Bishop,—\$5, or a silver medal.

The Committee would remark that good samples of sugar were presented from the plantations of S. Reynolds, Esq., and Messrs. Wood & Spencer, of East Maui, and also a bottle of fine syrup from the former; also a specimen of coffee from B. Pitman, Esq., of Hilo, having a good berry, but injured by not being sufficiently dried.

Respectfully submitted,

S. N. CASTLE,
W. B. RICE,
W. A. ALDRICH,
JAMES MAKEE,
R. CLOUSTON,

Committee.

P. S.—A sample of arrow-root, of very superior quality, was exhibited, manufactured by the Rev. E. Whittlesey, formerly of Hana, East Maui, and it has been suggested that the Committee should take it into account, as it was overlooked in the list.

They would therefore recommend that a premium of \$5 be granted on this sample, especially as the exhibitor has authorized it to be sold for the benefit of the Society.

REPORT OF THE COMMITTEE ON HORSES.

The Committee on Horses made a Report, which was accepted, and is as follows:

To the President and Members of the R. H. Agricultural Society:

Your Committee on Horses have great pleasure in reporting the decisions arrived at, after a long and careful examination of the respective merits of those exhibited.

In the opinion of your Committee, Capt. John Meek's imported stud "Oregon" stands first on the list; but as he received a premium last year, we can therefore only give him this special notice for a certificate or diploma. It may admit of a question whether, as long as an animal is far the best of his class exhibited from year to year, he is not entitled to a reduced premium, until some other one arrives, presenting superior claims. Your Committee recommend a premium of ten dollars to be awarded for the fine mule exhibited by Mr. Thomas Cummins, although not set down in the printed list of animals to be examined and reported upon.

The omission of any premium to be awarded for two year old colts has compelled us to pass by the claim which a very handsome and promising one, belonging to Mr. Moffitt, presented to our notice.

CLASS 1.—IMPORTED HORSES.

Best Blood Stallion, over 4 years old. silver cup; black Stud,—His Majesty.

Do. do. Mare, do. do. do., \$10 or cup,—“Cigar,” P. Manini.

Do. do. Horse of all work do. do., \$20 or cup,—C. Brewer, 2d.

Do. Brood Mare of all work, \$20 or cup,—“Fanny,” Capt. Meek.

Do. do. do. draught, \$20 or cup,—Dr. Judd.

CLASS 2.—NATIVE HORSES.

Best Stallion over 3 years old, \$10 or cup,—black stud, P. Manini.

Do. Brood Mare, with foal at foot, 3 years old, \$10 or cup,—“Jenny,” T. Cummins.

DRAUGHT.

Stallion over 3 years old, \$10 or cup,—“Lance,” Capt. Meek.

Mare with foal at foot, over 3 years old, \$10 or cup,—John Rives.

COLTS.

Best one year old Stallion, medal,—P. J. Gulick.

Do. do. Mare, Youatt on the Horse,—T. Cummins.

GELDINGS.

Best Gelding, \$10 or cup,—“Frank,” J. Meek.

Second best do., Youatt on the Horse,—“Bravo,” F. Manini.

Your Committee have been highly gratified by the promising young stock presented at the meeting,—the produce of Oregon, Admiral and others,—and are of opinion that this part of the annual Exhibition will be of increasing interest, and present still greater difficulties in arriving at fair and equitable awards.

Respectfully submitted,

HENRY ROBINSON,

Chairman of Committee.

REPORT OF COMMITTEE ON VEGETABLES AND FRUITS.

The Committee on Vegetables and Fruits made a report, which was accepted, and is as follows:

To the President of the R. H. Agricultural Society:

The undersigned, charged with the duty of awarding premiums for vegetables and fruits, in accordance with the list furnished by the Board of Managers, respectfully submit the following Report:

That there were but three competitors for the \$10 or cup, to be awarded for the best and greatest variety of vegetables, and that the variety and quality exhibited by each merited praise. But to Mr. Eugene Bal, who has charge of the garden of John Montgomery, Esq., we take great pleasure in awarding the premium,—\$10 or a cup. To Mr. Montgomery, as proprietor, and to Mr. Bal, as an intelligent practical laborer, Honolulu and the Agricultural Society are much indebted, for the efforts they have successfully made and are making, to introduce into cultivation so large a variety of vegetables and fruits.

The praise due to Capt. Adams has already been made known to

you in the Annual Address, and we think it is no more than just that we should add our testimony to that of Mr. Gregg in his favor.

To Naihi, a native, much commendation is due for the variety and quality of vegetables he produced. Encouraged by example and pecuniary considerations, we anticipate, from year to year, a continued improvement in the exhibitions made by native gardeners.

To (No. 1) F. A. Oudinot, we award the premium,—\$5 or a medal, for the best sweet potatoes, grown from foreign seed; they appear to be of a superior quality, and impress the Committee with the opinion that the introduction of foreign seed is very desirable.

To (No. 2) A. Paki we award the premium,—\$5 or a medal,—for the best ten heads of kalo. There were other samples, perhaps of a superior quality, but they could not receive our attention, as they were of too limited a number.

To the second best 10 heads of kalo, the best 12 stalks of celery, and the best 12 heads of cauliflower, we could award no premiums, as there were none on exhibition. Mr. Bal has samples of celery, but they had not so far advanced as to justify us in considering them stalks.

To Mr. E. Bal we award the premium, \$3 or book, for the best 12 white turnips and the best 12 carrots.

To (No. 1) Mr. E. Bal we award the premium,—\$3 or book,—for the best 6 table beets.

To (No. 3) J. Makee we award the premium,—\$3 or book,—for the best 12 table radishes.

To (No. 1) Capt. A. Adams we award the premium,—\$3 or book,—for the best 17 parsnips.

To (No. 1) F. A. Oudinot we award the premium,—\$3 or book,—for the best 6 heads of cabbage.

To (No. 1) Eugene Bal we award the premium,—\$3 or book,—for the best lettuce.

To (No. 2) Capt. A. Adams we award the premium,—\$3 or book,—for the best tomatoes.

To (No. 1) Mr. Eugene Bal, for the best bunch of double parsley, the best 2 purple egg-plants, and the best 12 onions; each \$3 or book.

To (No. 3) E. Bal, the premium,—\$3 or book,—for the best three

squashes. The Committee were embarrassed in deciding to whom to give this premium, as there were several samples of different varieties, and some very superior of the crooked-neck variety.

To (No. 1) George M. Chase, we award the premium,—\$3 or book,—for the largest squash, without difficulty.

To (No. 1) L. L. Torbert we award the premium,—\$3 or book,—for the best bushel of Irish potatoes, as the only ones exhibited; but they merited a prize, as of first quality, from foreign seed.

To (No. 2) Lolohi we award the premium,—\$3,—for the best sweet potatoes, being the only ones exhibited; they were raised in Honolulu.

To (No. 2) J. Robinson & Co. we award the premium,—\$5 or book,—for the best 12 peaches; and to (No. 1) A. Adams, the premium,—\$3 or book,—for the second do. Mr. J. Makee exhibited a few quite good peaches, but their number was not sufficient to entitle him to a premium.

To (No. 2) F. A. Oudinot we award the premium,—\$5 or medal, for the best dish of grapes; and to (No. 1) Wm. Ap Jones, the premium,—\$3 or book,—for the second do. There were other specimens, from Nuuanu Valley and elsewhere, from young vines, that indicate that the first quality of grapes may be produced on this Island.

To (No. 1) G. P. Judd we award the premium,—\$3 or book,—for the best collection of water-melons, but they were not of the best quality produced on the Islands.

To (No. 1) Alexander Adams we award the premium,—a medal,—for the best six lemons. Though these were the only lemons exhibited, they would have well deserved commendation under any circumstances.

To (No. 2) G. P. Judd, Downing's Fruit Culture, for the best six mangoes. Capt. Adams also exhibited some fine specimens of this fruit.

There were no specimens of raisins, figs, oranges, bananas, or musk-melons, which, in the opinion of the Committee, deserved praise.

Capt. Alexander Adams exhibited specimens of the alligator-pear, the mammee apple and other fruits not enumerated in the Society's list. For these, and the Society's appreciation of his efforts in the cause of fruit culture, the Committee recommend that he receive some testimonial.

Mr. Bal exhibited some very fine specimens of Turkish cucumbers, but as he has merited and received so many premiums, we only give to them the testimonial of special notice.

Capt. Makee exhibited a specimen of green sweet corn, which the Committee were happy to see, as its successful cultivation will add another most valuable vegetable to the culinary list. The specimens were of large growth and well filled.

Respectfully submitted,

ASHER B. BATES,
Chairman.

REPORT OF THE COMMITTEE ON DAIRY, POULTRY, &c.

The Committee on Dairy, Poultry, &c., made the following Report, which was accepted:

The Committee of Judges on Poultry, Dairy and Cheese, beg to report that they award the following prizes, viz:

BUTTER.

Prize No. 60, to lot No. 6, Mrs. Wm. Gulick, \$15 or cream-pitcher.

“ “ 61, to lot No. 1, Mrs. Pickford, silver butter-knife.

“ “ 62, to lot No. 2, J. Meek, \$10 or cup.

“ “ 63, to lot No. 3, Miss S. Conde, 6 silver tea-spoons.

“ “ 64, to lot No. 4, A., J. S. Emerson, silver butter-knife.

CHEESE.

Prize No. 65, to lot No. 1, there being no competitor, \$5 or medal.

POULTRY.

We award the prize No. 52,—medal,—to Mr. Whitney; black Spanish.

We award the prize No. 55,—medal,—to Dr. Rooke; bantam.

We award the prize No. 68,—medal,—to H. G. Crabb; small Muscovy ducks.

We award the prize No. 59,—medal,—to J. Meek; geese.

All these being the only ones exhibited, so that there is no competition. There were exhibited, besides those, a pair of doves, by Mas-

ter Wm. French, and an eagle, by Prince Liholiho,—for which no prize is named in the Catalogue.

Respectfully submitted,

S. C. DAMON,
GUST. REINERS,
JOHN LADD,
A. PAKI,
T. C. B. ROOKE.

REPORT OF THE COMMITTEE ON AGRICULTURAL IMPLEMENTS, DOMESTIC MANUFACTURES, &c.

The Committee on Agricultural Implements, Domestic Manufactures, &c., made a Report, which was amended and accepted.

Farming Implements.—Nothing of the kind was shown; they have nothing to report.

Domestic Manufactures, No. 89, one hundred cigars, island tobacco, no mention of quantity manufactured—10,000 required.

Native Kapas,—Two sets, very good,—no competition.

Churn.—Thermometer Churn; one only,—premium withheld.

Worsted Work.—No. 153, 1 piece in gilt frame, diploma; Miss H. S. Judd.

No. 154, 1 back cushion, diploma, Mrs. Swain.

“ 155, 1 pair slippers, and pair of patterns, diploma.

Needlework.—No. 156, 1 collar, imitation French point lace, diploma, Mrs. Holdsworth.

No. 152, 2 children's muslin aprons, diploma, Miss E. G. Pratt.

Knit Work.—No. 157, 1 small lamp-stand, by a girl 7 years old, diploma, Lucilla Bates.

No. 157, 1 large white do., diploma, M. J. Armstrong.

Lamp Shade.—No. 159, 1 lamp shade, bound with blue, diploma, Miss Holt.

Leather.—Sides presented, not well tanned; skins, tanned well, not well curried;—premium withheld.

Shirts, linen bosom.—No. 151, 1 shirt made by Kauhi, \$2; do. do. do., Kauokalewa, diploma.

A specimen of building stone, from the quarry of Waimanalo, Ho-

noululi, Ewa. Suggest a premium be offered next year. One bbl. beef, salted on Maui, in February last,—very fat and very sweet; the Committee suggest that a premium be offered the current year for the best 10 barrels.

Several specimens of castings in iron and brass; suggest that castings be enumerated for premium, hereafter.

A pocket handkerchief, very neatly flowered, and some paintings, which were done with good taste and skill, deserve notice; also, a case of daguerreotype pictures, of good character.

A beautiful lamp-stand, of worsted work, came in too late for a premium. The Committee regret that many articles for which a premium would have been awarded, if of a worthy quality, were not offered.

With due deference, we submit the above.

STEPHEN REYNOLDS.

Chairman of Com.

The reports of Judges having all been made and accepted, on motion it was voted to proceed to the election of officers for the coming year, whereupon, the following were announced as duly elected:

Hon. WM. L. LEE, President.

B. Pitman, P. Cumings, L. L. Torbert, C. B. Andrews, R. W. Wood, H. A. Widemann,—Vice Presidents.

George Williams, Treasurer.

John Montgomery, Corresponding Secretary,

E. O. Hall, Recording Secretary.

S. N. Castle, B. F. Snow, C. R. Bishop, S. Reynolds, W. Newcomb,—Executive Committee.

Resolved, That the Board of Managers be instructed to provide, in the classes for which premiums for 1855 are to be offered, a distinct class for non-enumerated articles, with discretionary powers in the Judges, to award premiums for meritorious articles.

A series of Resolutions was proposed by E. P. Bond, and adopted.

1. *Resolved*, That the thanks of the Society be presented to the ladies and others, who have so generously contributed of flowers, paintings, needlework, fruits, &c., &c., to our annual Fair.

2. *Resolved*, That the thanks of the Society be presented to the Government, for the use of the court room and grounds.

3. *Resolved*, That the thanks of the Society be presented to Eben Wight, Esq., of Dedham, Mass., for a pair of white Dorkings, and a pair of Polish Top-Knots, sent on board ship "Waverly."

4. *Resolved*, That the Society present to Henry A. Pierce, Esq., of Boston, a silver cup, with a suitable inscription, in acknowledgment of his generous and unwearied efforts to furnish the Islands with the honey bee.

5. *Resolved*, That the thanks of the Society be presented to Hon. B. P. Johnson, of New York, for a donation of valuable agricultural books, and for his continued good offices on behalf of this Society.

6. *Resolved*, That Messrs. E. O. Hall, S. C. Damon and H. M. Whitney, be appointed as Committee on Printing for the coming year.

7. *Resolved*, That the appointment of the Standing Committees of the Society be left to the Board of Managers.

8. *Resolved*, That the thanks of this Society be presented to Mr. George Williams, Treasurer of the Society, for his judicious and efficient services in his official capacity.

9. *Resolved*, That when this Society adjourn, it adjourn to meet on the second Tuesday in June, 1855.

10. *Resolved*, That the thanks of this Society be presented to Messrs. Warren & Son, of San Francisco, for the interest they take in our Society, and for the copies of their paper which they furnish the Society; and that they be made corresponding members of this Society.

11. *Resolved*, That the thanks of this Society be tendered to Messrs. Monsarrat and Colburn, for their efficient services as auctioneers, and that the Treasurer be instructed to issue certificates of annual membership to them, without charge.

12. *Resolved*, That the Board of Managers be requested to publish in the native language, a synopsis of the proceedings of this Society, and such other agricultural matter as may seem to them of importance, at their discretion.

13. *Resolved*, That the Board of Managers be instructed to make

some provision, if they deem it practicable, for the means of conveyance for the productions of other islands, designed for exhibition at the annual Fairs.

14. *Resolved*, That the Board of Managers be instructed, in fixing rules for future Fairs, to keep the doors closed from the public until 2 o'clock, in order to allow the judges time to examine the articles presented, and to make their awards.

REPORT ON MACHINERY AND AGRICULTURAL IMPLEMENTS.

By R. ARMSTRONG.

The Chairman of the Committee, Mr. Weston, being unable to prepare the Report, has imposed that duty upon me, although but very slightly acquainted with the subject. To him, however, and to Dr. Wood, I am chiefly indebted for the following information.

On the Lihue plantation, on Kauai, great improvements have been made in the way of machinery. The capacity of the mill for grinding the sugar cane has been more than doubled within the last year. Two steam engines have been put up; the one 24 horse power, the other 6 horse power. A new battery of boilers of great capacity has been erected; and an improved draining machine, or centrifugal separator, has been introduced. The machinery is now capable of manufacturing three tons per day.

At Koloa there has also been great improvement in the machinery, the most important of which is the water-wheel, manufactured under the direction of Mr. Weston. It is called Blake's Patent Wheel, and resembles, in its construction, the turbine or re-action wheel. It is a submerged wheel, and it has been found that its action is not impeded by any depth of superincumbent water, with a given head. The diameter of the wheel is 3 feet, depth 12 inches; number of revolutions per minute, 140. It is regulated by a balance wheel, weighing 3200 lbs. Unlike the re-action wheel, the water is applied at the bottom and escapes at the top, from the centre. When stationary, it discharges 144 inches of water; when in motion, the centrifugal action

of the wheel upon the water reduces the quantity discharged nearly one-half. The wheel, shaft and gear, weighing altogether not less than ten tons, is supported by the pressure of water underneath. By this arrangement, the friction upon the top is scarcely appreciable. It discharges about two-thirds of the quantity of water consumed by the former breast wheel, and with five feet additional head, gives double the power. The present head of water is 16 feet.

There are four mills in operation on the Islands, which were manufactured at the Globe Works, in Boston, neither of which has given satisfaction. Two on Maui, geared for cattle power, broke, the first year they were put in operation, occasioning great loss to the proprietors, notwithstanding they contained metal enough to support a steam engine of thirty horse power.

Two on Kauai, it was ascertained on their arrival here, had never been filed. They were nearly in the same state in which they had left the foundry, and without the aid of a thorough machinist, it would scarcely have been practicable to put them together. The imperfection in this machinery may be capable of explanation. It may have been owing to mistake or misunderstanding; but the facts are as above stated. For machinery, it is said, the most reliable person in Boston is Mr. Tufts, of South Boston; in New York, the Novelty Works and the West Point Foundry supply large orders for Louisiana and the West India Islands, and it is said their work has given good satisfaction.

At Hanalei, on Kauai, Mr. Charles Titcomb, Esq., is having made an entire new set of machinery for his coffee plantation, by which the process of cleaning the coffee will be greatly facilitated, and much labor saved.

At Hilo, Hawaii, Mr. Metcalf has erected a fine saw mill, which is now in full and successful operation; and Messrs. Macy & Louzada are also building a saw mill, by all of which it is hoped our market will be supplied, in some degree, by lumber from our own forests.

On Maui, Mr. Reynolds and Mr. Torbert have each made improvements in the machinery of their sugar plantations. Messrs. Crosswell & Gower have introduced a reaping machine, which is now reaping

20 acres per day, much to their own advantage and that of their wheat growing neighbors.

At Honolulu, a flour mill has been erected during the past year, and has commenced grinding and is expected to grind 3,300 barrels of flour during the present year. An iron and brass foundry and machine shop is connected with the flour mill, and one steam engine answers for the whole. This establishment promises to be both profitable to the owners, and very useful to the community.

The steamer Akamai has been introduced to the coasting trade, and while running, was a great comfort as well as a great benefit to the inhabitants of the Islands. Unfortunately, she has stopped running for want of coal; but has been, in the mean time, put in thorough repair, and it is believed will soon be on her route again.

On the subject of agricultural implements, your Committee can add nothing to the report that was presented last year. Foreign implements, such as ploughs, harrows, carts, cultivators, hoes, spades, axes, yokes, &c., are gradually becoming more common on the Islands, and here and there, natives procure them to a greater extent than formerly. But they are still too expensive to become very general, and will continue to be so, until more can be done towards manufacturing them on the Islands.

Respectfully submitted, on behalf of the Committee.

REPORT ON KALO AND GARDEN VEGETABLES.

BY R. ARMSTRONG.

The fact that the Kalo constitutes the chief article of diet, in fact the staff of life, among Hawaiians, gives to this plant a high degree of interest and importance to the agriculturist. It is to the native both food and medicine. Every part of it he turns to use. With the bulb he makes his poi, without which, life would to him hardly be worth having; of the top and leaves he makes his *luaa*, which, in the absence of fish or meat of any kind, is a standing relish for his poi; and of the rind he makes an astringent medicine, in common use among native doctors; and the raw kalo grated is a celebrated searcher out of all internal disorders.

Of the kalo there are many varieties, well known to the natives, and called by them the *apii*, the *apowale*, the *apuwai*, the *eula*, the *elepao*, the *ilia*, the *owena*, the *naua*, the *uahiapele*, the *piko hoakea*, the *kaielelele*, *kaikea*, *kaikoi*, *lau loa*, *launui*, *mokahi*, *naioe*, *piialii*, *palakea*, *pala*, *weo*. Of these, the natives regard the several species called the *apii*, *apuwai*, *apowale*, *ilia*, *owena*, *uahiapele*, *lau loa*, *mokahi* and *palakea*, as best adapted for roasting or baking, and the other varieties mentioned, as best adapted for making poi. When baked, they have somewhat of an Indian turnip taste. The varieties are readily distinguished by natives by the form and size of the leaves, their degree of greenness, and by the form and size of the bulbs.

THE CULTIVATION OF THE KALO.—It will grow anywhere on the Islands, where a sufficiency of water can be had, either to irrigate it in patches or vats, or cause it to grow when planted in the open fields; and it can be planted at all seasons of the year, where there is a sufficiency of water or of moisture, and it generally requires about 12 months to bring it to maturity.

There are two methods of growing the kalo,—the one by irrigation in level vats or patches, the other on the uplands, where there is plenty of rain and a good soil.

The first thing is to prepare the ground for planting. The vats or patches are of all sizes, of many shapes,—generally rectangular, however,—and are formed by first throwing up an embankment of from one to three feet high, or by excavating, in some instances.—The bank is then beaten hard with a cocoa-nut leaf or flat stick, so as to make it impervious to the water. The bottom of the patch is then carefully dug over, to the depth of four or five inches, unless, where the ground is marshy, like the flat land of Waikiki, where the dirt is already pulverized, and only needs the grass or rushes to be cut away or dug up, and the roots mingled with the soil. When kalo patches are formed on dry land, after the bank is thrown up, the bottom leveled, and the dirt well pulverized, the water is then turned on; left to stand over night, and next day it is trampled over thoroughly by all the men, women and children who can be collected into it.—This is generally done by neighbors and friends, for the mere sport it

affords them. The object is to pulverize the dirt more effectually.— This done, it is ready for planting.

Old kalo vats, that have been kept under constant cultivation, require only to have the grass and rushes pulled and left to rot for a few days, and they are ready for replanting. If they are left to dry up, they must be entirely wrought over, which is a great labor.— When kept under constant cultivation, kalo patches need never to lie fallow; but the seed needs to be changed frequently, as we shall have occasion to remark in another place.

The preparation of the ground for the upland kalo is very different from what has just been described, and the process varies in different localities, according to the soil, the degree of moisture, cold, &c.— In some places, it is only necessary to clear the surface of the ground, dig small holes in rows about a yard apart, and set out the plants or tops, much after the Indian fashion of planting corn; and all the cultivator has to do afterwards is to keep the field clear of weeds until his crop is ripe, which will be in about twelve months.

In other localities, as for instance in Kona, Hawaii, the land is first cleared of all brush, grass or weeds, then covered over with a thick coat of grass and leaves, so as to preserve the moisture and keep down the weeds. In other cases, deep holes are dug, and partly filled with leaves, grass and kukui nuts, where they can be had, and the tops planted in these holes. Very large and fine kalo is produced in this way.

THE PLANTING.—The ground prepared, the next thing is to procure good plants; and in some places this is difficult, and occasions great delay and inconvenience. I have known fine kalo patches, in the neighborhood of Honolulu, to lie for months after being prepared, for want of suitable plants to set out. When the owner is inquired of why he don't plant, his reply is, "*no ka huli ole*,"—for want of tops.

As with all other vegetables, much of the success in cultivation depends upon the seed; so the kalo depends upon the tops set out; and it is only those who have experience who know what are good and what are not, in every given locality; for it is by no means every kalo top that it will answer to plant.

For water kalo, the tops regarded by natives as best, are called the *waihua*, the *kuipae*, the *makawai*, the *palilimau*, the *apaa*, the *pele-*

kei, the *pahu* and the *kula*. These are simply the tops of the ripe kalo, cut close down to the bulb, and the leaf part removed, leaving a stem of six or eight inches long, and they are called by natives *huli*. Some are in the habit of planting certain species of kalo around the edges of the patches, on purpose to procure good *huli*; and to raise good kalo, I am told by natives that it is necessary to keep up a rotation of plants or *huli*, and not continue to plant them in the patch which produced them.

After planting the kalo, the main thing is to keep the patches clear of weeds, and give them plenty of water, and there is no surer crop than this, and perhaps none more productive. I have had some experience in growing kalo, and I am satisfied that it is one of the most profitable crops that can be grown, in the vicinity of the large towns. I have never cultivated a patch that did not yield a hundred per cent. advance on the outlay, and some much more than this. It is always in demand, and when there is a surplus it can be easily converted into pork, and made profitable. But a great deal of the kalo cultivation carried on by natives is careless, and only half done; the patches are grown over with rushes, and not well watered; consequently the crop is small, and the article inferior. It is one of the best of vegetables, but made into poi, as the natives use it, I do not think it a good article of diet. The poi ferments, becomes sour, and those who make it their chief article of food, become corpulent, but not strong, nor capable of much endurance. In my opinion, could the natives be induced to lay aside the use of poi altogether, and boil or bake their kalo, it would be a great improvement. But this would be a hard matter.

For much of the above information I am indebted to an essay written by another member of the Committee, His Excellency G. L. Kapeau, and which I beg to present to the Society in full herewith.

GARDEN VEGETABLES.—I am indebted to the kindness of Mr. Eugene Bal, a French horticulturist, now engaged in the flourishing and beautiful garden of Mr. Montgomery, of this town, for the following list of vegetables actually cultivated, at the present time, in that place, and most of them exceedingly fine and flourishing. I know not how I can better elucidate the subject, than to present the entire list herewith, for the use of the Society. It is as follows:

Drum-head Cabbage, Chinese do.
 Long Orange Carrots, Red do., Large Altringham do., White do.
 Large White Turnips, Red Beets, Parsnips, Pumpkins, Rhubarb,
 Salsify, Vegetable Marrow.
 Green Beans, Taylor's Large Windsor do., Celery.
 Cucumbers,—Walker's Superb, do. Green Turkey.
 Florence Lettuce, Long Leeks, Shallots.
 Green Onions, (Seedlings,) Green Garlic.
 Water Melons, Musk do.
 Green Peas, White Radish, Red do., Horse do., Long Rare do.
 Double Parsley, Simple do., Citronelle, Sweet Basil, Sage, Summer Savory, Fennel, Wild Chicory, Sorrel.
 Tomatoes, Granadilles, Passion Fruit.
 Sweet Potatoes, Irish do.
 Arrow-root, Millet, Chile Pepper, Sweet do.

Mr. Bal has also furnished me with a list of 78 different kinds of garden seeds, collected in the same garden, and which I append to this Report. This is a most gratifying and encouraging circumstance, since one great difficulty in the way of horticulture here is the want of seeds. I am not sure that the evil is now to be remedied at once, by the gentleman referred to; but certainly there is reason to hope that it may, to some extent, at least, and he and his patron, Mr. Montgomery, deserve great praise for their success thus far in producing seeds.

Many of the vegetables mentioned in the above list, I have observed growing and flourishing in the garden of our industrious and worthy neighbor, Alexander Adams, of Kalihi. These are the only foreigners I know of, engaged to any extent in growing vegetables.—Many natives cultivate those which are best adapted to the soil of the Islands, to some extent, and with good success. They do not all flourish equally well in either garden. The tomato, lettuce, melons, beans, carrots, cucumbers, squashes, and some others, are produced without difficulty. The crops are very sure, and usually abundant. But with green peas, cabbages, beets, radishes, onions and turnips, there is more difficulty. One cause of failure is the want of good seed; another, the cut-worm, which, during some seasons, destroys

several crops, just as the plants come out of the ground. Another is the drought, unless there is water at hand for irrigation. But another obstacle still, in the way of vegetable growing, is the want of a ready market. I am told by two of the gentlemen engaged in this business, that the products of their gardens are often left to rot, for want of a market. Thus far, I believe, both the gentlemen above referred to, consider the growing of garden vegetables as unprofitable; at least, it does not pay, to form an inducement to carry it on for the sake of gain.

Respectfully submitted,

On behalf of the Committee,

R. ARMSTRONG.

Vegetable Seeds Collected by Eugene Bal, French Agriculturist.

BEANS.—White, Royal Negro, Zebra, French, Red, Round, Chinese, Italian, Violet, Runners, Kindey, Small Toison, Indian.

GREEN PEAS.—Dwarf Marrowfat, Everlasting.

RADISHES.—Red, Frost-top Scarlet, White, Long Rare.

Okqu Gombo, Large, do. Small.

CABBAGE.—Drum Head, Chinese.

CARROTS.—White, Red, Large Altringham.

PEPPERS.—Chile, Sweet.

TOMATOES.—Large, Small.

PUMPKINS AND SQUASHES.—Long Pumpkin, Large Round do., Vegetable Marrow, Autumnal Squash.

LETTUCE.—White, Drum-head Black, Curled Chicory, Wild do., Green Curled Lettuce, French Romaine do.

ONIONS.—Large White, do. Red, Shallots, Garlic.

CUCUMBERS.—Long, Short Thick.

MELONS.—Red, Yellow, Musk, Green Citron, Nutmeg, Orange.

Papai, Granadilles, Passion Edulis Fruit.

Millet, Purple Egg Plant, White do.

SWEET AND POT HERBS.—Chinese Parsley, Citronelle, Perfeuil, Celery, Sweet Basil, Summer Savory, Fennel, Sorrel, Spinage, Fenochia.

Honolulu, June 7th, 1854.

REPORT ON LABOR AND POPULATION.

BY PRINCE LIHOLIHO.

Mr. President and Gentlemen, Members of the R. H. A. Society:

My fellow-members of the Committee on Labor and the Population of the Islands, have devolved upon me the task of collating their views on the important matter referred to them for consideration, that is to say, in as far as they have expressed any.

In justice to myself I must observe, that excepting those contained in the communications of two of my co-laborers, the suggestions offered me by the members of your committee have been almost as scarce as the labor of which they ought to have treated.

It seems to be generally allowed that throughout these Islands labor is hard to procure, and that a good days' wages is by no means sure to command a good days' work. We are not here, however, in the position of many *newly settled* countries where labor is scarce because the laborer's are few, and where every available arm is fully exercised from Monday morning till Saturday night. It is on the fact of laboring power being allowed to lie dormant ; of good muscle becoming flaccid from inaction, that we must chiefly depend for an answer to the often repeated question ; why is labor so hard to procure ? The Hawaiians are not naturally fond of labor ; the natives of hot countries seldom are. They read in their Bible that labor was imposed as a curse upon fallen Adam, and like other people, when the Scriptures coincide with their prejudices, they believe in them devoutly. Then again it is only as yesterday that *forced labor* was abolished, and the people are still taking breath, as it were, for to be coerced to do a thing is to hate it. Then again, there are those Kulianas, too, that have turned our peasantry into petty chiefs, and while supplying them with more than enough to satisfy their present needs have not generally tended to enlarge the circle of their wants. It sounds paradoxical, but all our poorer people are rich, and the spur of necessity being removed, they are unluckily insensible to that other spur which creates a desire to reach some higher platform in society would provide.

The several epidemics that have visited us since 1845, have undoubtedly had a melancholy influence upon the market for labor by

decreasing the population, for out of every hundred that have died there were always some that were willing to work.

Whilst on this subject I cannot but make confession of a feeling that all has not been done to preserve the lives of the people, and as a consequence to maintain the requisite quantum of labor, that ought to have been done and that could have been done. Because natives, or some natives, would for a time have opposed the idea of going into an Hospital when sick, no Hospital was erected till the small-pox appeared amongst us. The necessity for those houses of woe having been removed, we again stand before the World as a people without Hospitals, but by no means without disease. One would have thought that such a prejudice as I allude to on the part of the lower orders of Hawaiians should have been an extra reason for the speedy erection of Hospitals, because they were not institutions the full benefit of which could be offered at any moment to those in need of medical aid. First of all that prejudice had to be overcome. I believe that many a laboring man long since laid beneath the sod might have been alive and at work on this very day, had the institutions I allude to been called into existence even ten years ago or five. God knows whether there may not have been an impression somewhere that persons suffering from disease contracted in folly were unfit to become the recipients of aid from the public purse or a private one. Be that as it may, many a strong man to labor has been rendered weak, and in the census table many a child who should have been recorded in the births have been left unrecorded there and many children of the first, and it may be of the second and third generations, are now being visited with the sins of their fathers, because we, Mr. President and Gentlemen, unlike the good Samaritan, have neglected our duty towards our neighbor.

There was a time when it was thought that laborers from the north of Europe might be introduced here, and I do not doubt but that we have amongst us many landholders who would gladly supply every man of that class that might arrive, with ground enough for himself and family to cultivate, with other facilities for comfort and convenience, and the chance of laboring for good fair wages, whenever he had a mind to do so. Not a few ship loads of such families might do well here, but we have not got the capitalists to bring them out. If

the money was not wanting, what wonders we could do. As was said long since, "Give me a fulcrum and I will move the earth." To make the speculation safe, however, arrangements should be made to introduce such laborers in not very small numbers. In a place where labor is always looking up, as people say, laborers, being in demand, are apt to rate themselves rather highly, and in their estimate of what is due to themselves, they include elements undreamed of where they came from. Having come out as workmen, their ambition is to live without work,—by keeping stores, perhaps. The cobbler will not stick to his last. Competition alone can remedy this. I hinted just now at the inconvenience arising from the fact of the natives being *content* with their condition. The inconvenience alluded to, springs from people being *non-content* with their condition. The latter, however, is the true feeling, when properly exhibited.

I remember there was some correspondence once passed between one of our official men and H. B. M.'s Consul General, about providing a home here for the overplus population of Pitcairn's Island.—No doubt such parties would make a good and valuable nucleus of thrifty agriculturists, but their immediate effect upon the labor market would be very small.

What could be done, or might be done, is, after all, not very much to the purpose. What has been done and is being done, is more to the point. Chinese coolies have been introduced here, and more of them are on their way hither. With all their faults, and a considerable disposition to hang themselves, they have been found very useful. Suffice it to say, that some of our largest sugar and coffee plantations are now chiefly dependent upon them for the principal amount of labor done. That they might be better than they are, ought not to be used as an argument against them. That they are procurable,—that they have been procured,—that their wages are reasonable,—that you can calculate upon retaining them for a certain term,—that the climate suits them, and that they are handy in the house and in the field, are great facts. Excepting what relates to these coolies, all that bears upon the subject of importing labor, is just theory and speculation.

One member of your Committee is unfavorable to these people.—He says they are undesirable as an element of our population,—that

that they are ignorant and heathenish. But in spite of all that, they are the best immigrants we can get;—at all events, they are the best we have hitherto got, or are likely to get. It is true they lean towards the doctrines of Confucius, but by coming here, they may be on the road to conversion to the Christian faith, and our native women have got the authority of Scripture for not refusing to enter with them into the marriage state, on account of their being unbelievers. Be that as it may, people, while cultivating the graces that fit them for Heaven, should not overlook the means necessary to make the earth give forth its increase, or the saying may apply to them, “These things ye should have done, and not have left the other undone.”

Whilst the subject of population occupies us, Mr. President, we must confine our attention to figures. Sentiment is out of the question. The decrease in the population which the last few years have brought about, instead of filling us with regret, ought to stimulate us to exertion. There is a void,—there is a decrease of so many men, women and children. Shall we, therefore, like Turks or fatalists, crouch in the dust, and with our hands crossed upon our hearts, rend the air with a supine cry of Inshallah! Mushallah! Ought we not rather to look the difficulty in the face, and cast about for the means of *filling up* this aching void?

If our voice have anything potential in it, let us raise it in favor of the introduction of labor from abroad. Nor ought we to sympathise with those who would rather have *no* labor at all than labor of any but the highest quality. Surely it is good policy, in every case, to do the best we can, under the circumstances in which we find ourselves. Optimists are never practical men. Of this be sure, that from whatever quarter the labor may arrive, we shall see more or less marriages result between the new comers and the daughters of the soil. And man, the highest of all animals, being nevertheless subject to certain laws, in common with pigs, monkies and what not, the result of the intermixture of two races, or of long separate families of the same race, cannot but increase the ratio of fecundity.—Isolated as these Islands were from the rest of the world, till *we had the honor of eating Captain Cook*, it is not difficult to account for the gradual decrease in the number of births, as compared to the number of the adult population. Whether there has been, more latterly, or

is now any provision in our statute book that has put a more artificial check upon child-birth, is a serious question. I will make this assertion,—that in the manners of the people, in connection with a matter which some persons would hardly imagine to bear upon the case, is to be found one cause of the scarcity of births. The inordinate love of *horse-riding* is opposed to the prolificness of our working classes; were there fewer horses, there would be more children.

In conclusion, I will merely add, that whatever machinery can do to save manual labor, we ought, under existing circumstances, to avail ourselves of most greedily; and for my part, Mr. President, I would as soon think of putting an *ad valorem* duty on the hands of every man who arrived here, as upon machinery, of whatever shape or for whatever purpose, that was destined to *do the work* of a man's hands.

Respectfully submitted.

REPORT OF THE COMMITTEE ON HORSES.

In making up a Report on *Horses*, the first thing to which we wish particularly to call attention, is the lamentable increase of the miserable creatures to be seen every day in the streets of Honolulu, and in all the horse-breeding districts on the Islands. Horses are evidently fast becoming a curse and a nuisance to the country and to most of their owners, especially to the lower classes of natives, who, considering themselves rich, or as they term it, "*waiwai*," as soon as they become horse owners, will neither labor for themselves or for any one else; and looking to their horses for their own support, neglect their lands, and let them go to grass, in order to furnish feed for a set of brutes that ought to be banished the kingdom.

Many of the natives are partial to horse flesh as food, and indeed prefer it to beef; a preference which this Committee suggest should be encouraged, as offering the best mode of disposing of the majority of native owned horses, which will otherwise, in a short time, become so numerous as to eat up all the food which ought to support better animals.

About one-half of the horses on the Island are never used for any purpose but multiplication,—are never bitted or backed,—are born,

live and die without being of any advantage to any one, or having served any purpose, useful or ornamental, but the impoverishment of the land, and the propagation of the nuisance.

We want fewer horses and more good ones, and these we ought and are able to breed from imported stock, where proper care and attention is bestowed by men who understand it; as the specimens to be exhibited to-morrow will prove, though we have not yet got exactly the sort of horse required here, which we suppose to be a tough, stout made, hardy horse, with good feet and legs, and not over 14½ hands high, such as the Canadian horse has the reputation of being, and we do not doubt but stallions of that breed would get, out of some of our native mares, horses such as would answer all the purposes for which they are used here,—that is, for agricultural purposes, draying, carriage, saddle and cattle-driving, (or, as they are called, bullock-horses.) But even with the stock we have, we are sorry to say that, (with some few exceptions,) inattention, carelessness and a desire for quantity rather than quality, characterizes the horse-breeders of *Hawaii nei*, foreign as well as native.

Natives break their horses from the ages of 8 months to 2 years, (the majority between 15 and 18 months,) and they are consequently broken down and utterly worthless, except as “wittals,” when they should be in their prime and best fitted for work; and the degeneration is so great, that amongst thousands, *good horses* are rare. More attention should be bestowed on the breeding and raising of good mules, which are as useful, much more hardy, do not require much more than half to keep them, and will perform as much labor as horses, and in some cases more,—as where there is much heat and strong roads,—their feet being very hard and sound. Their average working years are twice those of a horse, and if broken in young and kindly treated, they may be used for all the purposes for which horses are available, as when so broken, they command as good prices as native horses, and will, we think, in a few years bring even better.—We understand that several parties intend turning their attention to the breeding and rearing of good mules, an undertaking to which we wish all good success.

To speak of pounds may not come within the province of a “Com-

mittee on Horses," but we cannot refrain from expressing publicly our opinion, that good, well conducted, that is, properly attended pounds, are much wanted in these Islands; more especially would we suggest the erection of a proper one in the vicinity of Honolulu, to which estrays should be carried, and where they would be much more likely to be found by their owners, than in pounds 40 or 50 miles away from Honolulu.

We cannot close this Report without reiterating the remarks upon stallions made by former Committees, and again calling attention to the necessity, becoming every day more urgent, for some law regulating the number of entire horses.

The Islands should be divided into districts, to which, according to their size and the number of mares, a certain number of stallions should be allowed, and *all others* should be cut by persons competent and properly authorised so to do; or stud masters should be appointed to each district, with full power to castrate *all horses*, no matter by whom owned, that they did not deem desirable foal getters.

Few but those who have had the experience, can know the intense annoyance of the man, who owning good mares, and anxious to raise good horses from the best obtainable stock, finds a worthless native stallion running with his flock, and perhaps his best mare with foal by some beast that should never have been allowed the ability to do mischief.

JOHN MEEK,
H. S. HOWLAND,
JAMES I. DOWSETT,
FRANK P. MANINI,
THOMAS CUMMINS.

Honolulu, June 13th, 1854.

REPORT OF THE COMMITTEE ON NEAT CATTLE.

BY CHARLES GORDON HOPKINS.

Mr. President and Gentlemen:

Your Committee on Neat Cattle beg to report that, with the exception of the introduction here from California, by two different oppor-

tunities of two young bulls of the Durham breed on the side of the sire or dam, nothing very new has transpired to alter the condition of our herds. The animals in question were imported by Mr. T. Cummins, and have been for some months past running with his herd in Waimanalo. The benefit to be derived from this, indeed from almost any cross between our native cows and foreign bulls, is too evident to need comment at our hands. Your committee report with great pleasure that several other importations, including males and females, of the breeds now most valued, may be expected during the current year, so that although they, (meaning your committee,) have but little to dilate upon, their successors will in all probability, have a large field for remark opened to them. To those who value cattle for their quality as well as quantity, and who remember the difference between the beef of fine cattle and that of coarse, the intermixture of the breeds and improvement of stock is very encouraging, and housekeepers will not only be able to put beef upon their tables, but beef worth eating.

Although, as has been said, the new facts to be reported this year, are few, yet the old influences against the better management and improvement of cattle, are still hard at work. The horses not fit to ride and apparently never intended to be ridden, are gaining upon us steadily. The great body of them are positively as uncalled for and useless as a great stove would be in the midst of this perspiring audience. They are ploddingly bent upon eating up good pasturage, filling in water-holes by kneading up the mud that is in and about them, and spreading wherever they go the most obnoxious weeds. All these benefits be it remembered, their owners confer on us free of any outlay on their parts, for the animals, which for the sake of being understood, we must call horses, although it is almost a desecration of the word, eat other people's grass, and in nine cases out of ten, no tax is paid on them. In the matter of paying taxes on their horses, the natives have ingeniously introduced a sort of representative system, and one animal stands for a crowd. The more hopelessly useless they get, too, the more pertinaciously do their possessors hold on to them, and the more piteously do they send in petition after petition to have them regarded by the law with special favor above cattle

and sheep, or anything else from which individuals and the community can derive any profit. There are constantly more or less cattle being killed on the sly, and the horses that have been backed afford the rascals, who rob us, with the most essential means necessary to effect their purpose. Then again the owners seem to regard these animals as being ever worthy of protection, and a fostering care in proportion to their incapacity of doing any good for anybody, as a mother generally loves her crippled child the best. A swelled knee, or a sore back in a horse, and a decided case of mange, or something worse in a dog, are all that are necessary to make the afflicted creature dearer in their eyes than a son and more interesting than a daughter. Having mentioned dogs, we will justify their introduction into a report on cattle, by merely mentioning one of their many engaging qualities, that of watching a cow in parturition and putting her calf out of life before it is well into it.

Respectfully submitted.

HONOLULU, June 13th, 1854.

Dr. WM. HILLEBRAND,

SIR : A sudden and unexpected lameness which confines me to my room for the present, will prevent me from making some further investigations in regard to the state of Floriculture among us, which I had intended to complete to-day, and will also prevent me from being present at the meetings of the Society this year.

You would oblige me much, if, in these circumstances, you would act as chairman of the committee on Floriculture.

I had intended to present a report upon the state of Floriculture at the islands, the means within our reach for excelling in this department, the difficulties to be overcome, and the importance of more attention being paid to this subject, and I much regret that I am providentially prevented from so doing. But, upon some of these points, the paper which you left at my disposal, is so full, that were I able to prepare a separate report, I should have little more to do than to transcribe the clear and concise statements of your letter, and I feel

assured that if you can find time to put this paper into the form of a report, it will be more acceptable than anything your chairman could prepare.

Your paper mentions a catalogue of plants to be appended to the report, which I do not find connected with the paper which you sent. Probably you have laid it aside.

A catalogue of plants raised in the gardens of the islands, I shall endeavor to have completed before the anniversary of our Floricultural Society, unless it is done by some member of the Agricultural Society, previously to that time. To this end I should be glad to receive a catalogue of the plants which you have had under successful cultivation, with the botanical and common names as far as practicable.

Hoping that you will be willing to discharge the duties of the chairman of the committee on Floriculture, that thus the society may not fail of having a report upon this, one of the most interesting and important subjects upon its list,

I remain yours truly,

E. G. BECKWITH.

P. S.—Please inform me, by the bearer, or by a note, whether you can oblige me in this matter.

E. G. B.

REPORT OF THE STANDING COMMITTEE ON FLORICULTURE.

By WM. HILLEBRAND.

Mr. Chairman :

As member of the committee on floriculture I take the liberty to communicate to you a few remarks which may perhaps be useful to you in making your report.

The subject of floriculture has received, during the past year in Honolulu, more attention and made greater progress, than perhaps any other branch of our Society can boast of. Not only has the cultivation of flowers attracted new devotees amongst our ladies, several of whom have taken it up in full earnest, and proved their zeal and skill by the most encouraging success ; but the taste for them has

even spread now amongst the natives, as is evidenced by the many small flower patches which have sprung up lately around their habitations. Numerous have been the importations of new-flower seeds by different members, and it would not by any means be an over-estimate to say that more than a hundred new species of plants and ornamental trees or shrubs, have been added to our garden-flora. Of by far the greater proportion, seed can be raised for propagation, if proper attention be bestowed upon it.

Should such a zeal for this charming branch of horticulture increase in proportion, for some years to come, we may hope, that our little town and country residences, ere long will assume such an aspect, as a refined society ought to impress upon them in so favored a climate as ours. I will not enlarge here, Mr. Chairman, upon the benign influence of flowers and fresh vegetation, or the charm they spread insensibly upon our every day life, on the elevating and refining stimulus they afford to our mind,—such reflections I leave to the sentimental, to the poetical or philosophical turns of your and your hearers' own minds. Here they might be an abuse of your patience.

I merely beg to draw your attention to a few practical points, which in my opinion, are deserving of notice. In the first place it seems to me, that our gardens would improve greatly and become more interesting by the introduction of the more showy of our indigenous plants, especially shrubs. Our islands produce quite a number of plants, particularly of the families of the Lobiliacæ, Cyrtardræ, Rubiavæ, Myrtacæ, and others, which would prove an ornament to any garden or park, if not for splendor of flowers, certainly on account of the rich and fresh green, and glossy appearance of their handsome foliage. Most of them grow in the recesses of deep valleys, or on the slopes of the mountains, and are unknown to the majority of the foreign residents. Our Edward Sia ought to stand in every yard. We have a native palm-tree which was named by Gaudichaud, after our worthy fellow-citizen, Dr. Rooke,—Rooke, —which certainly not one in six of our members, has ever seen. Why not transfer such an interesting tree in places, where we and our visitors can enjoy its sight daily? On the sides of the high mountains of Hawaii and Maui,

grow two plants which would excite the admiration of spectators in any botanical garden,—I mean, the two species of *Argyrophyton*, commonly called sword-plant, one, named after Douglas, with white hairy leaves, the other, not yet described, is green. Young plants of them, taken up in pots early in the season might easily be transferred in our midst, for until now, the circumstance of the seeds being generally destroyed by insects, has prevented their propagation by them. To these two I would fain add the extremely neat and handsome, *Pelargosium* Dougl. known as silver-plant. On a recent excursion to East Maui, I found a probably new species of *Hibiscus*, with large yellow flowers, highly ornamental, of which I procured seed. Mr. Remy, who has, within the two past years explored our island group more thoroughly, than ever has been done before him, has named me a good many others, several unknown until now, which well deserve to be admitted into our gardens. The objection that mountain-plants will not grow in plains, does not hold out, until proved in special cases, by experiment, for plants are great acclimatisers. We see more than one instance on our islands of the same species of plants, rising from the sea-shore to an elevation of 6000 and 8000 feet, showing itself generally more developed and vigorous in lower situations.

The other point, which I am desirous to draw the attention of our florists on, concerns the selection of new importations. As a matter of course, plants growing naturally in climates similar to ours, will be most likely to thrive well amongst us. Most of the tropical plants will do well here. Now it is just amongst them that the most showy and splendid productions of the vegetable kingdom are to be found. Every traveler in the forests of Central and South America, or the West Indies, is struck with the beauty and variety of the vegetable life. It is just with these countries, that, next to California, we have the greatest intercourse. Most of them that pass from here to the U. States or Europe, or vice versa, traverse those blessed regions. An occasional look-out for seeds, or fruits of trees and shrubs by the wayside, a little attention to the flower-gardens of the inhabitants and the fruit markets of the towns, might procure us invaluable accessions to our flowers and vegetables, fruit and shade trees. Next come China and the Philippine islands. Correspondents to those pla-

ces, ought not to forget our gardens. It is remarkable that we have not a single species of Orohideous plants amongst us, except perhaps the vanilla, which principally form the brilliant tapestry-work of tropical forests. Of the magnificent family of Bigrosiacæ, there are only domiciliated here the *Tecoma Jasmiroides* and the *Catalpa Syringæfol*, of which latter I received lately two specimens. The extensive and, as regards dashing colors, in many of its genera, unparalleled family of the Legaminosæ, so far as tropical shrubs and trees are concerned, has only three worthy representatives in a *Faisidiana*, a *Cæsalpiia*, and a *Bauhinia*. I could add numerous other examples.

Here I deem it just to acknowledge the liberal and most valuable contributions, brought here by the officers of the U. S. sloop-of-war *Portsmouth*, from different ports of the coast of South America. May the good example of the Purser, H. Bridge and Dr. Brinckerhoff find many imitators.

In conclusion I append a catalogue of plants,* which I have, during the last year, successfully raised in my little garden, comprising about 160 species. It would be instructive and useful to make up a complete catalogue of all the plants which are cultivated in the gardens of our islands, as it might serve as a directory for friends abroad, from whom we receive our new supplies, and also for mutual exchange between our amateurs.

Very respectfully,

Your obedient servant, &c.

To G. E. BECKWITH, Esq.

REPORT OF STANDING COMMITTEE ON WHEAT OATS, &c., &c.

By J. T. GOWER.

To HON. WM. L. LEE, *President of the R. H. Agricultural Society*:

It can be emphatically said, "that a very decided advance has been made the present year over any former one, in growing wheat." If the same ratio of increase holds good another season, not less than 7,000 or 8,000 acres will be grown on East Maui alone.

* The catalogue here alluded to has not been furnished. Probably an unintentional omission.

There was sown this season about 1,150 acres, 250 of which was destroyed by the Pelua, having been sown too late in the season. The remainder, however, will yield most bountifully, judging from what little has been threshed.

There are about thirty persons engaged in the present crop, seven of whom are Hawaiians, who have about 100 acres. One of these, Kekaha, deserves particular notice, being a decidedly enterprising man, who would compare favorably with the majority of foreigners in this respect. Last year he raised the largest crop from the amount of seed sown, of any one in the region; his crops amounting to 186 bushels from six bushels sowing, being 31 bushels to one bushel sowing. His enterprising spirit bids fair to be perpetuated in his son, a lad of fifteen, perhaps, whom I found ploughing with 2 yokes of oxen without a driver, making good work. It has been more usual to see two drivers to as many yokes of oxen, doing a poor business at that. The crop of Kekaha, this year, will amount to not less than \$2,000, and his outlay in cash will not amount to more than \$100, aside from threshing.

Rev. J. S. Green, the pioneer in wheat-growing on Maui, still holds on to the business, having more than doubled his last year's crop.

John Smith, who last year had about 13 acres, has, in company with another man, five times that amount of wheat that must yield, from appearances, more than 30 bushels per acre.

A. H. Spencer, and J. Crowningburg, put in some 45 or 50 acres, but it being late when sown, the Pelua took about three-fourths of it.

Messrs. Miner and Boardman have growing, from 30 to 40 acres of fine wheat, last year they had $2\frac{1}{2}$ acres.

John Pierson, late from California, a native of Vermont, but for several years a wheat-grower in Illinois, has 42 acres of as large growth of straw, and will doubtless yield as well as any in Makawao.

There are several others who have quite large fields. N. F. Sayer sowed 24 acres; about half taken by the Pelua.

R. P. Bracy, put in 28 acres; saved 20 acres from the Pelua, of splendid wheat. Messrs. Stone and Needham had 28 acres; Pelua took some two or three acres.

Thomas B. Cumings about 25 acres; one-half very good, the rest

lighter, having been sown too thick, and will yield not over 25 bushels per acre. Messrs. John Miller and John Clark have about 20 acres.

Others have smaller fields, of from five to ten acres each.

Mr. H. J. G. Crosswell has taken the lead again this year as it regards the quantity sown, having, in connexion with G. D. Gower, of Lahaina, put in about 600 acres, 200 of which was cultivated for His Excellency, E. H. Allen, on his land at Makawao, a part of which was occupied by Crosswell's wheat last year, but is growing better wheat than it did then. The growth is fine and the yield will be large, notwithstanding the land had been cropped for some eight or ten years with sugar-cane, before being sown to wheat.

Owing to delay in threshing the last year's crop, and in some cases, to tardiness in preparing the ground, a large part of the crop has been sown late in the season, viz : in March and April. The Pelua being very abundant and ravenous, and coming while the wheat was young and tender, they cut it down in double quick time. About 250 acres was destroyed; still as the yield will exceed the usual estimate, by some 5 or 10 bushels per acre, the aggregate amount of the crop will be as great as was anticipated before the Pelua made its appearance.

It is probable that every individual engaged in wheat raising this year, will increase his crop next season, and will have it in the ground in season, while a great many new parties will commence the business. Preparations are making for a large crop. This year's experience teaches that it will not do to trust to sowing so late in the season as March, though last year's seed sown as late as April, did well. Perhaps late sown wheat is more profitable than early sown, provided it escapes the Pelua, there being less straw to handle and thresh, requires two or three months less time to look after it, and is less exhausting to the soil.

The amount of the present crop will be from 20,000 to 25,000 bushels, judging from that already threshed. It is found by experiment, that $1\frac{1}{4}$ or $1\frac{1}{2}$ bushels per acre is a large supply of seed, when sown as early as December, or January. A lot was sown in December by T. B. Cummings, at the rate of about 2 bushels of seed per acre. His

land was rich and the growth of straw large, very thick and even, but the heads were shorter, not so well filled, nor were the kernels so large and plump by one-half, as that in the immediate vicinity, where but three-fourths of the quantity of seed was used. It is found that, the earlier in the season, the richer the soil, the less seed is required. The facilities for harvesting the crop are ample though many fears have been entertained that such would not be the case.

A reaper is in operation which, with four horses, will cut from 15 to 20 acres per day, requiring two men to tend it, and about 15 natives to rake up and bind the grain. This reaper and the thresher now in use, were imported by Mr. Croswell last year. It more than meets the expectations of the parties interested in it. Another reaper, two horse power, and thresher are on the way in the "Washington Allston," imported by Mr. Croswell and George D. Gower. They have just imported a fine 8 horse power from San Francisco, with which they are now driving the thresher in use, and to which also they will attach the thresher now on the way. These threshers clean the grain fit for bagging, if attended with any care. There will be in use during the season, three threshers driven by a power equal to 16 horse power, capable of turning out from 300 to 400 bushels per day.

Your committee is of the opinion that much of the land hitherto sown to wheat, has not been suitably prepared, the ploughing having been too shoal. This will be remedied, doubtless, as wheat-growing becomes a settled business, and the wheat-growers begin to take agricultural papers.

The weather is such on East Maui, that the whole summer and autumn may be employed to advantage in preparing the soil for the succeeding crop. There is no country with which your committee is acquainted, where so much of the year can be advantageously employed in a preparation of the soil, putting in and harvesting the crop, as Hawaii nei, consequently there is none where one man can attend to so much, by one-half, as here. It is believed that when wheat-raising becomes a steady business, and there is a full supply of labor-saving machinery for its culture and harvest, that Hawaii can compete successfully with any country on the globe in growing wheat! Judge

ing from the past, from six to ten crops can be raised on the same soil in succession, by sub-soiling, without dressing.

Neither the Hessian Fly nor Weevil in the head, neither rust nor smut has thus far made its appearance here. Notwithstanding the strong winds and heavy rains in the winter, the wheat never lodges here, unless it grows in the shade, or the land is over-rich.

Your committee believe that the average yield per acre here, exceeds that of the state of New-York by from 25 to 50 per cent. if sown early, either in December or January. First-rate wheat has been growing at an elevation of from 1000 to 3000 feet above the level of the sea. It is estimated that in Makawao, Kula, Haliimaile and Hamakuapoko not less than 60 square miles, say 40,000 acres, are adapted to the growth of wheat, to say nothing of from 10,000 to 20,000 acres in Hamakualoa, which has not yet been proved; but which your committee sees no reason to suppose will not grow good wheat.

Your committee will here notice some of the difficulties attending the cultivation of wheat as well as other crops, but which, with a little energy and perseverance, will be easily overcome.

First,—*The Pelua*, which is often troublesome to late sown wheat, but very seldom attacks early sown. If they should take the early sown there is ample time to sow again after the Pelua has left, which they usually do in a month or so from the time they commence their depredations. Early sowing, in nine cases out of ten, will run clear of these marauders.

Secondly,—*The herds of Cattle* and horses which are allowed by their owners to run at large, annoying their neighbors by day and by night, almost as much as the Pelua. Decided and united action on the part of cultivators will put a stop to this trouble, though the grazier almost claims the right of his herds to run all over creation by possession.

Lastly, but not least,—*The Weevil*, that takes the grain after it is threshed, and often gets into the stack if it is allowed to heat in the least. Many have apprehended serious trouble in preventing the depredations of this insect. Your committee believe these apprehensions owing in a great measure to an imperfect acquaintance with the origin and habits of the insect. Your committee are in doubt at

what time or stage in the growth of the wheat, the egg of the weevil is deposited within the kernel, but this much has been observed ; the weevil in all its stages, from the worm of the least possible size, perceptible to the naked eye, to the full-grown insect ready for flight, have been found within the kernel, when without the aid of a microscope, not an imperfection could be discovered about it.

If, as would seem to be the case, the egg, by some means best known to the weevil, is introduced within the kernel, then kiln-drying would destroy the egg, as well as tend to prevent the heating of the wheat. If it originates without the kernel, then perhaps lime or some other substance may be applied as a preventive. Your committee would suggest that premiums be offered for the most economical, convenient and effectual preventive to the ravages of the weevil, the preventive to be applicable to other things as well as grain.

I am but little acquainted with what is doing in wheat-growing on other islands than Maui. I have learned that Rev. C. B. Andrews, of Molokai, obtained some wheat for seed ; whether he sowed it, and if so, with what result, I am not aware.

Mr. Low, of Hawaii, also obtained some seed, but I have not learned what it has done. Rev. Mr. Emerson, of Waialua, no doubt has good wheat this season as he had some at the Fair last year. He being a member of the committee and no doubt will be present at the meeting of the society, he can report in reference to wheat on Oahu.

The specimens of Australian and Oregon wheat obtained by myself in California for Mr. Croswell, and sowed by him last year, yielded well, bid fair to be an improvement upon the seed hitherto sown on Maui. It was sown late in the season, and the Pelua took the whole.

The samples of wheat, barley and oats, received by the society from the United States, and sent by yourself to East Maui, proved to be good for nothing, not a seed vegetating.

I received from Mr. Chamberlain a package of Washington wheat, another of the same from yourself, both of which I planted with great care, and it came up beautifully, and looked finely, but being called away for three or four weeks on business, when I returned, the wheat had vanished ; the Pelua having taken it almost root and branch.

Mr. Green had a sample of the same which escaped the Pelua, and is looking well though not yet headed.

His Excellency, E. H. Allen, sent to Mr. Croswell, 200 pounds of the best looking wheat we have seen on Maui, which was sown and came up well, but the Pelua looked at it, and it was gone.

It is much to be regretted that chess should have been introduced as it was, two or three years since in some oats from Australia, and sown by Mr. Green. Previously to that, not a particle of foul seed could be found in the wheat raised here. Great care should be taken in the introduction of new seeds, that they contain no foul seeds, as oftentimes the introduction of some troublesome weed, more than counter-balances the good derived from the change of seed.

Owing to the delay in threshing last year's crop, nearly one-third of it was lost by the stacks becoming wet from the heavy winter rains. The threshing was put off till late from fear of the weevil, but this did not prevent its depredations, nor will wheat escape the weevil in the stacks unless kept dry and cool. This season the threshing commenced in May, immediately after the first cutting, and will be continued till the crop is all out.

Other grains are but little cultivated as yet on Maui ; there are two small lots of barley on Mr. Reynold's place at Haliimaile, which looks finely. Oats would have been cultivated quite largely but for the difficulty of obtaining seed that would vegetate. Usually not more than one-tenth of the oats offered for sale at Honolulu, will grow. Measures will be taken this year to obtain barley, oats, rye and buckwheat, if possible.

The Fair is about two weeks too early in the season for the wheat-crop. If it could be holden the first of July, wheat-growers could compete for the premium which is now of scarcely any avail, as owing to the irregularity of communication, it is difficult to get the specimens down in season. If it would not incommode other interests, it would greatly accommodate the wheat-growers, to have the Fair the last of June, or first of July.

REPORT ON SHEEP.

BY ROBERT MOFFITT.

To the Members of the R. H. Agricultural Society.

Mr. President and Gentlemen:—In laying before you my report as chairman of the committee on sheep, I must begin by stating that I have not any personal knowledge of either the capabilities of the other islands for sheep-farming, nor of the methods of management adopted on them, and that the following observations are the result of my own experience and that of a few other sheep-owners on this island only.

I find that Merinos are very well adapted to this climate, and that besides the great increase in the value of the wool produced by their introduction, the cross between the unimproved native sheep and the fine-wooled rams imported from Australia, gives a better carcass, earlier maturity, and a greater amount of mutton than we had before. I have not unfrequently seen half-bred yearlings as large as their mothers. I have not seen the South-Downs imported from the States since the last meeting of the society, but I have heard that they are fine sheep, and I have no doubt of their being a most valuable addition to our stock of sheep here. I am of opinion however, that it is well to try to produce as fine wool as possible without deteriorating the carcass, as fine wool is always money, and it costs as little to shear fine wool as to shear hair.

With regard to the increase of sheep here, it seems almost incredible.—I have seen several ewes produce three and four at a birth, and I have one which produced five healthy lambs last month. Too much cannot be said in condemnation of the lazy, slovenly practice of allowing the rams to run with the flock all through the year, and of allowing all ages and sexes to run together. Great numbers of lambs are lost by so doing. By leaving the rams with them all the year, the ewes are dropping their lambs in mud and misery all through the rainy season, and by allowing the whole flock to run together, the wethers and the strong, young, dry sheep keep ahead all day, depriving the nursing mothers and heavy ewes of the best of the herbage. Many ewes desert their lambs by trying to keep up with the flock and by returning with the flock to the yard in the evening by a different

route from that by which they went out in the morning. Hitherto I have removed the rams from my breeders during the months of June, July, August, September and October, so that no lambs are dropped during the months of November, December, January, February and March. I find however, that it will be better to reduce the time of allowing them to run with the ewes to three months of the year, or at most four, so that all the lambing may take place within a corresponding period, and the crop of lambs may be weaned from the mother before allowing the latter to commence breeding again. I have seen repeated instances of ewes producing twins twice within six months, and such frequent parturition must exhaust the animals. Another serious evil resulting from allowing the whole flock to run together, is that the young ewes commence breeding much too early; they should not be put to the ram under eighteen months old at the very earliest, which will make them about two years old when they commence dropping.

The only disease which I know of among the sheep here, is a cutaneous one arising from cold and wet combined with low condition. It appears to be caused by obstructed perspiration and deficiency of the yolk or oil peculiar to sheep. It first shows itself by extreme dryness and absence of grease in the wool, then a scurfy appearance of the skin, and finally the wool comes off in places, generally on top of the shoulders. I have seen horses here affected in a similar manner by heavy rain. Sheep and horses seem to recover entirely, merely from being transferred to good pasture, enjoying warm weather and improving in condition. I have not heard of any authenticated case of scab, catarrh, or foot-rot here. I have seen a sheep poisoned now and then by eating some herb, but I cannot confidently state what the noxious plant is. I am under the impression that it is the Auhuhu, a plant or small shrub, used by the natives for poisoning fish. This is however eaten freely by the cattle without producing any injurious results.

I find that the Chinese coolies make good shepherds. It requires of course, a little trouble in the beginning (increased by the want of a ready mode of communication) to teach them what is necessary to be done, but they can be induced to remain all day with the sheep,

and to take care of them, which no native can be induced to do for any amount of remuneration. It is absolutely indispensable to have a shepherd constantly with the sheep to protect these most helpless of all our domestic animals, from dogs, mules, denkeys, and the thousand natural ills that sheep are heir to.

I use net pens for folding my sheep at night and recommend them strongly to sheep owners. Spun-yarn, or marline-stuff, made into a net of meshes about two inches square, the width of the net being about three feet six inches, ratline-stuff reeved through top and bottom and attached to the iron posts imported here for the wire-fencing, I find very convenient and easily shifted when any accumulation of dropping takes place. A yard built of sticks is also necessary to work in, as the net-pens are not well adapted for catching or draughting sheep in. A wooden yard, subdivided, is the best. Stone-pens must be of a great height to keep in the sheep, or to keep out dogs, and the wind cannot act so well to dry up the yard after the night.

A word on dogs to conclude.—Every man who tries to keep sheep here must depend on his own exertions to keep down the dogs and must expect violent opposition, ill will and even *being prayed to death* from his neighbors. Nay, if he is very energetic in slaying dogs, he may even expect to see himself petitioned against by name as an oppressor; some of our Solons presenting a petition to the House of Representatives to that effect, signed by six old women, five school-children, and four bereaved masters of hounds.

There is a nominal tax of one dollar a year on the filthy, mangy, mischievous curs, so dear to the native Hawaiians, not ten per cent of which is collected, and we see that every year petitions are presented by members of the House of Representatives, praying that this tax may be abolished; but when we see constituencies praying that *all taxes* may be repealed, and representatives gravely presenting such petitions, we cannot be surprised at their supplications in favor of their cherished lap-dogs. Let every sheep owner lay out the price of a fat wether or two every year on strychnine and wage incessant war by every means in his power against all the dogs within five miles of him, and he will find such a line of conduct much better protection to his lambs than the united wisdom of both our houses of legislature, and the Privy Council to boot.

REPORT ON VINE-CULTURE.

By J. MONTGOMERY.

To the President and Members of the R. H. Agricultural Society:

In reporting to the Society on the subject of the grape-vine, it is gratifying to feel, that in this body, at least, its value, as well as its suitability, to the soil and climate of these islands, is conceded, and that we have no longer to combat the hostility of some, who on former occasions, sought to discourage its culture, on the ground that we are "too far South," and that "grapes cannot be profitably grown in the tropics" and so forth. The cumulative experience of each succeeding season, goes incontrovertibly and conclusively to negative such obsolete theories, which cannot hold their ground against the every day evidence of our senses.

The duty which now devolves upon your committee, in dealing with this subject, is thus so far simplified, as to require, not a disquisition as to *whether the grape can be successfully cultivated* here, but *how* its culture, now admitted to be practicable, by a moderate expenditure of skill and labor, is best to be accomplished. I doubt if there be amongst us an individual who will now endorse the fallacious views and opinions, propounded by 'The Doubter,' in his criticisms on certain observations which I felt it my duty to embody in the annual address which I had the honor to read before this Society, at its last meeting, in which he asserted that the grape could not be profitably grown in the tropics, and which I rebutted by an array of facts, proving that grapes are grown and good wine made in large quantities, in much lower latitudes than ours.

I am indebted to some co-members of this committee for some valuable facts and suggestions, of which I have availed myself in this report, and I only regret that the construction of the committee rendered a meeting of its members unattainable.

The suitability of our climate for vine-culture, being conceded, the next most important consideration in connection with the subject, is the selection of the best soil and situation for the full development of the fruit. It is generally known that volcanic countries are those in which the vine flourishes most and produces the best and most abundant crops. The best wines of Italy are yielded by grapes grown in the vicinity of Vesuvius, and large quantities are grown in

the neighborhood of *Ætna* ; both *Tokay* and *Hermitage*, are the produce of volcanic regions. The close analogy of the soil of these islands with the places above named, and others equally productive, lead to the inevitable conclusion that only a careful selection of soil and situation and judicious management are required, to ensure the conversion of large tracts of our hitherto neglected and valueless hill-sides into productive vine-yards, and I entirely concur in the remark of *Dr. Baldwin* in his report on this subject, last year, that "so far as our observation goes, we should expect that the grape would flourish in every part of the islands where there is sufficient depth of soil, not too dry, well exposed to the sun, and where they are protected from the trade-winds."

On a surface so large and varied as these islands present, it can scarcely be doubted that there are large tracts of land, unreclaimed and valueless for any other purpose, which will come within the Doctor's description, and convertible to a profitable account. That the alluvial soil of the valleys, formed by deposits of the disintegrated and decomposed volcanic rocks which form the basis of our mountains, combined with decomposed vegetable matter, is admirably adapted for vine-culture, no one who has visited *Lahaina*, on *Maui*, or *Waimea* valley, on *Kauai*, can doubt; and I presume many others of our sheltered valleys would be equally productive. But our valleys form only a small fraction of the entire surface, and besides are so very valuable for the raising of other important crops, which cannot be well grown elsewhere, that it becomes the more important to investigate with care, the other portions of the surface, with a view to finding localities, less valuable for other purposes, where the grape can be profitably grown, and whether the rocky hill-sides which in other volcanic countries produce grapes in abundance, cannot here also be made available for the purpose.

A soil abounding in rocks and stones, is that in which the vine flourishes most, in the majority of wine-making regions ; and the rocky and precipitous hill-sides of *Madeira*, *Teneriffe*, the *Azores* and other similar countries where wine of high character is largely made for export, closely resemble our own barren mountain slopes. In these countries, the earth found in the interstices of the rocks, is

stirred up to a sufficient depth to receive the young plant, which finds usually sufficient moisture and shelter, to induce its rapid vegetation, and in the course of time its erratic shoots deposit and disperse themselves over the intervening rocks, where they find abundant heat and light to encourage the growth and the full development of their fruit, which in such a position matures with much rapidity, to great perfection.

That the same result will follow in similar localities on these islands has been already proved by several parties, one of whom, Mr. Cummins, of Kealakeakua, has at present a flourishing and highly promising little vine-yard on the stony surface of Kona, on Hawaii, a district which I apprehend, offers unmistakable evidence of its entire adaptation to vine-culture on a vastly extensive scale.

The elevation at which the vine will flourish and produce large and remunerative crops of fine fruit, is much higher than many imagine, and it is a great error to suppose, that it requires the high temperature of Lahaina to bring it to perfection. Dr. Baldwin states in his report of last year, that he has seen "the finest grapes, produced too, in great abundance, in Kuapehu, on Hawaii, at an elevation of 1,500 feet," and adds that his impression is that the vine-growing regions are of great elevation, in which opinion he is fully sustained by facts. On the same island, in Hamakua, and at about the same elevation, another of our enterprising settlers, Robert Robinson, has produced enormous crops of excellent grapes this season; but it is unnecessary to multiply evidence on the subject.

Possessing then, as these islands unquestionably do, a climate so congenial, a soil so suitable, and situation so extensively adapted to vine-culture, on a large and remunerative scale, and that too without encroaching on any part of our valley lands, so valuable for other important crops, does it not seem strange that any opposition should be offered to the attempt, laudably made, by one branch of our Legislature last year, to legalize and encourage the culture of the vine for the purpose of wine-making, a manufacture, quite capable from the vast extent of surface adapted to it almost exclusively on these islands, and exceeding in profitable and remunerative results all the other productions of our islands?

Next in importance, after the selection of suitable soil, for a vineyard, is to secure a situation, either naturally sheltered from the trade-winds, or on which artificial shelter can be cheaply and easily made. Nothing will so effectually neutralize all our efforts to cultivate the grape-vine in these islands, with success, as exposure to strong winds; and a situation which is open to the merciless lashing of the trades, may at once be passed by as hopelessly and entirely unfit for a vine-yard. The prevalence of the N.E. trade-wind here, is somewhat embarrassing to the vine-grower, inasmuch as exposure to the rays of the *morning* sun, is found in this country to be very beneficial to the quality of the fruit, and the difficulty of protecting the vine-plant from the N.E. Trades without, at the same time obstructing the genial morning rays, is one not easily surmounted. The close vicinity of shade-trees is very injurious to the vine, and I apprehend that in the present state of our labor market, both stone and adobie walls are out of the question. The only remedy I can suggest to those whose lands, otherwise suitable for vine-culture, are somewhat exposed to the Trades, as in a S. Eastern aspect, is to plant close belts of the bush-fig, to windward of the intended vineyard, which in two or 3 years will form an excellent and valuable barrier, and at same time to plant parallel to, and at some distance farther to windward, deep rows of some suitable forest shade tree, such as the kukui, kou, and hau, which, standing at a distance of 20 or 30 yards from the vine-yard, will afford excellent shelter, without much obstructing the early rays, from the low angle which its distance will offer. Of course this remedy will not apply to situations with a Northern exposure. When the Osage Orange shall have been more generally introduced, I hope to see it applied to this purpose.

The mode of training the vine is also an important consideration. The object sought to be obtained by training, is to secure the largest crop of grapes of the best quality, and for the latter, an abundant exposure to the direct rays of the sun, both for heat and light, seems to be indispensable. In extensive vine-yards, the more usual plan is, to train each plant to a single pole, the plants being set in rows 3 or 3½ feet apart, each way, and this method seems to answer the purpose admirably, and at a small cost. Another method, perhaps best adapt-

ed for gardens, is to train the shoots on lateral trellices, about 6 feet high, but avoiding all *top shade*, which is always injurious to the quality and flavor of the fruit. The object desired seems to be equally well attained by this mode of training. So essential is the free exposure of the fruit to the genial influence of the sun's rays considered in many places, that the leaves which surround and would otherwise shade the bunches, are nipped off.

I regret to observe that our Lahaina neighbors, who boast with so much justice of the vast quantity of their grapes, seem to act on a principle directly the reverse of the one I have stated above, and appear to consider sunshine deleterious to the large bunches which are found suspended, in melancholy and hopeless gloom, under thick and impervious platforms of foliage and branches, which effectually exclude all possible access to the sun's rays. In my opinion, if they will adopt a different course, and allow the sun to fall upon the fruit, they will, ere long, be entitled to laud themselves as much on the improved *quality* and flavor, as they now justly do on the *weight* of their crops, one plant now in bearing at Lahaina, as I hear from Mr. Gilman, having 1000 bunches.

Those who contemplate cultivating the vine on stony hill-sides, need not be deterred by the drought of the climate ; there will be found, at or near the surface, and among the stones, a sufficient supply of moisture to nourish the young plant, with a very trifling amount of artificial irrigation, till it shall have sent down its roots in search of the requisite nutriment. The rapidity with which the vine-roots penetrate the subsoil and find that food which they require, is astonishing. In removing some plants, one year old, in my garden, I found some roots 8 to 10 feet from the plant. Those who have seen the celebrated "Black Hamburgh" grape at Hampton Court Palace, near London, will have learned that it has sent its emissaries across and under the bottom of the river Thames, for upwards of two miles, in search of the amount of food requisite to nourish and mature the 3000 large and weighty bunches of splendid grapes, which form its average annual crop.

Humidity of climate, so far from being beneficial, is decidedly injurious to it, and in damp countries, grapes seldom come to perfection ;

whereas, in some countries, where it never rains, as in Guayaquil, in Bolivia, and other parts of the South American continent, excellent grapes and good wines are produced in abundance, a sample of which wine I have had the pleasure to taste at the hospitable board of H. B. M.'s Consul-General in this city.

As regards the *kinds* of grape best suited for culture on these islands, it is rather premature to raise a discussion, having as yet so very limited a number on which to experiment. I observe much said in the United States, in praise of the Katawba grape, which I apprehend must be a very valuable variety, and I regret that, so far as I am aware, none of our American brethren have as yet introduced it. In 1851 I imported from Australia, 150 varieties of choice kinds, but they all perished except some 15 sorts which are now growing in my garden, and I hope soon to be able to put their cuttings in general circulation.

In discussing the important subject of vine-culture, I have hitherto gone on the assumption that it is desirable to be carried on, on an extensive scale ; but if our present system is to be perpetuated, and that we are to be prohibited from using the fruit for any other purposes than *eating* only, it is idle to think of converting our now barren wastes into vine-yards, which could serve no useful purpose, or compensate for the cost of their formation. The application of a crop, for the encouragement of the culture of which, this Society awards annual premiums, I take to be within the scope of a report, and as such I would take leave to say that I trust and hope the time has gone by when the manufacture of wine for export will be opposed by any important sections of this intelligent community. Unanimity on this, or almost any other subject, is not to be looked for, and I have heard it asserted here that wine-making would have a demoralizing tendency, as conducive to intoxication and its concomitant evils ; but since the uniform experience of all the wine-growing districts of Europe, as well as the not unimportant manufactures of the United States, especially as all Ohio, and elsewhere, concurs in testifying to the gratifying and instructive fact, that in these districts, drunkenness is unknown, I should be disposed to arrive at a conclusion directly the reverse of

the one adopted by the opponents of the measure here, and say that if the wine-making countries elsewhere, are the most temperate, there can be no reason to suppose that here alone, its results would be different, and I am not without a hope, that those who strenuously advocate what they call temperance, formerly, will yet advocate wine-making as a grand "temperance movement." A measure which seems so clearly calculated to augment the resources, while it also improves the morals of nations, is assuredly well worthy of our best encouragement.

To occupy time in proving the vast amount of profit, derivable from wine-making on a large scale, seems almost superfluous, as all must be more or less aware of its great value and importance, I would however, refer to its progress on the "Rhine of America," the river Ohio, to which I have before alluded, where 2,600 acres of land, were in 1853, exclusively devoted to grape-growing, the average annual yield of which are about 800 gallons of wine per acre. Estimating this wine at the average market price of \$1 per gallon, produces an amount which completely puts in the shade *all* the products of these islands; and yet 2,600 acres is probably only a fraction of the land admirably adapted to the purpose on this group. With the markets of Oregon, California, South America, Australia and other places, open to us, we need not fear that our produce will not meet a ready and remunerative demand.

The only serious impediment which I can see, to the culture of grapes for wine, here, is the constantly recurring one of the scarcity of Labor. I find that on the Ohio, nearly all the culture is carried on by German Immigrants, who work on shares. Of late years, our little community has had many valuable acquisitions in the settlement amongst us of a number of Germans, of most exemplary character, and it is not unreasonable to hope that these pioneers will ere long, be the means of inducing some of the laboring classes to migrate hitherward, who may turn their attention to the subject, I have attempted to advocate. I have had opportunities of witnessing the beneficial results of German settlement elsewhere, and am earnestly anxious for their advent to this group.

In conclusion, I would beg to say, that no other member of the

committee of which I have been made chairman, is responsible for the views I have put forth on the subject of wine-making.

Respectfully submitted.

1st June, 1854.

REPORT ON ROADS, HARBORS, &c.

By W. WEBSTER.

To the President of the R. H. Agricultural Society:—

Your committee are sorry to say, that with but little exception, they are unable to report any visible improvements on our roads during the past year, although they have observed in some districts the usual amount of labor expended in ineffectual endeavors to better their condition.

Your committee are of opinion that the present system of road management and taxation is inefficient and unequal ; and taking into consideration the importance of good roads to the agricultural development of the country, your committee would press upon the society the necessity of some endeavor being made to move our legislature towards revising and changing the present laws.

Choosing the road supervisors, by election, where the roads have to be *made*, is not very good policy, as with few exceptions, the officers thus chosen are not sufficiently skilled to enable them to make a durable road, where there are any engineering difficulties in the way ; and the result is seen every winter, when the whole of the previous season's improvements are washed away. There is also a great want of checks on the probity of the supervisors, and although your committee have no doubt that the majority of them fill their offices with honor, still they are of opinion that having the accounts audited—if such a thing were possible—would be for the advantage of the taxpayers. Another evil connected with the election system is the fact, that the candidate who will compromise the tax on the most moderate terms is sure to be returned, and the consequence of this is evident.

Some hopes were entertained that the law passed last year, authorising the commuting of the road labor tax for \$2,50 instead of \$6,00,

as formerly, would have a good effect, as the commutation would be more universally paid, and it would enable the inspectors to procure suitable material for bridges, &c. These hopes have not been realized, and the only visible effect produced by the measures is the improved appearance of some of the inspectors.

To augment and equalize the road tax, your committee would recommend that a tax of one dollar *pr.* head be placed on horses, and also a small tax on all cattle taken to market,—but they would not recommend this until some sufficient check has been placed on the parties receiving the tax.

If the proposed bill of the present session becomes law, it would perhaps be wise to make the collectors connected with it also collect the road tax and disburse it again, through the interior office, by contract on the roads.

The general features of the country present serious obstacles to road making, and although the present tax may be sufficient in some districts, in others it is totally inadequate, and nothing but government appropriations will ever enable us to have roads in those districts,—as for instance a wagon road from Lahaina to East Maui would be of immense benefit, but to make it without an appropriation is impossible, unless a turnpike company takes it in hand. Also the road in Nuuanu Valley and the Pali descending to Koolau ought to receive attention, as a worse road with an equal amount of traffic exists no where in the world.

Your committee are sorry that for the present, from unavoidable causes, the proposed improvement of the water lots and harbor of Honolulu has been postponed, but they hope that the difficulties with which the government have had to contend will not prove permanent.

Since the last annual meeting of the society, a great stride has been taken toward improving our inter-island communication by the introduction, by her enterprising owners, of the steamer "Akamai" to our waters; and your committee are glad to learn that a larger and stronger vessel belonging to the same parties is on her way to our shores.

Your committee are of opinion that the measure introduced into the lower house, to open our coasting trade to foreign vessels, would if

passed have a very excellent effect, and would tend greatly to the benefit of agriculture by giving the farmers additional opportunities of carrying their stock and produce to market. At present our coasting fleet cannot boast of a single vessel capable of carrying a load of live cattle from Kawaihae to Honolulu.

Attached is a communication from one of the members of this committee, (Capt. Penhallow) on the improvement of various of our anchorages and harbors, with which subject he is professionally acquainted, and whose views are the result of many years experience.

WM. WEBSTER, Esq., *Chairman Committee on Roads and Harbors :*

SIR :—As a member of your committee I herewith transmit to you a few items for your report ; if they will be of any service, make what disposition you please of them. I have examined some of the ports on the different islands, viz :—Hanelei, Koloa and Waimea, on the island of Kauai ; Kabului and Hana, on the island of Maui ; Hilo and Kawaihae, on the island of Hawaii. I fully expressed my opinion in regard to the port of Honolulu many years since, when the opening of the bar could have been effected at small expense, labor being at that time 12 1-2cts. pr. day, and government having several vessels which were employed in transporting Kanakas from the smaller ports to those most frequented by merchant ships and whalers—which vessels would have answered the purpose of clearing the bar. However, with the assistance of steam, which we shall soon be able to have for the purpose of towing, difficulties which now seem insurmountable may be overcome, and ships of the largest class enter the harbor in safety.—There are many other ports which I have not yet visited that could be made a *lea* of in bad weather at a small expense, which I hope to be able to visit the coming year.

The following would be the probable expense of opening and improving the following harbors for steamers and coasters, with a draft of water—say ten feet :—

Island of Kauai, port Hanelei, to place anchors, chains and buoys,	\$800
Koloa,—anchors, chains, buoys and ring-bolts,	1,000
Nawiliwili Pier,—anchors, chains and buoys,	3,000

Island Maui,—Kahului, to remove obstructions and place buoys,	1,000
Hana,—placing anchors, chains and buoys,	1,000
Island Hawaii, port of Hilo,—two anchors and and chains, with buoys (heavy,)	1,500
Kawaihae,—removing some obstructions,	3,000
	\$11,000

I have the honor to remain, Sir, your ob't servant,

D. P. PENHALLOW.

Honolulu, June 12, 1854.

REPORT OF THE CHAIRMAN OF THE COMMITTEE ON ARROW-ROOT, AND ITS MANUFACTURE.

By B. PITMAN.

Mr. President:—The climate of Hilo is so admirably adapted to the growth of Arrowroot, (growing spontaneously throughout the district,) that by the natives it is seldom, if ever, made an article for cultivation. A few years ago some native Konohikis instituted a labor-day, for the purpose of planting arrowroot, but on account of the low price only obtainable for it, and the length of time which it took to prepare it for market, by the simple and primitive means used by the natives, it was abandoned as unprofitable, which a very little reflection will prove to be an error; although as the native, to this day, can scarcely be convinced that "time is money," they argued correctly. For instance, a woman intending to make arrowroot, will go out in the morning, and return in the afternoon with a back-load of the tuberosc roots, which she either deposits in a small stream of water or covers carefully with green fern. She will thus continue every day to increase her lot for a week. Supposing her to commence on Monday, by Saturday she will have collected about three barrels. On the ensuing Monday she commences cleansing it from earth and carefully picking out the eyes, which processes will consume a couple more days. She then scrapes off all the outer skin, re-washing the arrowroot, and leaving it still in the water until the following Monday, when the process of grinding it commences, which is done by grating it on a sheet of tin or copper punched full of holes,

and nailed to a piece of board like to a nutmeg-grater. As it is grated, it is put into calabashes filled with water, into which is flung a handful of wood ashes to render it uniformly white as the young arrowroot, or that which is only one year old, is always of a yellowish red color. The washing is repeated until all the bitterness is removed, it is then made into cakes and dried ; thus the whole process, until the article is fit for market, occupies a period of some three weeks if the weather is fine.

Arrowroot requires but very little labor and as little cultivation — The more it is cultivated, the less will be its produce ; for although the roots will be larger, (under cultivation) the quality of parenchyma or fibrous parts also become proportionably greater, and the amyllum less. A barrel full of tuberosc roots uncultivated, will yield from thirty-five to forty pounds of arrowroot, while a barrel full of cultivated will not give more than thirty pounds. By uncultivated I mean such as grow wild.

To make arrowroot a profitable article would not require any large amount of capital, neither much labor or expensive machinery. A mill, such as is used for grinding bark, large tubs or vats, wire and lawn sieves, and a drying house, thatched and lined with brown cotton down to the eaves, are the only and simple requisites.

Six barrels of roots will plant an acre of land, to be planted in alternate rows three or four feet apart ; that is to say, the second row to be planted opposite the spaces of the first, about eight to twelve inches in depth. Make a hole with a dibble, put the roots in, cover them up, and the labor is performed. The ground must not be cleaned, as it would lessen the product. Arrowroot is not fit for digging the first year, but the second it will be ripe and fitted for use. The same land will continue for years suited to the growth of arrowroot, if a few good seedlings are left in the earth.

There has been a greater demand for arrowroot this year than last, and a great quantity of the young root has been manufactured, which will prove detrimental to the next year's growth.

Hilo, 10th May, 1854.

REPORT OF THE COMMITTEE ON DOMESTIC MANUFACTURES.

By J. H. WOOD.

Hon. W. L. Lee, President, and gentlemen of the R. H. Agricultural Society :—

It would have been very gratifying to me, as chairman of your committee on domestic manufactures, to have presented a report that would have been at once interesting and valuable to your society, but with the exception of the manufacture of news and gas, both of which are in a very flourishing condition, I regret being compelled to say that I find material for such a report limited in amount and meagre in quality : and I doubt not your committee offering premiums, fully realized my unpleasant situation, when they lengthened their list of domestic manufactures nearly three-fourths, by including wax, shell, plain and ornamental needle work, embroidery, machinery, &c. But as your society deemed the report offered by myself and colleagues for 1853 worthy a place among the truly *valuable* ones presented, I take courage, well assured that we have gone ahead during the last year, making some important improvements in manufactures, and that our course is still onward with increased speed.

With regard to most of the staple articles of manufacture of other countries, such as cotton, wool, iron, glass, leather, earthen, paper, &c., for the most of which we have, or might have, the raw material, and for all of which we have a demand for consumption, I hardly need say that the want of capital and labor appears likely for the present, to compel us as heretofore to look to other and older countries for our supplies.

But, gentlemen, we have made a beginning, and that, too, in the right way. We have commenced the manufacture of the "staff of life," and I think fully demonstrated that, for the future, we shall not only manufacture our own, but will be able to furnish our neighbors and visitors with either hard bread or "soft tack," at a rate that will put competition at defiance. And to make amends for the past, without following "in the footsteps of our illustrious predecessors," patronizing the rickety, creaking machines propelled by wind or water, only when fortune favored with a supply, we have taken a long stride,

with telegraphic speed, from the pestle or handmill to the beautiful flouring mill, with its latest improved machinery, propelled by steam. The enterprise of some of our worthy citizens has erected a mill, at an expense of some twelve thousand dollars, capable of turning out one hundred and fifty bushels per day, of flour or meal, with machinery and fixtures, except stone and increased power, for manufacturing three times this amount.

Another individual, I believe at his own expense, has imported and erected on another part of this island, an improved mill of smaller capacity, but amply sufficient for the wants of that district.

A second, at his own cost, has erected and has now in successful operation, an establishment which will not only supply our cabinetmakers with material for their manufactures, but furnish an article of exports from our forests of beautiful cabinet wood, heretofore valueless except for fire wood ; besides a large amount of boards, plank, and joist for building purposes.

While a third, also at his own expense, and almost with his own hands, has established and put in operation, at an expense of some twelve or fifteen thousand dollars, a machine shop, iron and brass foundry, capable, with its ingenious and energetic proprietor at its head, of casting or forging, finishing and putting in operation the metal part of any and all kinds of machinery, which may be required in this kingdom for the next ten years.

Machinery to aid in the manufacture of boots, shoes and clothing, has been imported and is now on the way.

The manufacture of cabinet and upholstery work is steadily on the increase, and we doubt not with our increased facilities and beautiful woods, will ere long supersede imported goods of this description.

The manufacture of clothing is likewise steadily increasing, but we regret to say, while we might furnish the raw material in abundance, we see no immediate prospect of supplying ourselves with cloth adapted to the wants of the kingdom

The same is true of boots and shoes. A great many pairs are made in different parts of the kingdom—many of which however are inferior in quality and style, yet foreign upper leather and sole leather for the best work, are preferred to Hawaiian. And as I had occasion to re-

mark in my report of 1851, while we have thousands of the best of hides and skins for exportation, and an abundance of material superior in quality for tanning, a large and increasing demand for boots shoes, harness, saddles, and the various manufactures of leather, I can see no good reason for exporting the raw material, employing foreign capital and foreign labor, to deliver us an article of inferior value, as all leather goods must be, after an ordinary sea voyage from the Atlantic States or from Europe to this port.

All that is wanted to stop at once the importation of foreign leather, and to greatly increase both in amount and quality, the domestic manufacture of all merchandise made from leather, is one or two energetic practical men, (like our machinist,) masters of their business, at tanning and currying, with a few thousand dollars capital which they seek to invest in a safe, profitable and permanent business.

In the cultivation of tobacco and the manufacture of cigars, for which we have a large and increasing demand, those engaged have met with some disappointments owing to want of experience in climate and curing tobacco.

But the business appears to be in the hands of those determined to do battle with all obstacles, and who are sanguine that complete success must crown their efforts.

The salt business, one of our principal articles of domestic manufacture, and unlike that of sugar and other branches requiring a heavy investment in foreign machinery and fixtures, has been somewhat interrupted during the past year, owing to the prevalence of small pox, and the consequent lack of native labor during the season for its manufacture; and although sufficient has been made to meet the wants for home consumption, the supply has fallen considerably short of the demand for exportation.

The business however is well established, sure and profitable, with a constantly increasing demand and a corresponding supply, and must continue an item of importance in our future exports.

Having a special committee upon the manufacture of arrowroot, you will not expect me to allude to that subject.

In regard to the principal articles of native manufacture, I have been unable to collect statistics or data upon which to found a reliable

report, and will only say that quite a large amount of business is done yearly in the manufacture of kapa, mats, fishnets, canoes, ropes, hats, pipes, combs, brooms, leis, jewelry, &c., &c., which are retailed among themselves.

Your committee would suggest the propriety of offering premiums for articles of merit in the domestic manufacture of boots, shoes, leather, saddles, and salt, fully believing these various branches are of equal importance with many for which premiums are now offered.

REPORT OF THE COMMITTEE ON IRISH POTATOES.

BY G. D. GILMAN.

Mr. President of R. H. A. S. :—The subject of the "Irish Potato" is an important one, and I could well have wished that it had been intrusted to some more competent person, whose practical knowledge and experience could have been brought to bear on one of the most important of our agricultural productions.

Of the early introduction of the Irish potato at the islands, I can learn but little ; but some time previous to 1830 a few Irish potatoes had been left here, it is presumed, by some whaleship, and an "old resident" informs me that from '30 to '35 they used to consider themselves fortunate in getting an occasional calabash full, from some of the valleys back of Lahaina. A few found their way to Wailuku, on this island, and for years there was but one patch cultivated at that place. From that patch the seed is supposed to have been taken to Kula, or as it is sometimes called, the "Potato District," which is that belt of land lying on the side of the mountain Hale a ka la on east Maui, about 2000 feet above the sea, and extending from Makawao to and inclusive of Honuaula, or Mr. Torbert's plantation.

From 1840 the natives have been paying more attention to the cultivation of the Irish potato, and have found a ready market in the spring and fall visits of the whaling fleet, who were but too glad to avail themselves (from '40 to '48) to trade cotton cloth at 25cts per yard; that cost from 8 to 10cts, in exchange for the potatoes at \$3, and often at \$1.50 per barrel.

It seems almost incredible at the present time, and at so few years

removed, that the natives would plant, (cultivate they did not—nature was generous) and when ripe, dig the potatoes, *back a barrel at a time to the beach, a distance of 10 to 12 miles*, and sell them at *Fifty Cents*, yet hundreds of barrels were thus brought in, for years up to 1847, when some few carts and pack bullocks were brought into use.

In 1848-49 the American schooner "Boston," (now the "Caroline") commanded by Capt. Cole, an old whaleman, quietly left San Francisco for these islands. Arriving here, he obtained a part of a load of Irish potatoes and returned to San Francisco. The potatoes were sold at from 25 to 28 cents per pound, (there being none in the market,) or at the rate of *forty or fifty dollars per barrel*. He made a second very successful trip, although not obtaining so high prices as the first.

The reports of the success of those engaged in the speculation could not be kept silent, and quite a number of large and small craft entered into it, and the custom house returns for '49, '50 & '51, show that it was the most important and largest branch of our exporting trade.

It is to be very much regretted that the natives were so improvident of their golden harvest, but like too many who embark on the high waves of prosperous speculation, they forgot the treacherous nature of the elements, and that they could not count on the continuance of Fortune's showers.

Of the many natives who have handled thousands, there are few if any that can show as many dollars, either in improved places, stock, or money. The fields are in a measure deserted, and the happy (?) proprietors quietly awaiting another shower.

It was very unfortunate for us that there were so many poor Irish potatoes exported to California in '49, '50 and '51, and I think the facts may be worthy of notice as not being evidence against us.

The supplying of the fall fleet of whalers of '48, had taken most of the crop that had been prepared for the market, and when the sudden demand from California came on, and the call was loud, Potatoes! — Potatoes! the natives gave "all they had, and more too," that is, they not only took all that were in the ground fit to dig, but the cry still being "give, give," they brought "seedlings and mother," and

almost strip the fields; and for months there was scarce time given for a crop to arrive at maturity, before the active competition of the many purchasers urging the natives to bring in their potatoes, which, as they never raised them for their own use, were only valuable as they brought money, they were willing to sell green or ripe, at from \$5 to \$9 per barrel.

That we can raise good, *first-rate*, Irish potatoes none can deny who have passed through the fields, and seen the richness of the soil and favorableness of situation and climate.

Of the varieties of the Irish potatoe I have seen but three—the Red, White, and the long Pink-Eye, similar to the Chenango. The last is far the best for baking, and not near as good for boiling as the red or white. It is more generally raised (or was) on Hawaii than here. Of the merits of the red and white, I think it is generally admitted, that for home consumption the white is preferable, and that the red is better for exportation, as it does not seem to gather moisture with age like the white, and generally stands the voyage better over the salt water. Many an island red Irish potatoe has graced the tables of California as “fresh from Oregon,” and until the past year, found a ready sale by hailing from another locality, prejudice being so strong against those of the Island-growth, owing to the disagreeable remembrance of those taken there from here in '49 to '51, that no price would be given for them if they were reported as coming from the Islands, while 6 and 8 cents per pound would be willingly paid if they were told they were of California raising.

The last year the trade has entirely changed, and while in '51 we exported to California, in '54 potatoes brought from there have been sold at a profit and a reasonable price.

As we cannot reasonably hope to export for a foreign market, let us look at what demand we have at home.

The spring fleet of whale ships touching here on their way to the northern cruising ground, will average 125 to 150 ships, which take 7,500 to 10,000 barrels.

The fall fleet will probably average 250 ships, and will take, say 6,000 to 7,500.

The demand for home consumption I think can be safely set down

at about 5,000 barrels. Calling for on the aggregate 20,000 Barrels of Irish potatoes, for which a market is ever ready at our door, and no insignificant amount paid in exchange.

With regard to the improvement of the crops in quality, I hope the society will be favored with a report from other members of the committee, who have the advantage of practical knowledge to add weight to their suggestions.—All of which is respectfully submitted.

Lahaina, Maui, June 1, 1854.

REPORT OF THE COMMITTEE ON POULTRY.

By H. M. WHITNEY.

The subject referred to your committee is one, the familiarity of which renders it more difficult to treat it so as to make it of interest to others. Very little has transpired during the past year worthy of special note in this department, and if anything of interest is noted, it must be devised by our ingenuity.

Whoever, here at the islands, undertakes the breeding of fowls, finds it a business in which theories, fancies and speculations will be of but little benefit; he has undertaken a matter of fact business, in which the drawbacks to success are so numerous, that only the most untiring perseverance will accomplish anything.

Your committee are not aware that the checks to the successful rearing of poultry throughout the islands, numerous as they are, are more or greater than are to be met with in other climates. But they are much more felt here. Among the causes which prevent the successful breeding of fowls are, 1st,—the haste with which the hen forsakes her nest, frequently before one-quarter of the eggs are hatched. This disposition in the hen is owing mainly to her being disturbed with vermin; 2d, after the chicks are hatched it is exceedingly difficult to raise them, and this difficulty appears to increase the greater the precaution taken to confine the mother. The young chicks are killed by scores by the monstrous rats which infest all our yards, as well as by the too numerous cats, which instead of being the antagonist of the rats, seem rather to have formed an alliance with them, offensive and defensive. From numerous trials made, the best plan appears to be

allow the mother perfect freedom with her brood, not cooping them but taking care that they remain at night in as secure a place as possible from rats, cats and dogs.

Another serious drawback to the successful raising of poultry, is the thieving propensity of the natives, whose artful plans frequently defy the most vigilant watching.

Still there remains much to encourage all who have any interest in this most delightful branch of domestic economy. The beauty of a choice and well selected poultry-yard, throws an air of comfort and elegance around a homestead, second only to that imparted by the cultivation and display of choice flowers.

Your committee have endeavored to collect some data, showing the number of poultry on the islands, with the number annually reared, as well as the probable number of eggs produced yearly, together with the export of all kinds of poultry; but the facts obtained are so few and vague, as hardly to give a reliable approximation to a correct statement. They would recommend, however, that the subject be further investigated as full of interest.

An estimate has been made that there are over 75,000 fowls, of which about 60,000 are hens, which annually produce about 720,000 eggs. Of turkies it is estimated there are on the group at least 6,000. Of the fowls, it is supposed that 25,000 are killed or die annually, of which probably only 8 or 10,000 are yearly killed for food, including what are sold to foreign vessels.

An effort has been made to obtain the number and variety of breeds now on the islands, together with the peculiarities of each, but so little success has been had, that the subject must be deferred to a future report.—Respectfully submitted.

Honolulu, June, 1854.

REPORT OF THE COMMITTEE ON THE OLONA.

[TRANSLATED FROM THE HAWAIIAN.]

To the President and Gentlemen of the Hawaiian Agricultural Society:—

We, the undersigned, were appointed a committee by the Agricultural Society to consider the olona, and other material suitable for rope and cordage, the growth of this country.

In consequence of the limited time remaining to the committee in which to report, we are not thoroughly prepared to go fully into the subject ; but perhaps a limited report upon the subject committed to us will be better than none. We therefore submit some of the more prominent facts, in relation to the growth and manufacture of these things into cordage.

There are several ways in which the olona can be propagated, all of which are employed. It is best propagated from the young plants, which should be carefully transplanted into good soil. Another mode is, to plant cuttings of the old shrub, which should be laid down and covered with earth, when they will throw out sprouts and take root. When the sprouts have acquired some size, they can be cut off with a knife or hatchet, with the roots, and planted out carefully, with some earth attached to the roots, when they will soon grow. When planted in either way, they should be kept weeded and free from grass, and in a year they will come to maturity. When ripe, care must be taken in cutting, lest the young sprouts be injured.

In preparing the olona, the bark is carefully peeled from the wood, and it is the middle bark that is used. The following is the process :

A board 8 or 10 feet in length is provided, about 6 inches wide, and a piece of tortoise shell made sharp like an adze. The bark is laid flat upon the board, and the outer bark is removed with the shell. It is then turned over, and the inner bark is removed, when a thin slip is left, of exceeding strength, which is the valuable part of the olona, and exceeds in strength and value all other Hawaiian material for cord or rope.

There are many other shrubs upon the islands of a nature similar to the olona, such as the following :—the maaloa, mamaki, hopue, kukui ; which, if taken at the proper state, are nearly equal to the olona for toughness and strength.

The proper place for planting the olona and other shrubs for cordage, is by springs and wet places, where the soil is constantly damp by natural moisture or rain. In proper places these will all grow well, without trouble, if planted and taken care of according to the nature of the plant.

There are also many other things, besides those enumerated, which are used for making cord and rope in this country, but on account of

the short time remaining for making reports, we cannot specify them at present. All the people are acquainted with these different kinds of cordage. It is of the olona principally that we speak.

It is clear to your committee, that if the olona is well cleaned, and could it be separated into its distinct fibres by machinery, and then manufactured into strands, and these strands laid into rope, with the care and skill bestowed upon the cordage of foreign countries brought to this country, it would exceed in strength any foreign cordage ever brought here, either in its original state or tarred.

The olona has always been held in high estimation in this country, by chiefs and people, and has always commanded a high price from the most ancient time to the present day. It is very valuable for fish-nets, and is used for a great variety of purposes.

In regard to the olona, it was said by the ancients,

“ Hihi ke Olona, kaula helehonua,
Ka lino, ke kaula o ka moku o Hawaii,
I nakia'i a paa kela moku,
Oia huluhia mai ka moku,
A hina kuapapa o ka aina.”

Foul is the cordage, entangled are the ropes,
The cords, the tackle of the ship Hawaii,—
Bound strong, and worthy was that ship;
But now she is a ship keeled over,
And fallen, quiet rests upon the land.

S. M. KAMAKAU,
J. KEKAULAHAO,
J. W. E. MAIKAI.

REPORT ON SAW MILLS.

BY T. METCALF.

KAUPAUE, May 25, 1854.

Wm. L. Lee, President of the R. H. Agricultural Society :

SIR :—You requested me to give you some information in regard to my saw mill at this place.

The mill itself is of the *Flutter Wheel* description, single saw, with *Patent Head Blocks*, and all the other work is of the latest improve-

ment. The mill works admirably, and is now in full operation. It saws easily 100 feet of inch board per hour.

There is sufficient koa and ohia timber near the mill to keep it going for ages. I have about 80 yoke of bullock, well appointed for hauling the logs; and I shall be able soon to nearly supply the Hawaiian market with the best of building material, *provided* there is sufficient patriotism in the land to patronize its own manufactures.

I am preparing to put up circular saws for cutting clapboards, shingles, &c, &c.

REPORT OF THE COMMITTEE ON AGRICULTURAL AND COMMERCIAL STATISTICS.

By S. N. CASTLE.

To the Hon. Wm. L. Lee, President of the R. H. A. Society:

DEAR SIR:—It was my intention to prepare a report upon Agricultural and Commercial Statistics, but I have not been able to procure and arrange sufficient data to present a report which would be satisfactory to myself or of very particular interest as I thought to the Society. I enclose letters from the following members of the Committee, which will interest the readers of our transactions, should you find space for their publication, viz:

B. Pitman, Esq, Hilo; G. D. Gilman, Lahaina; W. Goodale, Honolulu.

LAHAINA, Maui, May 9, 1854.

S. N. CASTLE, Esq.,

Chairman of the Committee on Agriculture and Commerce:

DEAR SIR:—Your notes of the 17th and 18th of April conveyed the first intimation I had of being associated on the Committee of which you are chairman.

I am not aware of any tables of statistics being kept here, that show the amount with any degree of accuracy of the Agricultural productions exported from the Islands.

The productions of the large sugar estates of East Maui, which

comprise nearly the whole amount of wealth invested in Agriculture, are taken directly to your port and appear there as "Exports from Oahu." The amount expended by the whaling fleet this spring I should think would be about twelve thousand dollars for their recruits, viz: Irish and sweet potatoes, pumpkins, and fruits.

In reply to your inquiry relative to "first transactions in exchange," I would state that there have been from forty to forty-five thousand dollars invested here this season, the greater part of which was cash sent here from Oahu for investment and returned there in bills of exchange, less the commissions for investing, the money being expended, and the "bills" being drawn here. The amount of similar transactions last fall was about ———

If you should find any thing in the above which may be of sufficient importance to *incorporate* in your reports, I shall be pleased, but would suggest, that "*as it is*," it is not designed as a Report.

Yours, truly, G. D. GILMAN.

Hilo, May 10, 1854.

S. N. CASTLE, Esq.,

Chairman of Commercial and Agricultural Statistics of the Islands:

SIR:—Your esteemed favor of the 17th ultimo, reminding me that I was a member of your Committee and desiring matter thereon, was duly received by me, and it is a matter of the deepest regret to me that I cannot respond to your call so liberally or interestingly as I could desire. It is with exceeding difficulty at any time, that full and reliable information can be collected from our planters and farmers, as to what they may have done, or what they are likely to do, and in the present instance our weather for a length of time past has been of such character as literally to have cut off communication with those living at any distance, and I am thus unhappily deprived of information which I had counted on in anticipation as the principal feature of my report—thus circumstanced, I furnish a case in point, which I think ought to convince the most sceptical of the undeniable force of the hackneyed adage, that "man is the sport of circumstances."

Owing to the scarcity of material necessary to a Report of this kind,

I have referred to the one which in 1852 I had the honor of forwarding to the Society in order, if possible, to frame some comparisons of a character bearing the stamp of advancement. It is a saddening fact, yet must however be admitted, that the march of improvement has by no means been so rapid in our district as to either entitle us to the gratulations of its well wishers, or draw upon us the envy of our sister districts.

We are still laboring under the same disadvantages as I touched upon a couple of years since. As regards our roads, they are in much the same condition, and the frail accommodations, (bridges by courtesy,) thrown across the numerous ravines which lay between our district and that of Hamakua, are no sooner as our Supervisor of roads emphatically pronounces "*pau*" than they are in need of repairs. Still, "Rome was not built in a day," and although I remark these matters, it is less by way of complaint than regret, that this barrier to the advancement of our district should exist, trammeling our commerce and communication with the several districts of Hamakua, Kohola and Kona. Enclosing a memorandum of statistics,

I have the honor to be, sir, your obedient servant,

B. PITMAN.

STATISTICS.

Total number of arrivals at the Port of Hilo for the year ending with date.

American whale ships,	- - -	78
do. Sloop-of-War,	- - -	1
do. Merchant Brig,	- - -	1
		— 80 Vessels.

Home Produce, &c., supplied to the above, viz :

Fresh beef,	55,066 lbs.,	a	7 c.,	\$3,854 62
Salt, do.	5,710 "		8½	485 35
Fowls,	140 doz.	3		420 00
Turkeys,	339	1		339 00
Hogs,	202—10,100 lbs.	6		606 00
Goats,	174	50		87 00
Potatoes, (sweet,)	1,602 bbls.	2		3,204 00
do (Irish,)	1,493 do	2.50		3,732 50
Cocoa nuts,				121 00

Bread fruit,			\$137 20
Taro,			84 00
Pumpkins,	3,325	10c	332 50
Cabbages,	1,200	3	36 00
Bananas,	820 bunches,	25	205 00
Arrow root,	580 lbs.,	6	34 80
Coffee,	3,952 do.	12½	491 00
Oranges,	3,950		98 75
Pine apples,	1,380		30 40
Melons,			64 40
Pulu,	1,979 lbs.	6	118 74
Wood,	158 cords,	\$10	1,580 00
Molasses,	3,860 galls.	15	579 00
Syrup,	737 do.	37½	276 37
Sugar,	8,082 lbs.	6	484 02
Sole leather,	377 do.	25	94 25

\$17,499 80

Amount of imports by whale ships admitted free of duties,

6,378 25

Amount of imports by whale ships subject to duties,

1,770 74

Amount transhipped, same being products of the whale fishery and free of transit duty,

67,977 76

\$76,126 75

HOME PRODUCE SENT COASTWISE.

60,000	lbs.	coffee, valued at 13c.	\$7,800 00
15,000	"	arrow root,	900 00
7,000	"	goat skins,	875 00
2,000	lbs.	sole leather,	500 00
50,000	galls.	molasses,	5,000 00
140,000	lbs.	sugar,	7,000 08
10,000	feet	koa lumber,	600 00
10,000	lbs.	pulu,	500 00

\$23,175 00

Hilo, May 1, 1854.

S. N. CASTLE, Esq.,

Chairman of the Committee on Statistics:

SIR:—I regret that other demands upon my time have prevented me from preparing such statistics as would prove more interesting and available to our Society than any I have to offer. I will merely give

some of the facts and figures which are in themselves of little value, and leave it for some other member of this Committee to make such comparisons and deductions as will give them interest.

The following is a continuation of a table of the principal domestic exports published in the "Transactions" of 1853.

	Average 4 years. 1849—1852.	1853.
Sugar, lbs.	602,453	634,955
Molasses, gals.	41,188	58,448
Syrup, "	40,302	18,244
Coffee, lbs.	102,579	50,506
Salt, brl.	5,656	3,509
Irish potatoes,	20,234	15,464
Sweet "	5,893	8,979
Hides,	1,680	1,741
Goat skins,	28,914	5,600
Tallow, lbs.	7,434	16,452
Wool, " 1852,	363	10,824
Fungus, " "	4,856	20,000

Although from the above there appears to be a falling off in some of the principal articles of export, as syrup, coffee, salt and goat skins, the value of products furnished for export and supplies exceed the same for 1852, and are nearly equal that of 1850, notwithstanding the epidemic which prevailed throughout the group in 1853.

Probably nine-tenths of the sum paid for supplies was for beef, both fresh and salt, and for potatoes.

It may be interesting to know the amount and value of some of the articles imported during the year 1853, especially of such as can be produced here. The following was prepared from entries passed at the Custom House in Honolulu only, and does not include the vast amount bonded or transhipped in this port :

Beef, brls.	973
do. hf. do.	42
do. tierces,	21
do. casks,	38
	—\$15,321 15
Pork, brls.	731
do. hf. do.	170
do. tierces,	25
	—\$16,746 92

Flour, brls.		3,461	
do. hf. do.		170	
do. bags,		36	
do. tierces,		37	
		—27,972	17
Bread, lbs.	296,241	12,208	39
do. 235 casks,		3,794	05
Beans, lbs.	63,839	1,475	09
do do.		428	10
Corn,		422	20
Meal,		667	25
Barley, lbs.	108,940	2,090	97
do. bags,	153	415	31
Buckwheat, lbs.	8,996	379	28
do 7 cs.		86	90
Oats,		1,806	20
Peas, 15 hf. brls.		63	80
Cocoa nuts.		27	00
Onions,		140	00
Pickles,		1,123	12
Preserved meats,		12,886	60
Hams,		4,303	85
Salt,		120	32
Rice and paddy,		15,022	32
Oranges,		150	40
Potatoes,		390	54
Vinegar,		457	42
Tongues,		768	11
Lard,		1,201	19
Eggs,		82	36
Butter, lbs.	25,499	6,476	43
do.		2,157	70
Cod,		1,439	39
Salmon,		14,457	50
Sugar refined,		5,286	66
Cheese, lbs.	12,256	1,691	92
do.		337	00
Herring,		137	25
Mackerel,		1,597	52
Soap,		3,705	92
Leather,		2,019	87
Harness,		2,695	68
Saddles and bridles,		11,292	15
Boots, shoes, &c.,		56,977	36
Tobacco,		17,539	50
Cigars,		17,050	96
Nets,		96	00
Hops,		1,553	86

Ale, beer and porter,	25,520 25
110 swine,	100 00
4 sheep,	280 00
2 bulls,	450 00
2 pairs fowls,	42 00
3 horses,	815 00
Plants, 4 cs.,	222 75
Seeds,	258 54
Hand Carts, 5,	113 00
Carriage, Buggies and Harness,	2,131 00
Yokes,	95 29
Wood, 152 cords,	884 75
Brick, 181 m.,	1,659 14
Cement, 409 bbls.,	661 75
House Frames,	1,480 00
Timbers, 128 m. ft.,	3,669 09
Boards, 710 m.,	25,454 03
Plank, 218 m.,	7,006 18
Shingles, 1300 m.,	7,796 47
Clapboards, 74 m.,	3,161 96
Joist, 56 m.,	930 08
Pickets, 39 m.,	609 27
Scantling, 36 m.,	1,421 60
Lath, 1016 m.,	1,075 33

Submitting the above, imperfect and unsatisfactory as it is, of which you may make such use as you see fit.

I remain yours, &c.,

W. GOODALE.

PATENT SALTING MACHINE.

[CORRESPONDENCE.]

By R. C. WYLLIE.

ROSEBANK, 7th June, 1854.

*To the Hon. Wm. L. Lee, the King's Chancellor and Chief Justice,
President of the R. H. A. S. &c., &c. :—*

SIR :—In my letter to you of 1st June, 1853, published at page 152, No. 2, vol. 1, of the Transactions of the Society, I referred to the demand for salted meats that existed in Peru. Of late, there has been a considerable demand in our own port of Honolulu. That demand is likely to increase, both for the supply of steamers and the vessels under belligerent flags, that may seek refuge in our *neutral* ports. I understand, in many parts of the islands, cattle are multiplying both beyond the local demand and the capabilities of the soil to sustain them, while to convey them safely and opportunely to the sea-ports, is extremely difficult.

For all these reasons it may be important to make known, that I have written to obtain information respecting a patent machine for salting large quantities of flesh-meat, of all kinds, in a few minutes ; and that I expect a reply by every mail. To this letter I append a copy of my despatch of 7th October last, on that subject, to Archibald Barclay, Esq , the King's Commissioner in London. When I receive an answer I shall make it known to you.

FOREIGN OFFICE, }
HONOLULU, 7th Oct., 1853. }

To Archibald Barclay, Esq., H. H. M. Commissioner, &c., London :—

SIR :—On the 7th January, 1848, I wrote to you a private letter, (see my Wedgewood written letters,) enclosing another of same date for my good friend Dr. John R. Elmore, with a request that if the latter could vouch for the success of the salting machines, of which he was Patentee, you should send out to me two of such machines, each capable of salting three barrels of beef at once, or of the largest working size.

I intended one of these machines for my friend Monsieur Dudoit,

then Consul of France, and the other for my late friend William French, Esq.

Neither you nor Dr. Elmore ever replied to those letters. Perhaps, in the hurry of business, you may have overlooked them. If so, you will oblige me by forwarding to Dr. Elmore my said letter of the 7th January, 1848, that he may furnish me with the information then required for the advantage of Hawaiian agriculturists, with the prices of the machines of different capacities. But you and he are not to understand this letter as an authority to send out the two machines which I ordered nearly six years ago, without further hearing from me.

About the same time or before, Messrs. Pelly & Allen received a machine of that kind, which is in the hands of Mr. Dudoit. It has suffered much from neglect, and the description for working it has been lost. You will much oblige me by looking back in the books of the company to ascertain the precise description of the machine sent out, (whether Dr. Elmore's Patent or any other) and by sending to me, in duplicate, the description and directions for use that may correspond to it.

CORRESPONDENCE ON THE SUBJECT OF GUANO.

By. R. C. WYLLIE.

ROSEBANK, 8th June, 1854.

To the Hon. W. L. Lee, the King's Chancellor and Chief Justice, President of the R. H. A. S., &c., &c.

SIR :—Referring to your address as President of the Royal Hawaiian Agricultural Society, at its meeting of 1853, at page 8, No. 4, of volume 1st of the transactions of the society, where you had the courtesy to advert to communications upon the subject of guano and tobacco, received by me, from Thomas Eldridge, Esq., the king's *Charge d'Affaires* at Lima, and to my letters to you of 1st June, 1853, printed at page 152 of the same, No. 2, I consider it of importance now to state to you that, having received further letters from Mr. Eldridge upon the same subjects, I wrote to him on the 1st August last, the reply of which I annex, marked No. 1.

I add also copy of my letter of 28 July, 1853, to Dr. R. W. Wood, containing three questions on the subject of guano, to which I respect-

fully solicit replies from those planters whose estates may require renovation by manure. It is marked No. 2.

My view is, and has ever been, that if we expect to compete successfully in the markets of California and Oregon, with other countries producing like products with ourselves, we must place ourselves on an equality with such countries, in the essential respects of capital, labor and improved cultivation, by importing the best seeds and plants, the best breeds of cattle, the best manures and the most improved machinery, to abridge and expedite labor. In proximity to markets, nature, and the extension of the United States to the borders of this ocean, have given us a positive advantage, and it is my belief that we can import all the labor we are likely to require from China, and use it in this kingdom at a cheaper rate than if we imported slaves either from Africa or the United States.

I am not sure that German labor would not be the best and cheapest that we could introduce into these islands. Upon that point and the necessity of encouraging the introduction of capital, and pursuing the most liberal policy towards all agricultural enterprises, I have not changed the views which I urged upon the king's government on the 1st of December, 1847. It is not improbable that I may not long hence, be in a position where I could promote the introduction of German, or any other desirable European laborers; and with the object of having those views of mine, and especially, my calculations corrected, when erroneous, I respectfully enclose, marked No. 3, the appendix to my report as Minister of Foreign Relations, requesting your attention to enclosure No. 80, in that appendix, which contains those views. I hope that I need not assure you, that although my presence in this kingdom may soon cease forever, the interest which I take in its prosperity, the physical and moral improvement of the native race, and in their preservation, will never cease.

But our greatest want is capital; and I see no other way of remedying that want, except through a well regulated bank, with, *chiefly*, a metallic currency.

[NO. 1.]

HONOLULU, 1st August, 1853.

To Thomas R. Eldridge, Esq., *H. H. M.'s Chargé d'Affairs, Lima :*

MY DEAR SIR :—In reply to your unofficial letters of the 17th May and 23d June, and to valuable suggestions previously made by you, the benefit that might accrue to the agriculture of these islands from the use of *Guano* as an article of Manure, I enclose for your information the following documents, viz:

Copy of my letter of the 23th ult. to Dr. R. W. Wood, who is one of our largest and most experienced planters, both on Kauai and Maui.

Copy of Dr. Wood's reply of the 31st July.

Copy of Memorandum of sales of *Guano* ex "*Harpooner*," made by Messrs. R. C. Janion & Co.

The first 83 pages of the Transactions of the R. H. Ag'l. Society, shewing at page 8th that I brought the subject of *Guano* before the Society, through its enlightened and patriotic President, the Hon. W. L. Lee.

By a careful perusal of all these documents, you will arrive at the conclusion that at present, no well founded encouragement can be held out to any one to risk his money in speculations of *Guano* in this Kingdom. But if you will look at our miserable exports of all descriptions of native produce, as given by the Committee on statistics, at page 85, where they put down \$222,651, as the total average value, for the years 1849-1850 and 1851, and \$129,513 as the total value for 1852; and if you will compare that wretched production of our whole Islands containing about 3,897,600 square acres, with the production and extent of the Islands of Mauritius, Bourbon, Barbadoes, Tobago, or Puerto Rico, you will perceive clearly that so far as developing the agricultural wealth of the islands, we have yet to make a beginning. When we do commence in right good earnest, demand for *Guano* must necessarily arise.

In regard to Tobacco, I refer you to my letter to Mr. Archer of the 28th July last ; copy of which I enclose. When I receive the samples asked for I shall send them to you, but I fear on trial that the

quality will, as yet, not equal that of your best "*Jaen de Bracamoras*" or "*Guayaquil*."

I remain my Dear Sir

Yours very truly,

Signed, R. C. WYLLIE.

To THOMAS R. ELDRIGE Esq.,

H. H. M.'s Charge d'Affaires.

[NO. 2.]

ROSEBANK 28th July, 1853.

MY DEAR SIR:—By the British Schooner "*Denia*," which arrived from Callao in 1844, I received some bags of *Guano* from Messrs. Gills, Crawley & Co., of Lima, who were anxious to know if the islands would consume such a quantity as to make it worth their while to import it. I distributed it among those whom I thought most likely to give it a fair trial, but I could never obtain a report on it.

Subsequently I have had several letters from a highly respectable friend of mine residing in Lima, who promises to procure a contract for all the *Guano* that these islands can consume, provided they would afford an adequate market, at a remunerating price.

Looking upon you as one of the most extensive Planters in this Kingdom, I consider that you are the best able to give me a sound opinion upon the following points, viz:

1. What quantity of *Guano* would all the Islands consume yearly?
2. What price could be expected per cwt of 112 lbs, or per ton?
3. Could payment in cash be depended upon?

That the use of *Guano* would vastly increase the produce of the islands, per acre, I cannot doubt, without disbelieving the accounts of its astonishing effects in the West Indies, the Mauritius and other inter-tropical islands. I presume you are well acquainted with these accounts, and with the manner in which *Guano* is used as a manure. I believe that it has been found, everywhere, that its use so much increases the quantity as more than reimburse the Planter for its cost.

You will greatly oblige me by giving me your views upon the several points, in writing, at your earliest convenience.

I remain my Dear Sir, Yours truly,

Signed, R. C. WYLLIE.

To DR. R. W. WOOD.

P. S. I ought to have mentioned that Messrs. Sevilla & Co., of Lima, have a contract for the supply of Guano to India, the islands in the Eastern Seas, and to China, and that if the Phillippines and Java increase and cheapen their sugars &c., by its use, the result will be to proportionally augment the difficulty of these islands in competing with them. Upon our ability to compete depends our prosperity as a nation.

Signed, R. C. W.

COMMUNICATION ON THE SUBJECT OF A SAVINGS BANK.

BY R. C. WYLLIE.

ROSEBANK, 19th June, 1854.

To the Hon. Wm. L. Lee, the King's Chancellor, Chief Justice President of the R. H. A. S. &c. &c.

SIR:—Immediately after the King's recommendation of a Savings Bank, in His speech from the Throne to the Legislature of 1850, I wrote to London for a FORM in which the multifarious and complicated accounts of such Institutions are kept in England. I have the honor to inform you that that FORM exists in my possession and will be forthcoming, for the public good, whenever such an Institution is solidly started.

To your clear understanding it must be apparent that nothing would more conduce to the introduction of habits of frugality and industry, among the natives, and the eradication of indolence with its concomitant sensuality than a well regulated Savings Bank. It would powerfully promote the development of the agricultural resources of the islands, by the creation and accumulation of the means indispensable to the proper cultivation of the lands possessed by the natives—that cultivation would inure them to the habitual exercise of their physical powers—this would beget health—health would add its blessings of longevity and offspring, and the Hawaiian race, to whose welfare we are alike devoted, would be saved from the utter extinction to which as things have been, and still are, very much to our regret, they are fast approaching.

Knowing well that you are not indifferent to this deplorable result, but on the contrary, that you ever have been, and are disposed to do all

that man can do to preserve, in being, and promote the welfare of the Hawaiian Kingdom and people, and wishing, however humbly, to co-operate with you therein, wherever destiny may place me,

With the highest respect, I have the honor to be, sir,

Your most obedient and faithful servant.

REPORT OF THE VICE PRESIDENT OF MOLOKAI.--[1854.]

Molokai is a small place and has scarcely a name among agriculturalists. The peculiarity of its shape, long, narrow, and with a mountain ridge traversing its length, makes the face of the country unfit for extended cultivation. It has but two places of table land, so beautiful for ploughing at these islands, and those two are cut up by deep ravines. Besides these, a few of the valleys on the south, expand out into level land along the sea shore. All these places are fertile, and fine for planting, but fit for miniature farms only, instead of plantations. Natives cultivating patches of from half an acre, to two or three, can live and prosper here. The unpromising nature of the country, has thus far, kept at a distance all other than native agriculturalists. No foreign capitalists of any kind are on Molokai. Neither sugar nor coffee is grown there. One only flock of sheep is grazing on one of those table lands.

But there is evident forehandedness in a native way among natives there. The children are becoming used to work, and for natives shew much enterprise and industry. In every village the children are the hired laborers, the boys having formed themselves into clubs for working together and doing jobs offering a profit.

Property among the natives of Molokai is very equally distributed. Very few are distressingly poor, and none are rich. They have but little litigation and quarreling, have no lawyers, and therefore at liberty to devote themselves to the acts and labors of peace. Almost every man and boy has a house and one or two cattle, the latter of which are used effectually as beasts of burden. There being no foreign examples among them, not a native owns an ox or horse cart on the island.

I have, after ploughing myself ten or twelve acres before them, induced three men to buy a plough and harness each, which are the only ones on the island.

The principle productions of Molokai are kalo, sweet potatoes, melons, and squashes. A surplus of each sold at Lahaina and Honolulu, giving the laborers an income.

They get something from selling pigs, also, and lately many have begun to make butter, which is very good considering their inconveniences for making.

Hat braiding is another branch of native industry, quite common among Molokai women. Any man with a nest of hats in the streets of Lahaina or Honolulu, is known to be from Molokai.

In one district some hundred dollars worth of salt has been manufactured within the past two years, the sale of which has been so ready that more attention will probably be paid to its manufacture hereafter.

Since Indian corn has been called for by its present prices, its culture has been entered upon by the natives at Kalae with some spirit. A larger quantity of it will be raised there hereafter. Wheat culture is possible on our table lands. I ploughed and sowed ten acres, but wishing to make my seed suffice for myself, and to scatter also among natives, I sowed parts of it too thin and the worms have destroyed, in toto, the half that I sowed. The remainder looks promising. But my seed saved by sparse sowing and given to the natives to experiment upon, turned out to be a vexation, for I lost it, as well as the ploughing the ground where it ought to have been sowed. The natives thought they would see first whether it was good, and thus boiled and ate it all.

Respectfully Submitted,

C. B. ANDREWS.

STANDING COMMITTEES FOR 1855.

1. On SUGAR.—W. H. Rice, R. W. Wood, L. L. Torbert, S. Reynolds, Alex. E. McGregor.
2. On COFFEE.—T. C. B. Rooke, B. Pitman, G. Rhodes, P. Cummings, B. F. Snow, H. A. Neilson.
3. On WHEAT and OATS.—H. M. Whitney, J. T. Gower, H. J. G. Crosswell, E. Miner, A. G. Thurston, G. E. Beckworth, C. B. Andrews.
4. On INDIAN CORN.—J. S. Emerson, T. Metcalf, Wm. Reynolds, W. Chamberlain, S. G. Dwight.
5. On HORTICULTURE.—G. Rhodes, E. Bailey, E. P. Bond, J. Montgomery, E. Perrin, A. B. Bates, J. W. Austin,
6. On The VINE.—James Makee, Wm. Ap Jones, G. Reiners, J. Montgomery, H. Stangenwald, F. A. Oudinot.
7. On FRUIT and FRUIT TREES.—T. Coan, G. D. Gower, Alex. Adams, P. Cummings, W. P. Alexander.
8. On TREES for SHADE, TIMBER, WOOD, &c.—C. R. Bishop, G. P. Judd, B. Pitman, B. F. Snow, W. H. Johnson.
9. On GARDEN and other SEEDS.—J. Montgomery, H. M. Whitney, W. Hillebrand, Eugene Bal, Paul F. Manini.
10. On TARO and GARDEN VEGETABLES.—A. B. Bates, James Makee, Z. Kaauwai, A. Adams, Wm. Ap Jones.
11. On FLORICULTURE.—W. Hillebrand, G. Rhodes, E. G. Beckwith, G. H. Luce, John Ladd, D. P. Penhallow.
12. On IRISH POTATOES.—L. L. Torbert, John Richardson, Elias Bond, S. Hoffmeyer, G. D. Gilman, P. Nahaolelua.
13. On SWEET POTATOES.—T. C. B. Rooke, G. L. Kapeau, Lilikalani, John Ii, Kaahalama.
14. On ONIONS.—B. Pitman, G. D. Gilman, C. B. Andrews, L. L. Torbert, J. Piikoi, H. A. Widdemann.
15. On ARROW ROOT and its MANUFACTURE.—Wm. Reynolds, G. Gilmore, T. Coan, W. A. Aldrich, S. M. Kamakau.
16. On NEAT CATTLE.—T. Cummins, J. Meek, R. Moffat, E. H. Allen, R. W. Holt, J. Dudoit, L. H. Anthon.
17. On HORSES.—Liholiho, S. P. Ford, G. P. Judd, F. P. Manini, J. O. Dominis, J. L. Brenchley, J. I. Dowsett.
18. On SHEEP.—S. P. Ford, T. Cummins, Wm. Webster, R. Moffat, J. I. Dowsett, G. M. Robertson.
19. On SWINE.—J. Meek, J. Montgomery, C. B. Andrews, A. Paki, G. Gilmore, R. Moffat.

20. On POULTRY.—Wm. Ladd, H. M. Whitney, S. C. Damon, W. Ap. Jones, John Janion, V. Chancerel.
21. On BIRDS, BEES, INSECTS and WORMS.—J. W. Marsh, P. J. Gulick, W. Newcomb, E. P. Bond, J. S. Green.
22. On BUTTER and CHEESE.—C. B. Andrews, O. H. Gulick, H. A. Widemann, H. Robinson, A. Bishop.
23. On TOBACCO.—A. Fornander, A. Archer, L. Kamehameha, W. B. Rice, J. Ritson, J. R. Opitz.
24. On SEASONS.—J. T. Gower, T. C. B. Rooke, J. S. Emerson, Wm. Ladd, Edw. Johnson, J. Mott Smith,
25. On FENCES.—C. W. Vincent, L. L. Torbert, W. H. Pease, G. Rhodes, S. Reynolds, B. F. Hardy.
26. On OLONA, or NATIVE HEMP.—S. Reynolds, Z. Kaauwai, Lili-kalani, J. W. C. Maikai, S. W. Kamakau, J. S. Rives.
27. On MANUFACTURES.—E. H. Allen, J. Hardy, R. A. S. Wood, J. H. Wood, D. W. Weston, G. D. Gower, H. Dimond.
28. On MACHINERY and AGRICULTURAL IMPLEMENTS.—S. N. Castle, Wm. Lighthall, R. W. Wood, D. W. Weston, J. S. Green, J. H. Wood.
29. On AGRICULTURAL and COMMERCIAL STATISTICS.—W. Goodale, B. W. Field, B. Pitman, C. S. Bartow, H. Rhodes, W. L. Green, A. S. Cook.
30. On ROADS and INTER-ISLAND NAVIGATION.—R. H. Bowlin, W. Webster, James Makee, H. A. Widemann, P. H. Treadway, T. Metcalf.
31. On LABOR and the POPULATION of the ISLANDS.—W. Hillebrand, R. Armstrong, C. G. Hopkins, W. H. Rice, G. M. Robertson,
32. On SALT.—C. W. Vincent, R. Clouston, S. G. Dwight, R. Coady, W. Newcomb, J. C. Pfluger, F. L. Hanks.
33. On SOILS.—Wm. Webster, W. H. Pease, J. Fuller, E. Bailey, H. J. G. Croswell.
34. TO RECEIVE AND ARRANGE ARTICLES FOR THE FAIR OF 1855.—W. C. Parke, J. H. Brown, B. W. Field, H. Rhodes, W. H. Snodgrass, John Ladd, T. Spencer, M. C. Monsarrat, W. F. Allen, H. McFarlane, J. Bartlett, J. R. Pratt.

LIST OF PREMIUMS,

FOR THE ANNUAL SHOW AND FAIR TO BE HELD AT
HONOLULU, ON WEDNESDAY, THE 13th OF JUNE, 1854.

CATTLE.

Class I.—Imported Stock.

- 1 Best Imported Ayrshire Bull, \$20 or Silver Cup.
- 2 " Ayrshire Heifer or Cow, \$10 or "
- 3 " Devon Bull, \$20 or Silver plate.
- 4 " Devon Heifer or Cow, \$10 or Silver plate.
- 5 " Short horn Durham Bull, \$20 or Silver Cup.
- 6 " " Heifer or Cow, \$10 or Silver Cup.
- 7 " Hereford Bull, \$20 or Silver Plate.
- 8 " " Heifer or Cow, \$10 or Silver Plate.

Class II.—Native crossed between Imported and Native Cattle.

- 9 Best Bull, \$10 or Silver Cup.
- 10 " Cow, \$10 or "
- 11 " one year old Bull, Diploma.
- 12 " Heifer, "
- 13 " yoke of Working Oxen over 4 years old, \$5 or Large Medal.
- 14 " Milch Cow, \$10 or Silver Cup.

The cow to be kept on grass only.

The time of trial from 1st of May to 1st June.

Statement to be furnished containing, 1st. The age and breed of the cow and time of calving. 2d. The quantity of milk in weight and also of butter during the trial. 3d. At least 10 lbs. of the butter, and the statement to be verified by affidavit of competitor and other persons conversant with the facts.

- 15 Best fat Ox over 4 years old, \$5 or Medal.
- 16 " fat cow " " " "
- 17 " fat Steer under 4 " "

Applicants for premiums on fat cattle must furnish particular statements of the manner of feeding, and kind, quantity and cost of food, and all the expenses of fattening, if they are other than grass fed.

HORSES.

Class I.—Imported Horses.

- 18 Best blood Stallion over 4 years old, \$20 or Silver Cup.
- 19 " " brood Mare, " " 10 "

- 20 Best Stallion, horse of all work, over 4 years old, \$20 or Silver Plate.
 21 " brood Mare, " " " \$10 or Sil. Plate.
 22 " Stallion, draught, over 4 years old, \$20 or Silver Cup.
 23 " brood Mare, draught, " " 10 "

Class II.—Native Horses.

- 24 Best Stallion over 3 years old \$10 or Silver Cup.
 25 " brood Mare with foal at her foot, over 3 years old, \$10 or Silver Cup.
 26 " Stallion over 2 years old, \$5.
 27 " Mare over 2 years old, Youatt on the Horse.

Colts.

- 28 Best 1 year old Stallion, \$5 or Medal.
 29 " " Mare, Youatt on the Horse.

Geldings.

- 30 Best Gelding, \$5 or a Cup.
 31 2d best " Youatt on the Horse.

SHEEP.

Class I.—Imported.

- 32 Best Merino Ram, \$10 or a Cup.
 33 " " Ewes, not less than two, Morrell's Shepherd.
 34 " South Down Ram, \$10 or a Cup.
 35 " " Ewes, Morrell's Shepherd.
 36 " Saxon Ram, \$10 or a Cup.
 37 " " Ewes, Morrell's Shepherd.

Class II.—Native and crossed between Imported and Native.

- 38 Best Native Ram, \$5 or a Medal.
 39 " " Ewes, Morrell's Shepherd.
 40 " pen of Lambs, \$5 or a Medal.
 41 " sample of Wool not less than 3 fleeces, a Silver Medal.
 42 " Shepherd's Dog, \$10 or a Silver Dog Collar.
 43 2d best " Morrell's Shepherd.
 44 Best pair of Terriers, \$10 or Silver Dog Collar.

Evidence to be furnished of the thorough training of the dogs, otherwise no premium can be awarded.

SWINE.

- 45 Best Boar, imported, \$5 or a Medal.
 46 " " native, " "
 47 " breeding Sow, imported, \$5 or a Medal.
 48 " " native, " "
 49 " lot of Pigs, not less than 5, under 10 months, \$5 or Medal.

POULTRY.

- 50 Best lot of Poultry owned by exhibitor, (statement to be furnished and verified by affidavit) \$5 or Silver Medal.

- 51 Best pair of Dorkings, Silver Medal.
 52 " " Black Spanish, "
 53 " lot of Malays, not less than 3—1 cock and 2 hens \$3 or Book on Fowls.
 54 " lot of Shanghaes, 1 cock and 2 hens, \$3 or Book on Fowls.
 55 " " Bantams, " " " "
 56 " " Turkeys, " " " "
 57 " lot Muscovy Ducks, 1 drake and 2 ducks, \$3 or Book on Fowls.
 58 " lot small Ducks 1 drake and 2 ducks, \$3 or Book on Fowls.
 59 " lot of Geese, \$3 or Book on Fowls.

DAIRY.

- 60 Best lot (quality as well as quantity considered,) made from five cows in 30 consecutive days, 20 lbs. of the butter to be exhibited, \$10 or Silver Cup. Butter to be exhibited in wooden or stoneware containers.
 61 2d best, do. do., Silver Butter Knife.
 62 Best 3 firkins butter, not less than 50 lbs. each, \$10 or a Cup.
 63 " sample of butter of not less than 20 lbs. in one container, \$5 or a Medal.

A statement of the manner of making the butter must accompany each sample.

CHEESE.

- 64 Best cheese, over 10 lbs., \$5 or a medal.
 65 2d best, " Diploma.

SUGAR AND SYRUP.

- 66 Best 100 lbs. Muscovado Sugar, an average sample of not less than 15 tons to be shown by certificate of the competitor and one other person conversant with the facts, \$15 or a Silver Goblet.
 67 2d best 100 lbs., do. do., \$10 or a Silver Cup.
 68 Best 100 lbs. made by any process, refined or otherwise, \$5 or a Medal.
 69 " 10 gallons of Syrup, a fair sample of 10 bbls. (to be shown by certificate) \$10 or a Cup.

The process of manufacturing and clarifying must accompany the samples of Sugar and syrup offered.

COFFEE.

- 70 Best 75 lbs. of Coffee, a fair sample of at least 2,000 lbs. \$10 or a Silver Cup.
 71 2d best 75 lbs. Coffee, do. do. \$5 or a Silver Medal. For person who shall have planted the greatest number of Coffee Trees between the Annual Fairs of 1854 and 1855, \$10 or a Silver Cup. Description of the location, the age and size of the trees planted, and the distance between them.

GRAIN AND SEEDS.

- 72 Best sample of Wheat not less than half bushel \$10 or Silver Cup.
 73 " 20 ears Indian Corn, \$5 or Medal.
 74 " bushel of " " "
 75 " sample of Oats, not less than half a bushel, \$5 or Medal.
 76 " " Barley, " "
 77 " " White beans, not less than 1 peck, "
 78 Greatest and best variety of Beans, of not less than 2 quarts each, \$5 or a Medal.
 79 " sample newly introduced grain, valuable to the farmer, not less than one bushel, Silver Medal.
 80 " variety of Garden Seeds, raised on the islands, Silver Medal.

FIELD CROPS.

- 81 Best crop of Wheat, not less than 2 acres, nor less than 25 bushels per acre, \$15 or a Cup.
 82 " crop of Indian Corn, not less than 2 acres nor less than 25 bushels per acre, \$10 or a Silver Cup.
 83 " crop of Barley, not less than 2 acres, nor less than 25 bushels per acre, \$5 or a Medal.
 84 " crop of Oats, not less than 2 acres, nor less than 25 bushels per acre, \$5 or a Medal.
 85 " crop of White Beans, not less than half an acre, \$5 or a Medal.
 86 " crop of Irish Potatoes, not less than 2 acres, \$10 or a Cup.
 87 " half acre Tobacco, with account of cultivation, " "
 88 " 100 Cigars, a specimen of 10,000, \$10 or a Cup.
 89 " half acre Broom Corn, " "

Statements must be furnished by applicants for premiums on field crops: 1st. Previous crop, if any, and how manured. 2d. The quantity of manure on the crop, the manner of its application, the quantity and kind of seed used. 3d. A detailed account of the expense of cultivation. 4th. A sample of the product must be presented at the exhibition. 5th. The land must be measured and the Surveyor make an affidavit to his survey.

VEGETABLES.

- 90 Best and greatest variety of Vegetables, raised by the exhibitor, \$10 or a Cup.
 91 do. imported Sweet Potatoes, Bermuda or Carolina \$5 or a Silver Medal.
 92 do. 10 heads of Kalo, - - - \$5 or a Silver Medal.
 93 2d do. do - - - \$3 or a Book.
 94 Best 12 stalks of Celery, - - - 3 do.
 95 do. 12 heads of Cauliflower, - - - 3 do.
 96 do. 12 white table Turnips, - - - 3 do.
 97 do. 12 Carrots, - - - 3 do.
 98 do. 6 table Beets, - - - 3 do.
 99 do. 12 Radishes, - - - 3 do.

- | | | | | | |
|-----|---|---|---|---|----------------|
| 100 | Best 12 Parsnips, | - | - | - | \$3 or a Book. |
| 101 | do. 6 heads of Cabbage, | - | - | - | 3 do. |
| 102 | do. 5 do. Lettuce, | - | - | - | 3 do. |
| 103 | do. 15 Tomatoes, | - | - | - | 3 do. |
| 104 | do. bunch double Parsely, | - | - | - | 3 do. |
| 105 | do. 2 purple Egg plants, | - | - | - | 3 do. |
| 106 | do. 12 Onions, (seedlings,) | - | - | - | 3 do. |
| 107 | do. 3 Squashes, | - | - | - | 3 do. |
| 108 | Largest Squash or Pumpkin, | - | - | - | 3 do. |
| 109 | Best bushel of Irish Potatoes, | - | - | - | 3 do. |
| 110 | Greatest variety of Irish Potatoes, at least half dozen of each kind to be shown, with account of peculiarities, and opinion as to the best kind or kinds, - - \$3 or a Book. | | | | |
| 111 | Best bushel of Sweet Potatoes, | - | - | - | 3 do. |
| 112 | Greatest variety of Sweet Potatoes, at least half dozen of each kind to be shown with account of peculiarities, and opinion as to the best kind or kinds, \$3 or a Book.* | | | | |
- Discretionary premiums will be awarded on choice garden products not above enumerated.

FRUIT.

- | | | | | | |
|-----|--|---|---|---|-----------------|
| 113 | Best 12 Peaches, | - | - | - | \$5 or a Medal. |
| 114 | 2d 12 do. | - | - | - | \$3 or a Book. |
| 115 | Best dish of Grapes, | - | - | - | 5 do. |
| 116 | 2d do. do. | - | - | 3 | do. |
| 117 | Best dish of Raisins, | - | - | 3 | do. |
| 118 | Best 12 Turkey Figs, | - | - | 3 | do. |
| 119 | do. 12 of any other variety, | - | - | 3 | do. |
| 120 | do. collection of Water Melons, not less than 5, | - | - | 3 | do. |
| 121 | do. specimen of any variety, | - | - | 3 | do. |
| 122 | do. collection of Mush Melons, | - | - | 3 | do. |
| 123 | do. specimen of any variety, | - | - | 3 | do. |
| 124 | do. 12 Oranges, | - | - | 3 | do. |
| 125 | do. 6 Lemons, | - | - | - | Silver Medal. |
| 126 | do. bunch Bananas, | - | - | 3 | do. |
| 127 | 2d do. do. | - | - | 2 | do. |
| 128 | Best 6 Mangoes, Downing's Fruit Culture. | | | | |

Volumes of Downing's and Thomas' Fruit Culture will be awarded by the Judges in their discretion, for choice fruits not enumerated.

The fruit and vegetables exhibited for which premiums are awarded are to be at the disposal of the Society.

No person can receive but a single premium on the same fruit.

Any premiums may be withheld in the discretion of the Judges, if the samples exhibited are not worthy of a premium.

For the person who shall plant and successfully start the greatest

number of Orange, Peach, Lemon or Mango Trees, or Grape Vines, between the Annual Fairs of 1854 and 1855, a Volume of Downing's Fruit Culture or \$3.

FLOWERS.

- | | | |
|-----|---|-----------------------|
| 129 | Best collection and greatest variety of flowers, | \$10 or a Cup. |
| 130 | 2d do. do. do. do. | a Medal. |
| 131 | Best Floral Design, | Pair of Vases. |
| 132 | do. Boquet, - - - - | Silver Boquet Holder. |
| 133 | For the most beautifully arranged basket
of flowers, - - - - | do. do. |
| 134 | Greatest variety of Roses. - - - | do. do. |

FARM IMPLEMENTS, ETC.

- | | | |
|-----|------------------------------------|------------------------|
| 135 | Best Harrow, domestic manufacture, | \$6 or a Silver Medal. |
| 136 | do. Cultivator, do. do. | 5 do. |
| 137 | do. Ox Cart, do. do. | 5 do. |
| 138 | do. Ox Yoke, do. do. | 5 do. |
| 139 | do. Churn, do. do. | 5 do. |
| 140 | do. doz. Brooms, do. do. | 5 do. |

DOMESTIC MANUFACTURES.

Articles exhibited to be the manufacture of the 12 months preceding the exhibition.

- | | | |
|-----|---|-----------------|
| 141 | Best machine for cleaning Coffee, | \$10 or a Cup. |
| 142 | do. 10 yards Woolen Flannel or woolen cloth of any kind, a
Silver Medal. | |
| 143 | do. 3 straw or grass Hats of native manufacture, | \$5 or Medal. |
| 144 | do. 3 Door Mats, do. do. | 3 do. |
| 145 | do. 3 Table, Floor or sleeping Mats, do. | 5 do. |
| 146 | do. pair of cotton knit stockings, - | \$5 or Diploma. |
| 147 | do. Linen Bosom Shirt, - - - | 2 do. |
| 148 | do. Ornamental Needle Work, - - - | - do. |
| 149 | do. Ottoman Cover, - - - | - do. |
| 150 | do. Worked Cushion and Back, - - - | - do. |
| 151 | do. Variety of Worsted work, - - - | - do. |
| 152 | do. Worked Collar and Handkerchief, - - - | - do. |
| 153 | do. 2 Lamp Stand Mats, - - - | - do. |
| 154 | do. Ornamental Shell or Wax Work, - - - | - do. |
| 155 | Best and most beautiful Lamp Shade, - - - | - do. |
| 156 | do. Bed Quilt, - - - | - do. |
| 157 | For the best barrel Salted Beef, - - - | \$5. |

Discretionary premiums will be awarded for articles not included in the above list.

Medals will also be awarded for articles of mechanical ingenuity, and machinery deemed useful.

In presenting the premium list for the exhibition in 1855, the Board of Managers would call the attention of the public to the numerous additions which have been made to the list of premiums, and which call for a large expenditure. Such changes and additions have been

made as the experience of former years has suggested as important, and they trust such as will meet the approbation of exhibitors.

REQUIREMENTS FROM COMPETITORS.

All exhibitors, except ladies, and natives who are members of auxiliary societies, paying their subscription fees into the parent Society, must become members of the society, in order to take a premium, and must have their articles and animals *entered on the Secretary's Books, not later than TUESDAY, JUNE 12th 1855.*

All articles for exhibition must be delivered to the Committees appointed for the reception and arrangement of articles as early as Wednesday morning, 9 o'clock, A. M., except flowers, which will be received until 10 A. M.

Horses and all other animals must be brought to the ground as early as 10 $\frac{1}{2}$, A. M.

Persons intending to exhibit are specially requested to forward their entries to the Secretary at the earliest date possible, as it will greatly facilitate the business of the show and the making of the preliminary arrangements necessary thereto.

Articles or animals removed from the ground before the close of the exhibition, (except by permission of the President) cannot receive a premium though awarded.

Articles and animals will be numbered as they are received, and not labeled as heretofore, and prize cards or flags will be attached to the successful articles or animals immediately after the decision of the Judges.

INSTRUCTIONS FOR THE JUDGES AND SUPERINTENDENTS.

The Judges will meet on the grounds precisely at 11 o'clock, on Wednesday, receive the list of entries, and then proceed to decide upon the merits of the different articles and animals submitted to them, reference being made to the numbers affixed to each.

A Superintendent will attend each set of Judges, point out the different articles and animals to be examined, and attach prize cards or flags to the successful articles and animals.

The Judges will report not only the animals entitled to premiums, but also those *next in merit* in each class, to meet the contingency of any objection that may be made to the awards. They will also report any animals which in their opinion deserve special commendation.

In all articles on exhibition where competition is not made, the Judges *shall withhold premiums*, unless the article is of such superior merit as to be entitled to the award.

In all cases the *Diploma* of the Society is to be awarded *ONLY as evidence of SUPERIOR MERIT.*

Animals, implements and articles which have heretofore received the first premium of the Society may be allowed to compete, and if adjudged superior to any other on exhibition, will be awarded the *Certificate* of the Society to that effect, or the *Diploma* of the Society, at the option of the exhibitor.

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