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# ANNUAL REPORT

OF THE

## DEPARTMENT OF AGRICULTURE

FOR THE

YEAR ENDING 30<sup>TH</sup> MAY, 1889.

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REPORT OF THE UNDER SECRETARY FOR AGRICULTURE.

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ANNUAL REPORT

1880

DEPARTMENT OF AGRICULTURE

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REPORT OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

BY

JOHN R. WILSON, CHIEF OF BUREAU

# ANNUAL REPORT OF THE DEPARTMENT OF AGRICULTURE FOR THE YEAR ENDING 30TH MAY, 1889.

TO THE HONOURABLE THE SECRETARY FOR PUBLIC LANDS.

Department of Agriculture,  
Brisbane, 30th May, 1889.

SIR,—I have the honour to submit for your consideration the Annual Report upon the working of this Department, and in so doing to express my regret that, owing to the severe drought from which the colony has suffered for so long, and from which it is only just emerging, the results are below what I anticipated.

**DROUGHT.**—It is generally admitted that no such drought as that we have passed through has ever before been experienced in this colony, so wide and far-reaching has it been in the disastrous results which have arisen from it; the agricultural, pastoral, and commercial industries having all suffered.

Numerous instances of the effects of the drought have come under the notice of this Department; in some cases, farmers who have purposed bringing a larger area under cultivation have been prevented by the hard and baked condition of the land from breaking up the soil, in others, the land has been ploughed and prepared, the seed has been sown but failed to germinate, and again the seed has germinated, the blade showing itself above the ground only to perish. Pastoralists have suffered immense losses in sheep and cattle, while commercial life, which to a great extent depends upon both agriculturists and pastoralists for its existence, has been paralyzed. The drought has not, however, passed away without, I believe, teaching a valuable lesson to those who live directly from the soil. The rainfall throughout the colony is quite sufficient for all our requirements, if proper steps towards conservation were taken. In anything like a favourable season, plant life is so vigorous that large supplies of fodder could be secured in the form of hay and ensilage, and many, who never before thought of saving hay, have made up their minds to be more provident in future, and since the breaking up of the drought a number of farmers are making ensilage, some by the stack system, others by the old silo process. In addition it has been proved that there are large underground supplies of water, which only require to be tapped to provide that element so essential to all conditions of life, pure water. In many places dams and tanks are being constructed and boring and well-sinking are being carried on.

**FODDER PLANTS.**—With a view to increasing the varieties of fodder plants grown in the colony, an order was sent during last year to Messrs. Vilmorin, Andrieux, and Co., of Paris, for a variety of seeds a list of which will be found in Appendix A.

These seeds came to hand at the commencement of the present financial year, and were placed in the hands of trustworthy persons, some of whom prepared the ground with great care, and planted the seed, but in most cases the drought was fatal to any growth. Some of the recipients of the seed did not sow, but retained it until the present season, which has turned out to be favourable, and from whom a report will be received at a later date. Mr. J. Henderson, of Tambourine, who experimented with all the seeds received by him, succeeded with some, but failed with others, owing to the dry weather.

*Benicasa cerifera*.—With the fodder plants a small quantity of this edible gourd was ordered, and the result has fully justified expectations, notwithstanding the dry season; several farmers to whom seeds were given have been most successful in the cultivation of this plant, which is new to this colony, and which I believe will prove to be most valuable, both as a vegetable and as a fruit for cooking and preserving.

WHEAT.—The past season was fatal to the growth of this cereal.

As stated in my last annual report 32 bushels of rust-resisting wheat were purchased from Messrs. Joyce Bros., of Cregmore, Dalby, 22 bushels of Mexican wheat from the School of Agriculture, Dookie, Victoria, for distribution amongst the farmers, and one bushel of Ward's Prolific wheat was generously given by Mr. Ward, of Netherby, South Australia, for the same purpose. These wheats were distributed in 200 different parcels; the reports upon their growth, received by this Department, from the recipients show that in no case is whole success reported, but 38 returns show partial success (*see* Appendix B.); 67 returns show failure through drought; 71 returns show that seed was not planted owing to season; 24 returns have not been received. The above return gives but a faint idea of the severe season through which our farming community has passed, when from two hundred reports none show a full success, and only one-fifth a partial success.

In my last report mention was made of an order forwarded to Messrs Vilmorin, Andrieux, and Co., for a supply of Egyptian wheats, but instead of fulfilling the order as directed, a quantity of the varieties grown upon the shores of the Mediterranean Sea was sent, which arrived too late for last sowing, even had the season been favourable; they were, however, carefully preserved, and have been distributed for the present planting. Upon finding that my order had not been fulfilled, I again wrote Messrs. Vilmorin, Andrieux, and Co. to send some Egyptian wheats of those varieties grown in the Nile Delta, in response to which letter eight different varieties have been received and placed in reliable hands for trial, a sample of each variety being forwarded to the State Nursery, Mackay.

MEXICAN WHEAT.—Mr. Thompson, the Principal of the School of Agriculture, Dookie, Victoria, in his report upon the experiments made with this wheat in that colony, speaks most unfavourably of it; but in this colony, so far as it has been tried, the result is quite different—with only one exception those who succeeded in obtaining even part of a crop report upon it as being suitable to the district, with a probable yield of from 30 to 40 bushels per acre.

PURPLE STRAW.—Ten bags of this wheat were purchased from the School of Agriculture, Dookie, Victoria, and disposed of to farmers at a price just sufficient to cover the cost of introduction. This wheat

was originally obtained from the Hon. J. H. Angas, of South Australia, where it weighed 69 lbs. per bushel, and was awarded a £50 cup at the Royal Agricultural Society's Show, South Australia. The same wheat grown at Dookie obtained Goldsborough's £40 cup for the best twenty bags of wheat grown in the North Eastern District in 1880, there being thirty-four competitors.

**CHAMPLAIN HYBRID WHEAT.**—Ten bags of this wheat were also obtained from Dookie, Victoria, and were disposed of in the same manner as the Purple Straw. This is a rust-resisting wheat that is good for milling purposes, stands the dry weather remarkably well, and gives plenty of straw.

**STEINWEDEL'S EARLY PROLIFIC WHEAT.**—Only 2 bushels of this wheat could be secured, the run upon it in Victoria being so great that the whole crop was bespoke before the order from this Department reached Dookie. In March, 1887, three quarters of a bushel of this seed was procured by the Victorian School of Agriculture from South Australia, and sown on one acre of land, the yield from which was 32 bushels of excellent grain. The Editor of the *Observer*, Adelaide, after inspecting this season's crop of Steinwedel's wheat at Dookie, wrote: "This wheat, which at the beginning of November was 5 feet high and ripe, would yield 35 bushels and give 2½ tons of straw per acre." No other crop was then growing above a foot high within 50 miles.

**CHORO-GI** (*Stachys tuberifera*), referred to in my last report, was supplied by Messrs. Cocking and Co., of Yokohama, Japan, and has been distributed throughout the colony, a list of the recipients of which is attached.

This tuber is looked upon as a great culinary delicacy by the Japanese, and I am of opinion that it will grow well in this climate. The tubers arrived in good condition, are now making vigorous growth, and will soon give returns.

**MELON.**—Kolb's Gem, received from the Department of Agriculture, Georgia, U.S.A., has proved a great success, nearly all who have grown them speaking in high terms both as to yield and flavour. One specimen, weighing 51 lbs., grown by Mr. D. Jones, of Redbank Plains, near Ipswich, was shown by this Department at the Warwick and Stanthorpe shows. This is, doubtless, a valuable acquisition to our melon tribe.

**GIANT HONDURAS SORGHUM.**—The seed of which was supplied by Mr. J. Henderson, of Tambourine, has proved to be very valuable as a fodder plant both for cattle and horses. The returns to hand show that it has been a great success, thriving vigorously even during the dry season.

**JAPANESE FLOUR MAIZE.**—I am unable to report much about this plant, the last season being very unfavourable to its growth, some farmers reporting a fair yield, others are doubtful about it; but I hope to be able to give a more definite account in my next report.

**ORANGES.**—Reference was made last year to an orange grown in Nepaul, India. The steps taken to secure seed have been successful, a small supply having lately come to hand, and have been placed in the hands of those possessing a knowledge of orange culture.

Mr. Gibson, of Ceylon, from whom the seeds were procured, speaks very favourably of the tree, which is wild, and, so far as is

known, a native of Nepaul. It is a very profuse bearer, the fruit being in size between a mandarin and jaminaram orange. The fruit is brought by the Nepaulese over the frontier for sale in India, where it is sold at the rate of 200 for one rupee. The flavour of the fruit is said to be delicious.

**BAHIA NAVEL ORANGE.**—Two wardian cases have just reached this Department, each containing one dozen of healthy young Bahia navel orange trees, obtained from California through the Department of Agriculture, Washington. These oranges have a great reputation in America, one report stating that if the American Department of Agriculture had done nothing else for the States than to introduce this orange, it had repaid the expense incurred in maintaining it. Care has been taken in distributing them to place them with such persons as are known to be well qualified to propagate, so that in a short time this fruit will have a fair trial in the colony. The contents of one wardian case have been distributed in the southern part of the colony, and the contents of the other have been forwarded to the northern part.

The Bahia navel orange is not to be confounded with the navel orange already grown in these colonies. The Californians have tried the navel orange grown here, but have not found it to be a success. It is quite possible of course that it will not be a success everywhere it is tried, but if successful in one or two places, it will, doubtless, soon repay the cost and trouble of introduction. As its name indicates, this orange originally came from Bahia in Brazil, whence it was introduced into America in 1870.

**OLIVES.**—The attempt made by this Department to get our agriculturists to take an interest in olive growing was made at a most unfortunate time, the dry season setting in just as the truncheons were distributed proved anything but conducive to success; nevertheless in some cases the truncheons have started a growth, and the present favourable season will, doubtless, enable them to obtain a fair hold upon the soil, and possibly this Department will be in a position to report more favourably next year.

**RAMIE (*Boehmeria nivea*).**—A number of our agriculturists, principally in the North, and especially in the vicinity of Mackay, have recently turned their attention to the cultivation of this fibre plant. Application having been made to this Department for a supply of plants and seeds, a number of plants were kindly supplied by the Acclimatisation Society, and a quantity of seed was purchased. The plants were forwarded to Mr. Henderson, of Tambourine, and the seed to the Land Agent, Mackay, for distribution, a list of the recipients of which is appended. Mr. McInnes, of Mackay, writes that the seed has freely germinated, and is growing splendidly in the vicinity of the Marion Mill, Mackay. The crop will be sufficient to plant from thirty to fifty acres in about two months' time. A Death's decorticating machine has been imported, and the production of fibre will be tried.

As the successful treatment of this fibre has not yet been clearly demonstrated, I have compiled a pamphlet giving all the latest information on this subject, extracted from the bulletins issued from the Royal Gardens, Kew.

**RIPARIA.**—A small parcel of the seeds of this vine was kindly placed at the disposal of this Department by J. Mackenzie Shaw, Esq., and have been placed in the hands of some of our viticulturists. This



is the Riverbank grape of the Americans, is a native of that country, and is largely used both in Europe and America as a resistant stock on which to graft European varieties. In view of the probability of a visit from the dreaded phylloxera, it is well that our viticulturists should be armed with resistant stocks. Some of the seeds have germinated, and will in due course provide plants for future operations.

**COTTON.**—There being evidence of a revival of the cotton industry in the West Moreton District, steps have been taken to secure a supply of cotton seed from the Department of Agriculture, Georgia, U.S.A.

**SUGAR.**—Notwithstanding the low prices still ruling for sugar, and in the face of the late disastrous season experienced at Mackay, one of the chief centres of this industry, it is reassuring to learn that an increased area has this year been put under cane, Bundaberg having an increase of 500 acres; Mackay, 700 acres; Ingham, 2,600 acres; Geraldton, 1,200 acres; Cairns, 100 acres; and Cooktown, 250 acres. Early in the present year the Colonial Sugar Co. advised this Department that a disease called "sereh" was proving most disastrous to the sugar industry in Java, and that it was reported that a quantity of cane plants were then on their way to one of our northern ports. Communications were opened with the Planters' Association at Maryborough, Bundaberg, and Mackay, desiring their opinion as to whether the importation of cane plants from Java should be prohibited, and the unanimous opinion was that preventitive measures should be taken.

As the prevention of the introduction of any disease likely to affect such an important industry was considered to be most imperative, action was accordingly taken, so that at present our ports are closed to the importation of cane plants from Java.

**PRICKLY PEAR.**—This cactus, which was at first introduced as an ornamental plant, has now become a perfect pest, and may well be classed among the noxious weeds. With a view to something being done towards its eradication, 100lb. of Messrs. Taylor, Murchison, and Sharpe's scrub exterminator were purchased, and experiments carried out on a piece of waste land on the Brisbane River, the conditions being greatly against the experiment. I cannot report a success, but a proportion of the exterminator was forwarded to Mr. W. Winks, of Mount Flinders, near Ipswich, who applied the preparation to some prickly pear that had completely overrun a paddock belonging to him, and in his report upon his experiments expresses his gratitude to this Department for directing his attention to such an efficacious means of clearing his land from such a pest.

The large patch of prickly pear in close proximity to Jondaryan railway station being in a good position for experiments, I asked the Jondaryan Divisional Board to carry out experiments, which they consented to, and in accordance with their wishes a quantity was forwarded to Jondaryan; and although repeated letters and telegrams have been forwarded asking for information as to the result of the experiments, no report has been received.

**STATE NURSERIES.**—As an outcome of my visit to the Northern parts of the colony during last year, two State Nurseries have been established—one at Mackay, and one at Kamerunga, near Cairns.

**Mackay.**—For some time the weather would not permit of anything being done to start operations at Mackay, but since the breaking up of the drought active operations have been carried on—the whole

area of twenty acres has been securely fenced, overseer's quarters and other outbuildings have been erected, five acres of land have been thoroughly well ploughed and harrowed, and a competent man appointed as overseer.

Two wardian cases of plants have been received from Batavia, and besides numerous plants and seeds of economic value, including twelve Bahia navel orange trees procured from America, the names of which will be found in the schedule appended, have been forwarded from this office. Communications have been opened with India, China, Japan, United States of America, Singapore, New Guinea, and South Sea Islands, for a further supply, so that in a short time the Nursery at Mackay will be stocked with plants.

The success that has attended the initiatory steps in connection with this Nursery is largely due to the hearty co-operation of the Land Commissioner and Land Agent at Mackay.

*Kamerunga.*—At Kamerunga, near Cairns, an area of twenty acres of scrub land has been surveyed, but the work is not in such an advanced stage as at Mackay, the wet season setting in before the contracts for felling and burning-off the scrub and for building the overseer's quarters could be accepted; tenders for both contracts have, however, been let, and it is fully expected that early in the coming spring the ground will be ready for planting.

In addition to the raising of trees and plants of economic value in these nurseries, experiments will be carried out with the object of finding out what crops are suitable to the district, and also in determining the adaptability of the soil to the raising of certain crops, and in testing the relative value of manures.

**TEST STATIONS.**—Besides the State nurseries it is intended to enter upon the establishment of experimental fields or test stations in various parts of the colony. In a country of such vast dimensions as this, and with such a variety of soil and climate, the adoption of a system of test stations must result in great good to the agriculturists, as by this means the capabilities of the soil in any given part of the colony can be thoroughly tested.

These test stations will be formed on the lands of intelligent and industrious farmers, who will be asked to set apart a small area of their land for the use of the Department; the labour necessary for the cultivation of the plants will be given by the farmer, the Department supplying the seed and whatever fertilising agent the soil may be destitute of, and, as a reward for the labours bestowed, the farmer will get the crop—the farmers in the neighbourhood, moreover, profiting by the experiments. This system, I submit, can be carried out at a comparatively small cost to the Department, and will be found to be of incalculable benefit, especially in our older farming districts, where the land has to a certain extent become exhausted.

**TRAVELLING DAIRY.**—Upon it being decided to establish a travelling dairy in this colony, inquiry was made of the Department of Agriculture, Melbourne, for all possible information relative to the travelling dairy at work in that colony, and the source whence the plant was obtained. Messrs. Bartram and Son, of Melbourne, having been recommended by the Secretary for Agriculture, Melbourne, as having supplied the plant in use in that colony, a complete plant was purchased from that firm, and in due course arrived in this colony in

charge of Mr. Baron Jones, lately assistant to the dairy exhibited at the International Exhibition, Melbourne, and who has been appointed manager of the travelling dairy in Queensland.

Communications had been previously entered into with the various Agricultural and Pastoral Societies, desiring their co-operation in working the plant. Some of the societies expressed their willingness to afford every facility and do all in their power to assist this Department; others were in doubt as to being able to meet our requirements; and others did not seem to be in any way anxious for the dairy to visit their districts. The plant has now been worked at Tallebudgera, Oxenford, and Beenleigh—ten days at each place—and great interest has been evinced by the farmers in both localities; great satisfaction has also been expressed at the plan adopted by this Department in allowing each Agricultural Society to nominate not more than five pupils, either male or female, to receive a special course of instruction from the manager. This privilege has been eagerly availed of, and as an instance of the results of the instruction received, one of the pupils at Oxenford, who had never before seen a cheese made, after a few lessons from Mr. Jones was able, even with the crude appliances to be found in her own home, to produce a cheese that, so far as appearance goes, would be creditable to an experienced dairymaid. Thus, early evidence is forthcoming of the immense benefit that will result from the operations of the travelling dairy.

From the Statistical Returns for 1887 it will be found that during that year 721,408 lb. of butter, and 1,307,562 lb. of cheese, were imported, which could all be manufactured in this colony, and which opens up a large field of profitable occupation for our dairying community.

The dairy having only been at work in three places it may, perhaps, be too early to speak authoritatively as to the relative richness of the pasture land of this colony in comparison with that of other places, as proved by the quantity of butter and cheese from any given quantity of milk, but I feel confident that when full statistical information can be compiled, it will be found that the dairying capabilities of this colony will vie with those of any other part of Australasia.

A return showing the daily operations of the dairy at Tallebudgera and Oxenford will be found appended, but this being quite a new branch in this colony, and experience thereof being limited, the returns may be found to be somewhat incomplete, but further insight will doubtless supply a remedy for any defects there may be.

“QUEENSLAND GUIDE.”—The editions of this work referred to in my last report have been distributed; the illustrated edition, consisting of one thousand copies, has been disposed of as follows:—Five hundred copies were forwarded to the Agent-General in London for distribution, the remainder being distributed through the United States of America, the Southern colonies, and the Melbourne Exhibition.

Two thousand copies of the non-illustrated edition have been distributed within the colony, and so many inquiries have been made since the supply has become exhausted, that it might be advisable to issue a second edition, giving further information.

EXCHANGES.—Exchanges of seeds and specimens have been made with kindred Departments of Agriculture in America, Africa, and Victoria, and as this Department gets into communication with other countries, these courtesies will doubtless be largely availed of.

VILLAGE SETTLEMENTS.—During the past year inquiries for Village Settlements have been numerous, and every information as to locality, markets, nature of soil, water, access to land, &c., has been given to applicants.

BAMBOOS.—Eleven different varieties of Bamboos, entirely new to this colony, were secured by Sir Thomas McIlwraith during his recent visit to Japan, and have been placed at the disposal of this Department. They will be placed in the various Botanic Gardens of the colony for propagation.

INSTRUCTOR IN AGRICULTURE.—The Department of Agriculture, Washington, have not yet recommended a gentleman for the position of Instructor in Agriculture in this colony, the latest information on the subject, extracted from a newspaper cutting, being to the effect that a large number of applications had been lodged in Washington, and that the Commissioner would shortly make a selection. It is to be hoped that this position will shortly be filled, and by a gentleman possessing a knowledge of agricultural chemistry, and thus the successful working of this Department would be promoted in a marked degree.

BOTANIC GARDENS.—These gardens have lately been placed under this Department, and Mr. Phillip McMahon has been appointed Curator.

As the change in the management of the Gardens is of such recent date, it is not possible to report upon the working of this establishment in this report.

CORRESPONDENCE.—The correspondence for this year shows a marked increase over the past year, the inward correspondence numbering 2,023 letters, and the outward correspondence numbering 4,061 letters.

I have, &c.,

PETER McLEAN,  
Under Secretary for Agriculture.

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Colonial Botanist's Office,  
Queensland Museum, 25th March, 1889.

SIR.—I have the honour to forward the following report of work done during the past year, state of Botanical Library and Queensland Herbarium, &c., in my charge. As one of the Commissioners appointed to collect and prepare exhibits for the Centennial International Exhibition held in Melbourne, I devoted much of my time to the work, being anxious that Queensland should not, if I could help it, come behind any of the other colonies in her exhibits derived from the indigenous vegetation. The shortness of time—only six months—left to the Commissioners for the work of gathering together an illustrative collection of the colony's products, however, prevented that full display of our natural resources which might have been obtained had more time been allowed for the work. However, as it was, the colony had no need to be ashamed of what she sent, while she has every reason to complain at the smallness of space allowed for the display of the articles sent. Our exhibit of indigenous woods, which comprised 537 kinds, is probably the most varied and valuable ever seen from a single British colony, and, I am glad to say, was duly appreciated by visitors

to the exhibition. It will be understood that this large number of woods could not have been collected and prepared in the short time allowed for collecting the exhibits; but when preparing the wood exhibit for the Colonial and Indian Exhibition, I had a duplicate lot prepared, thus giving a start for the present exhibit, of 462 kinds. I have again had each fresh kind prepared in duplicate, so that a set of these fresh kinds may be forwarded to Europe to augment the collection there which I believe has been handed over to the Imperial Institute. It may not be generally known that in Queensland we have about 900 different kinds of woods, or, say, an equal number to that of India, and far in excess of any other country. Seeing this I would urge upon the Government the desirability of devoting some small vote towards the expense of carrying on the work of collecting and preparing as full a collection as possible of our indigenous woods upon the same plan as already begun; and also that experiments may be carried out to prove their adaptability for various kinds of work. As with woods, so with grasses, Queensland stands unrivalled in point of number and nutritious kinds. Although the time was short for the work, I prepared a mounted exhibit containing 162 kinds, a number never before equalled at an Australian exhibition. Of both the woods and grasses I prepared full descriptive catalogues which, after fulfilling the requirements of the exhibition, will be useful works of reference on the subjects. While on this matter I may express a hope that at some of the State Nurseries now being formed, that as many as possible of our indigenous grasses may be grown, and as opportunities occur practically tested, and besides grasses other native plants may also be brought under cultivation with a view to testing their medicinal or economic properties; all work of this kind being entirely given up in our public gardens, it becomes absolutely necessary that it be taken up by the Agricultural Department, and especially so as the work can so easily be carried out at these State Nurseries.

The excellent collection of economic plants which I collected here, and afterwards arranged in a conservatory at the Centennial Exhibition, proved one of the most instructive and attractive of our exhibits. The plants, however, suffered much at first from the cold, as the conservatory could not be supplied with artificial heat. The pamphlet also which I prepared, giving a sketch of all the plants of an economic character at present in the colony, has been eagerly sought after, both here and at the Exhibition, as it forms a ready work of reference on the subject.

Although I have by letter drawn special attention to the want of accommodation for office, library, herbarium cabinets, and museum specimens generally where I am at present located, I beg leave again to draw attention to the subject, as a museum of the products of the vegetable kingdom is one of the most important features in a Department of Agriculture, and more especially here where there is no botanic garden with its attendant museum of economic botany. I may be allowed to say that to attempt to amalgamate specimens of economic botany at museums for geology, zoology, and other branches of natural history is a mistake now seldom committed, as it has not been found useful or convenient. I take this opportunity of again asking that additional books may be added to the botanical library. Previous to my appointment a yearly vote was passed for this purpose, but I am sorry to say very little money has been devoted to the purpose since,

and at the present additional works and volumes to works already in the library are greatly needed for reference. As no vote was available to meet the expenses of collecting herbarium specimens of our indigenous flora, no special collections have been added to the herbarium; still it has been steadily increased by the number of specimens which have been forwarded for determination, &c., and it has been further enriched by packets which I obtained while in the southern colonies in connection with the Centennial Exhibition. The second supplement to the "Synopsis of the Queensland Flora," also a second supplement to the separate classified index of our native plants, have been published, in which are recorded all the plants found to occur in Queensland since the publication of the former parts of the work—thus the public have been fully kept up with a classified account of the plants of the colony.

The following fungus blights have been noticed to interfere with the growth of plants, viz.:—

**PUCCINIA HELIANTHI**, Schw.—As far as Queensland is concerned this blight was only known to occur at Ipswich previously; this year, however, it was very bad on the sunflower plants growing in Albert Park, while the plants in the adjoining reserve (Wickham Terrace) were perfectly clean. This shows the blight to be spreading, and in the event of the sunflower being grown largely for its seed may interfere with the profit derived from the crop; care should therefore be taken to keep it in check.

**CEREBELLA ANDROPOGONIS**, Ces.—The inflorescence of the bunch-spear grass (*Heteropogon contortus*, Roem and Schutt.) received from Gladstone was found to be infested by this fungus. This is also the first appearance of the plant in Queensland. It is found on the Andropogons and Ischœmums in Italy, according to Saccardo Syll. Fung.

**CEREBELLA PASPALI**, C. & M.—On a low-lying flat near the Pine River, of some acres extent, the fruiting panicles of one of our native grasses, *Paspalum scrobiculatum*, was observed to be badly infested with this curious fungus.

**UROMYCES PHYLLODIÆ**, Cooke and Masee.—This new fungus was very bad on the hickory wattle (*Acacia aulacocarpa*, A. Cums.), the phyllodia on some trees near Brisbane being nearly destroyed.

**UROMYCES AMYGDALI**, Cooke.—This blight, which often destroys the peach foliage towards autumn, was noticed to affect the trees in the early part of the summer.

**GRAPHIOLA PHŒNICES**, Poit.—The date and other palms in cultivation had a very sickly appearance from the prevalence of this fungus on their foliage.

**PHYLLACHORA ALPINIÆ**, C. & M.—The scrub plant called native ginger (*Alpinia cœrulea*) was observed to be more than usually infested with this blight, which in after years may be found to interfere with the cultivation of ginger and other scitamineous plants. It would be well, therefore, where such are cultivated, to examine adjacent scrubs and destroy all blighted *Alpinia* to prevent, if possible, the spread of the fungus.

**PHYLLACHORA ASPIDEA**, Berk. and Br.—This fungus, which was first found on the foliage of *Ficus repens*, at Ceylon, was received from Mr. J. Keys on the leaves of one of our native figs from Bundaberg.

**CAPNODIUM AUSTRALE**, M. Some Cycads under palm trees in the Botanic Garden were allowed to be so densely covered by this black sooty blight as to become quite unrecognisable, and the ground for some distance around was also so blackened by the fallen fungus as to give one the idea that soot had been used in a careless manner for manure.

**SPHÆROTHECA PANNOSA**, Lév. Again this cobwebby blight was allowed to overrun the rose bushes in the Botanic Garden, when at its early stage the application of a little sulphur might have kept them clean. Phoma of this genus, several species, have been observed, some proving new. These have been named by Dr. M. C. Cooke, the celebrated mycologist, who since the death of Mr. C. E. Broome, of Bath, England, has undertaken the determination of plants of this order for me.

**P. DIPLOGLOTTIDIS**, C. and M., and **UROMYCES DIPLOGLOTTIDIS**, C. and M. These new species were found on the prinnæ of the native Tamarin E (*Diploglottis Cunninghamii*, J. D. Hook.) trees at Wolston Scrub; the foliage was so much affected that the trees were nearly leafless. In after years this fungus may likely attack the Litche and other fruit-bearing trees of Sapindaceæ.

**P. PLAGIA**, C. and M. A new species observed of palm plants from the Daintree River.

**P. CORDYLINES**, Thum. First found on the lily palms, now on the leaves of *Crinum pedunculatum* in cultivation.

**P. GRAMINIS**, Vitt. On grass specimens received from Ayrshire Downs.

**SEPTORIA OLEANDERINA**, Sacc. This was observed for the first time in Australia on the oleanders in a garden on Gregory terrace. It also affects the foliage of the oleanders in Europe, hence the specific name.

**ASTEROMA ROSÆ**, DC. On leaves of the rose bushes, Brisbane Botanic Garden.

**CLADOSPORIUM HYPOPHYLLUM**, Fckl. In the same garden this was gathered on the foliage of a climbing plant, a species of serjania. This same fungus, we are told by Dr. Saccardo, affects the leaves of the common Elm (*Ulmus campestris*) in Europe.

**MACROSPORIUM PEPONICOLUM**, Rabh. Some Pawpaw fruit received from Mackay were so badly affected with this fungus as to be useless for forwarding to the Centennial Exhibition, for which they were intended. In several parts of Europe this fungus attacks the fruits of the pumpkin and melon family, hence Rabenhorst's specific name for the plant.

**MYRIOCEPHALUM CASTANOSPERMI**, C. and M. The Bean Tree (*Castanospermum australe*, A. Cunn.) foliage was very much affected with this new blight fungus; indeed some of the trees lost nearly all their leaves in the early part of the summer.

**MELIOLA AMPHITRICA**, Fries. As usual was found too abundant on many scrub shrubs.

**ASTERINA EPIXIRA**, Berk. Was bad on the foliage of some trees near Brisbane of (*Mallotus philippinensis*, Muel. Arg.) the Kamela tree, or, as the natives call it, Poodge-poodgera.

**ASTERINA PELLICULOSA** was also very bad on the foliage of scrub shrubs.

It will be seen that only those blight-fungi are recorded which have come under my observation on the vegetation in the Brisbane district, with a few others which have reached me from more distant localities; on herbarium specimens; and on fruit forwarded to Brisbane for sale or otherwise. I regret that it has not been in my power to visit more distant growing crops, so as to have recorded, if any were found, the various fungi-blight affecting them. The cereal crops, from all I hear, have been less affected than in former years by the destructive red rust (*Puccinia graminis*, Pers.), and other blight-fungi, and the grapes have been less affected by the oidium and other enemies of this nature; the banana fruit arriving in Brisbane has been almost clear of the *Glæosporium musarum*, which a few years ago caused it to be so dry and tasteless.

Being constantly applied to for the botanical names of weed plants, I have thought it might be advisable to give here a list, with notes, of some of the most troublesome kinds in pasture and cultivation, particularly such as are of spreading habit and not much eaten by stock, or if eaten not of so desirable a nature as the grass which they destroy. \* Noxious weeds which are spreading, or have spread to the detriment of pasture and annoyance of the cultivator, indigenous or introduced, might be inserted in any Act as noxious weeds to be destroyed:—

\* ARGEMONE MEXICANA, Linn. The Devil's Fig, Prickly Poppy, Yellow Thistle, or Mexican Poppy. This prickly plant has only become naturalised in a few localities, and does not seem likely to be much of a nuisance in this colony, but in New South Wales it is mentioned as injurious to stock.

LEPIDIUM RUDERALE, Linn. A weed only troublesome on cultivated scrub land.

POLANISIA VISCOSA, DC. A weed troublesome on some tropical farms; very sticky; not often eaten by stock so far as I have observed. *Malvastrum spicatum*, A. Gray, and *M. tricuspdatum*, A. Gray, called American mallows; *Sida subspicata*, F. v. M., and *S. rhombifolia*, Linn., called sida weeds, and *Madiola caroliniana*, Linn., the Carolina mallows, are all troublesome weeds in cultivation, but are not unfavourably looked upon by the stockholder.

WALTHERIA AMERICANA, Linn. Specimens of this plant have been sent me by a Northern Divisional Board as a noxious weed, but I should think it would be as freely eaten by stock as any of the sida weeds.

TRIUMFETTA RHOMBOIDEA, Jacq. Chinese Burr. Very troublesome about the tropical towns.

TRIBULUS TERRESTRIS, Linn. Caltrops. A prostrate spreading plant, troublesome in cultivation, and the fruits injurious to wool.

\* GASTROLOBIUM GRANDIFLORUM, F. v. M. Australian Poison-bush, Wallflower Poison-bush, or Heart-leaved Poison-bush. This, perhaps the only really bad poison plant in Queensland, is happily restricted to certain tracts of land, to which it will be well to keep it. To burn off is to make the locality more dangerous, for the young growth which springs from the roots offers a tempting bite to stock, and is much more dangerous than the older and drier foliage.

MEDICAGO DENTICULATA, Willd. Medic or Clover Burr. The fruit of this is most injurious to wool.



INDIGOFERA HIRSUTA, Linn. Hairy Indigo. A troublesome weed on scrub farms, produces much seed, and is useless as a fodder.

SWAINSONA GALEGIFOLIA, and others known as Darling Pea and Indigo. All considered dangerous to stock.

CÆSALPINIA SEPIARIA, Roxb. Mysore Thorn. This rampant rambling shrub usurps much of the good land bordering the river scrubs. *Cassia lævigata*, Willd., *C. Sophera* var. *schinifolia*, *C. australis*, Sims, and *C. occidentalis*, Linn., overrun much pasture and cultivation land, and by some have been considered poisonous to stock. The first and last are introductions, the two others are indigenous; all called senna shrubs.

\* OPUNTIA VULGARIS, Mill. Prickly Pear or Indian Fig. This plant which has monopolised so much of our Downs country is the most difficult of all introduced weeds to eradicate, and is being spread far and wide by birds and other animals feeding on its fruit.

AGERATUM CONYZOIDES, Linn. The Osari of Bombay. A soft but troublesome weed in some paddocks of Northern Queensland, seldom touched by stock.

\* XANTHIUM SPINOSUM, Linn. Bathurst Burr, or Clotbur. A rather too well-known prolific pest.

\* XANTHIUM STRUMARIUM, Linn. Noogoora Burr, small Burdock, or Cocklebur. This dreadful pest, now spread over the greater part of Southern Queensland, has proved fatal to cattle both here and in America.

SIEGESBECKIA ORIENTALIS, Linn. Herbe Devine. This tall soft-wooded plant is a troublesome weed on scrub farms, but is comparatively easily eradicated.

BIDENS PILOSA, Linn. Cobbler's-pegs or Blackfellows. Of similar growth to the last, and like it common on scrub farms.

TAGETES GLANDULIFERA, Schrank. Stinking Rodger. A very strong-scented troublesome tall weed of scrub farms.

\* CNICUS LANCEOLATUS, Linn. Scotch Thistle, Lance Thistle, or Bull Thistle, the well known pest of pasture and cultivation.

\* SILYBUM MARIANUM, Gært. The Virgin Mary's Thistle. This is the plant usually understood as Scotch Thistle in the Southern Colonies: we should be thankful that it does not take kindly to Queensland soil.

\* CENTAUREA MELITENSIS, Linn., and *C. SOLSTITIALIS*, Linn. Star Thistles. Two most troublesome pasture weeds; the first very common on the Downs country, where the fruit heads prove injurious to wool.

LACTUCA SCARIOLA, Linn. Prickly Lettuce. This weed has spread much in the Rosewood district, overrunning many of the farms, and is there considered to be injurious to cattle.

ASCLEPIAS CURASSAVICA, Linn. Red-head, Milky Cotton-bush, Madagascar Cotton-bush, and Wallflower Cotton-bush. This plant is now spread far and wide over the country, and is usually considered a poison-plant, but stock seldom browse upon it.

CUSCUTA AUSTRALIS, R. Brs., and *C. EUROPEA*, Linn. The Australian and European Dodders are parasitic plants which affect the lucerne and other crops.

SOLANUM NIGRUM, Linn.—The common small Black-fruited Nightshade. A very common weed of cultivation, by some considered poisonous to stock.

*SOLANUM SODOMEUM*, Linn. Apple of Sodom. A prickly plant, much spread over some pastures, with purple flowers and marbled fruit.

*SOLANUM ACULEATISSIMUM*, Dun. In growth somewhat resembling the last, but the flowers are nearly white and the fruit of a beautiful orange-red colour; both are most obnoxious to the pasture, and should be destroyed.

*SOLANUM ACULEASTRUM*, Dun. This is a much taller plant than the two last mentioned. It was introduced for forming hedges, but has now become naturalised in several localities, and a nuisance.

*DATURA LEICHHARDTII*, F. v. M. Native Thorn-apple. Confined to Tropical Queensland, where on some farms it is abundant, and considered poisonous.

*DATURA STRAMONIUM*, Linn. Mad-apple or Thorn-apple, a widespread poisonous weed, common on waste lands and old cultivation paddocks. It might be well for the bee-keeper to destroy all plants of this genus, as they have been supposed to impart poisonous qualities to honey collected from their flowers.

*NICOTIANA SUAVEOLENS*, Lehm. The Native Tobacco plant. This plant is sometimes very abundant on scrub farms, and has often been suspected of poisoning cattle.

*MARTYNIA FRAGRANS*, Lindl. The Scorpion Fruit. The long curved horns of the fruit of this curious plant are at times injurious to wood.

*LANTANA CAMARA*, Linn. Black Currant Shrub. This is perhaps the most troublesome of all our naturalised plants, as it occupies the land to the expulsion of all else. Mr. W. S. Campbell, speaking of this plant, Report on the Richmond River District, says: "On each side of the road from Wyralla to Lismore, and also for some miles around Lismore, hundreds of acres of land that had once been cleared of timber have become utterly useless from the spread of this shrub."

*VERBENA BONARIENSIS*, Linn. The introduced weed called Purple-top vervain and *T. officinalis*, Linn. The common indigenous vervains are two troublesome weeds in the pasture and cultivation paddocks.

*MARRUBIUM VULGARE*, Linn. The common White Horehound. This introduced plant is spread over some localities on the Downs, but is rather thought beneficial than otherwise on a sheep run.

*STACHYS ARVENSIS*, Linn. The Hedge Nettle. This common weed is often very abundant in old lucerne fields, and when eaten in quantity by stock is said to affect them like "staggers." It is, however, seldom met with far from cultivation.

*MOLUCCELLA SPIÑOSA*, Linn. The Molucca Balm. This is a spiny introduced plant from the Levant, and is slowly spreading over Downs country, and from its spiny character is not likely to be much eaten by stock, therefore will have every chance of becoming a nuisance.

*AMARANTUS PANICULATUS*, Linn. Prince's Feather. This and other of the genus, and allied genera, are troublesome weeds in the cultivation paddocks, but being freely eaten by stock may be made use of for fodder.

*CHENOPODIUM ALBUM*, Linn. The Fat Hen. This and other species of the genus and allied genera are troublesome weeds of cultivation, but of little moment as they can be utilised as fodder.

*PHYTOLACCA OCTANDRA*, Linn. The Red Ink-plant or Poke-weed. This plant, which has only been introduced now but a few years, bids fair to cause much trouble both to the agriculturists and pastoralists: some farms seem to be quite in possession of the pest; this is espe-

cially the case at the Rosewood. But from Mr. W. S. Campbell's account, it must be even worse on the Richmond River, for he says, "there it grows to such a height as to in places hide the settlers' houses."

*PIMELEA HÆMATOSTACHYA*, F. v. M. A poisonous plant, of from 1 to 1½ feet, fast spreading on some of the inland pastures.

*EUPHORBIA DRUMMONDII*, Boiss. Old Clark or Caustic Creeper. A troublesome poisonous weed, quickly spreading after rain in places where the grass is closely cropped.

*RICINUS COMMUNIS*, Linn. The Castor Oil Shrub. Doubtless a most useful plant, but too fond of occupying the rich lands bordering on rivers.

*CYPERUS ROTUNDUS*, Linn. The Nut-Grass. The too well-known pest of cultivation.

The following are the names of the principal persons from whom donations have been received and sent, and those with whom exchanges have been made of herbarium specimens, publications, &c., during the year:—

Anderson, W.	Maiden, J. H.
Baker, J. G.	Marshall, Jas.
Bancroft, Dr. J.	Martin, Mrs. W.
Bancroft, Dr. T. L.	Mills, Miss A. R.
Barclay-Millar, T.	Milman, Hugh
Bates, R. W.	Moffat, Jas.
Bernays, L. A.	Mueller, Baron von
Birch, C. W. de Burgh	Mueller, G. F.
Blackburn, Rev. Thos.	Mueller, Dr. J.
Brotherus, Dr. V. F.	Musgrave, A.
Brown, J. E.	Mussen, C. T.
Burton, R. C.	Naylor-Becket, J. W.
Campbell, Miss F. M.	Neame, Arthur
Carver, J.	Nordstedt, C. F. O.
Cooke, Dr. M. C.	Norton, Hon. A.
Cowan, A. M.	Peachey, E. W.
Coxen, Mrs. Chas.	Prentice, Dr. Chas.
Cranston, F.	Reader, F.
Crow, B.	Schneider, H.
Douglas, Hon. John	Schomburgh, Dr. Rich.
Everard, Mrs. C. J.	Sexton, R. E.
Fawcett, J. W.	Shirley, J. F.
Fletcher, Price	Simmonds, J. H.
Gordon, P. R.	Soutter, W.
Griffith, H. L.	Sprigg, Miss E.
Guilfoyle, W. R.	Tate, Thos.
Gwyther, H. M.	Tenison-Woods, Rev. J. E.
Hassel, Lloyd	Tepper, J. G. O.
Hedley, Chas.	Tryon, H.
Hockings and Co., Messrs.	Watkins, G.
Hodgson and Ramsay, Messrs.	White, T. E.
Hope, Miss M. A.	Wild, J. C.
Jones, A. P.	Williams, A.
Keys, Jas.	Woolls, Rev. Dr. Wm.
King, Dr. Geo.	Wilson, Rev. F. R. M.
Low, J. A.	

I have, &c.,

F. M. BAILEY,  
Colonial Botanist.

To the Under Secretary for Agriculture, Brisbane.

## APPENDIX A.

Fodder plant and other seeds of economic value received from Messrs. Vilmorin, Andrieux, and Co., Paris, and detailed in the accompanying statement, were placed with the following farmers for experiment—being equally divided according to climate:—

Messrs. Seally Brothers, Trelawny, Harrisville; Gore and Co., Yandilla; Slade, W. B., Glengallan; Hudson, B., Warwick; Kable Bros., Brightly, Mackay; Carrington, C., Herberton; Hamley, J., Upper Tent Hill, Gatton; Twine, W., Roma; Jones, D., Redbank Plains; Gulliver, B., Acacia Vale, Townsville; Clift, J., Warwick; Gregory, N. T. R., Toowoomba; Brennan and Gerahty, Maryborough; O'Kelly, P., Mary River, Maryborough; Tansey, M., Boonara; Henderson, J. B., Tambourine.

DESCRIPTION OF FODDER PLANTS, &C., OBTAINED FROM VILMORIN,  
ANDRIEUX, AND CO., PARIS.

1. Lotus Major.—Fodder plant suitable for moist land. The greater Birdsfoot trefoil of Europe.
2. Soja Hispida.—Native of Japan, East Indies, and Moluccas. Is a species of Dolichos, the beans of which are used for culinary purposes; an oil is also obtained from the seeds.
3. Soja Bean.—Description same as No. 2 (Soja Hispida).
4. Quinca Blanc. Native of Chili. A weed which may be used as a culinary vegetable.
5. Soja Hispida, black-seeded.—Same as Nos. 2 and 3.
6. Lotus Corniculatus.—The Horned or common Birdsfoot trefoil of Europe, India, and South Australia; said to yield a large quantity of herbage on poor land.
7. Eragrostis Abyssinica.—One of the Love Grasses. The "teff," of Abyssinia; the grain used for breadmaking.
8. Melilot Grand des bois.—Like the Bokhara Clover, a good fodder plant.
9. Hardy Lucerne.—Needs no description.
10. Cytisus Proliferus Albus Tagasaste.—A fodder plant suitable for light soil, from the Canary Isles; is a tall shrub which can be kept cut down, and thus treated produces a large quantity of fodder, and is recommended for dry localities.
11. Lotier Cultivé (Lotus tetroganobulus).—The winged Lotus is an annual, and is said to be good sheep pasture. The green pods are used as a culinary vegetable.
12. Panicum Fumentaceum.—From Tropical Africa and South Asia. The Shamalo or Deccan grass serves as a fodder.
13. Galega Officinalis, or Goat's Rue of Europe.—Will likely prove a useful fodder. At one time this plant was supposed to increase the supply of milk, hence the name.
14. Bokhara Clover.—Needs no description.
15. Clover Yellow Sand, Kidney Vetch.—Needs no description.
16. Luzern de Provence.—A variety of common Lucerne.
17. Northern Lucerne.—A variety of common Lucerne.
18. Benicasa Cerifera.—From India. An edible gourd used in making curries.

## APPENDIX B.

## RECORD of the PARTIAL SUCCESS of RUST-RESISTING SEED WHEATS distributed by DEPARTMENT of AGRICULTURE.

INDIAN WHITE WHEAT. *G. Kattling, Toowoomba.*—Half-acre sown with  $\frac{1}{2}$  bushel of wheat; soil, forest red clay, 2 feet in depth; reaped 2 bushels; is of opinion that wheat is suitable to district.

INDIAN WHITE WHEAT. *Hunter D. M., Pittsworth.*—Half-an-acre sown with  $\frac{1}{2}$  bushel of wheat; soil porous loam, 18 inches; reaped 1 bushel, rust appeared; in favourable seasons suitable to district.

INDIAN BEARDED WHEAT. *Vickers, W., Toowoomba.*—Soil, dark-brown loam; forest, 2 to 6 feet; wheat slightly rusted; owing to drought very little matured; is of opinion that it is a bad milling wheat.

INDIAN BEARDED WHEAT. *Vickers, W., Toowoomba.*—Soil same as previous report; owing to drought very little matured; suitable to district, and is of opinion that it is a good milling wheat.

INDIAN WHITE. *Vickers, W., Toowoomba.*—Soil same as previously; owing to drought little matured; slightly rusted; is of opinion better than two former wheats, Indian bearded and beardless.

INDIAN BEARDED. *Wittmann, J., Nanango.*—Soil, chocolate loam, 60 feet;  $\frac{1}{2}$  acre sown; yield 10 bushels per acre.

INDIAN BEARDLESS. *Wittmann, J., Nanango.*—Soil as before;  $\frac{1}{10}$  of acre sown; yield 7 bushels per acre; no rust.

INDIAN WHITE. *Wittmann, J., Nanango.*—Soil as before;  $\frac{1}{10}$  of acre sown; yield  $8\frac{1}{2}$  bushels per acre; no rust; is of opinion that all three wheats are suitable to district.

INDIAN BEARDED. *Robinson, A., Roma.*—Soil, sandy loam; subsoil, clay;  $\frac{1}{4}$  acre sown; yield 30 lbs.

INDIAN BEARDED, BEARDLESS, AND WHITE. *Fisher, jun., J., Roma.*—Soil red; 30 lb. sown, yield 3 bushels (1 each); suitable to district.

INDIAN BEARDED, BEARDLESS, AND WHITE. *Jones, D., Redbank Plains, Ipswich.*—Trace of rust on plants late in maturing, no trace on those maturing early;  $\frac{1}{4}$  acre sown; return  $\frac{1}{2}$  bushel; rainfall after planting 2.70in.; yield and growth suffered from insufficient rainfall.

## MEXICAN WHEAT:—

*Rose, J., Woombye.*—15 lb. received; part sown 20th April, 1888, part on 4th May, 1888; return 20 bushels per acre; suitable to district.

*McGahan, P., Emu Vale.*—15 lb. received;  $\frac{1}{4}$  acre sown; 1 bushel saved; suitable to district.

*Seitz, F., Roma.*—15 lb. received; soil, chocolate loam, 3 feet deep; no rust;  $\frac{3}{4}$  acre sown; return 2 cwt. 3 qr. 7 lb.; no rain from 13th May, 1888, to 15th August, 1888; suitable to district.

*Beck, C., Roma.*—15 lb. received; soil loam, 3 feet; subsoil clay;  $\frac{1}{4}$  acre sown; yield 30 bushels per acre; suitable to locality; has withstood drought better than any other kind.

*Lister, G., Roma.*—15 lb. received; soil, forest, heavy reddish loam; clay subsoil;  $\frac{1}{8}$  acre sown; return 65 lb.; no rust; seed looks well and will be planted again.

*Schmidt, E. C., Toowoomba.*—Soil loam, 4 inches; subsoil yellow clay; slight touch of rust; 15 lb. sown; yield 3 bushels; suitable to district.

*Nicholls, T., Gatton.*—Soil loam, 20 feet, with clay and sand subsoil; so much rust on plants that it had to be cut for green feed; was irrigated before sowing, but rust appeared before ripening.

*Kaufmann, F., Toowoomba.*—Soil loam, 4 feet; clay subsoil; 20 perches sown; yield 2 bushels; very bad season; is of opinion that it is suitable to district.

*Platz, J.*—Soil sandy loam, 4 feet; clay subsoil; a little rust, but grain was not affected;  $\frac{1}{4}$  acre sown; yield at rate of 12 bushels per acre; suitable to district.

*Blincoe, A., Gowrie Junction.*—Soil red, 12 inches;  $\frac{1}{3}$  acre sown; return 72 lb.; no rust; suitable to district.

*Breman, M., Redbank Plains.*—Forest land, 4 feet; subsoil limestone; no rust;  $\frac{1}{4}$  acre sown; return at rate of 8 or 10 bushels per acre; suitable to district.

*Wolstencroft, J., Maryborough.*—Scrub land, 8 inches; clay subsoil; slight appearance of rust, owing probably to dry weather;  $\frac{1}{4}$  acre sown; yield 112 lb.; sown 5th May, 1888; rainfall on ten different occasions equalled 5 inches; height when reaped on 20th October, 1888, 2 feet 6 inches; suitable to district.

*Johnson, G.*—Scrub land; no rust; saved enough seed to give another trial.

*Pillar, E., Toowoomba.*—Deep loam soil; no rust;  $\frac{1}{8}$  acre sown; yield at rate of 16 bushels per acre; suitable to district.

*Kaiper, C., Toowoomba.*—Red soil, 12 inches;  $\frac{1}{4}$  acre sown; in fair season think the seed rustproof, but straw very short.

*Geitz, H., Toowoomba.*—Red soil, 2 feet; loam subsoil; rust on plants; suitable to district.

*Knoblouch, L., Toowoomba.*—Red soil, 12 inches;  $\frac{1}{4}$  acre sown; yield 14 lb.; rust on plants; wheat sown two weeks after another species called "White Drake" was one inch above ground; ripened two weeks before latter, and had only 75 points of rain; suitable to district.

*Hermann, F., Toowoomba.*—Soil rich black loam; 15 lb. sown; return 62 $\frac{1}{2}$  lb.; splendid wheat; is confident that in favourable season would return 40 bushels per acre; no other seed sown by him matured.

*Hermann, H., Toowoomba.*—Soil loam, 1 foot; clay subsoil; 15 lb. sown in  $\frac{1}{3}$  acre; return 45 lb. of seed; no rust; only one shower of rain after sowing; suitable to district.

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## APPENDIX C.

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	
CHORO-GI ( <i>Stachys tuberifera</i> )— (Quantity to each person, 1½ lb.)		
Bowen ...	Feb. 26	Smith, R. H., Bowen
Bundaberg ...	" 26	Tekorzewski, Barolin Gardens
Brisbane ...	" 26	O'Connor, D., Oxley
" ...	" 26	Acclimatization Society
" ...	" 26	Weitmeyer, P. F. L., Mooloolah
" ...	" 26	Williams, —, Runcorn
" ...	" 26	Pink, E. C., Wellington Point
Dalby ...	" 26	Syms, W. E., Maida Hill
Ipswich ...	" 26	Jones, D., Redbank Plains
" ...	" 26	Cameron, C. C., Ipswich
Herberton ...	" 26	Land Agent, 4½ lbs. for distribution
Mackay ...	" 26	Land Agent, 4½ lbs. for distribution
Maryborough ...	" 26	Brennan and Gerahty, Maryborough
Rockhampton ...	" 26	Bugnion, F., Byfield, Yeppoon
Roma ...	" 26	Twine, W. R., Belivah
Toowoomba ...	" 26	Gore, F. A., Yandilla
" ...	" 26	McDowall, A., Toowoomba
" ...	" 26	Crow, B., Toowoomba
Townsville ...	" 26	Gulliver, B., Acacia Vale
Warwick ...	" 26	Briggs, A., Ellangowan
" ...	" 26	Allan, W., M.L.A., Dalveen
" ...	" 26	Hagenback, P., Freestone Creek
Stanthorpe ...	" 26	Land Agent for distribution.

KOLB'S GEM WATER MELONS—  
(Number distributed to each person, 6 seeds.)

	1888.	
Beenleigh ...	Oct. 27	Batten, C., Nerang
" ...	" 31	Dunn, W., Beenleigh
" ...	" 31	Grimes, S., Coomera
Brisbane ...	" 27	Lee, —, Zillmere
" ...	" 29	Moore, W., Milton
" ...	" 29	Abbott, H. P., Australian Joint Stock Bank
" ...	" 29	Gray, R., Colonial Secretary's Office
" ...	" 29	O'Connor, D., Oxley
" ...	" 31	Cowley, A. S., Ingham
" ...	" 31	Williams, —, Eight-mile Nursery
" ...	" 31	Henderson, J., Tambourine
" ...	Nov. 2	Britten, S., Ninderry, Gympie road
Bundaberg ...	Oct. 31	Rowland, J., Bundaberg
Cairns ...	" 31	Swallow and Derham, Hambleton
Cooktown ...	" 31	Dick, J., Cooktown
Dalby ...	" 31	Dun, H. P., Irvingdale
Ipswich ...	" 31	Jones, D., Redbank Plains
" ...	" 31	Moffatt, J., Harrisville
" ...	" 31	Hanley, J., Gatton
" ...	" 31	Philp, J., Gatton
Mackay ...	" 31	Perkins, G. J., Gaythorn, Mackay
" ...	" 31	Armitage, —, Mackay

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date orwarded.	Name and Address.
	1888.	

KOLB'S GEM WATER MELONS—*continued.*

(Number distributed to each person, 6 seeds.)

Maryborough	...	Oct. 31	Brennan and Gerahty, Maryborough
Port Douglas	...	" 31	Hart, D., Mossman River
"	...	" 31	Stewart, J., Daintree River
"	...	" 31	Montgomery, J., Daintree River
Roma	...	" 31	Twine, W., Roma
Toowoomba	...	" 31	Gore, F. A., Yandilla
"	...	" 31	Pentecost, H. L., Toowoomba
"	...	" 31	McDowall, A., Toowoomba
Townsville	...	" 31	Gulliver, B., Acacia Vale
Warwick	...	" 31	Slade, W. B., Glengallan
"	...	" 31	Margetts, Dr., Warwick

*Supplementary List.*

1889.			
Beenleigh	...	April 15	Castles, W., Loganholme
Bowen	...	Mar. 11	O'Connel, J. G., Bowen
Brisbane	...	" 11	Marshall, W. H. G., Town Hall
Cooktown	...	April 25	Hislop and Co., Wyalla, Bloomfield River
Ipswich	...	" 5	Smith, J. F., Lowood
Mackay	...	Mar. 11	Byrne, J., Mackay
"	...	" 22	Norris J. R., Mackay
Port Douglas	...	" 13	Montgomery, J. J., Daintree River
Warwick	...	" 11	Wilson, J., Ullathorne

## GIANT HONDURAS SORGHUM—

(Quantity distributed to each person, 4 oz.)

1888.			
Beenleigh	...	July 6	Ross, T., Beenleigh
"	...	Aug. 2	Davy and Gooding, Beenleigh
"	...	" 10	Walker, Mrs. A., Redland Bay
"	...	Sept. 5	Hope, G. A., Svatston Farm, Nerang
"	...	" 18	Taswell, —, Veresdale, Logan
"	...	Oct. 1	Learmonth, T., Beenleigh
"	...	Aug. 18	Dempsey, J., Kerry, Upper Albert
"	...	" 20	Stephens, W. H., Kerry, Upper Albert
Bowen	...	" 20	Simpson, I., Glen Islay
Brisbane	...	July 2	Sargeant, A., Zillmere Railway Station
"	...	" 6	Phillips, Rabbi, Brisbane
"	...	" 10	Proud, J., Broadwater Park, Southport
"	...	" 10	Franz, Mrs., Caboolture
"	...	" 10	Kennedy, D., Blackall road, Woodford
"	...	" 10	Buckle, I., Caboolture
"	...	" 12	Thorne, E., Coorparoo
"	...	" 12	Remington, R. P., Rosehill, Gympie road
"	...	" 13	McDonald, G. T., Focklea
"	...	" 16	Arnold, D. D., Cressbrook
"	...	" 16	Arnold, John, Ivory's Creek, Cressbrook
"	...	" 17	Murray, W. M., North Maclean
"	...	" 19	Goodwin, H., Mooloolah



APPENDIX C—*continued.*LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
GIANT HONDURAS SORGHUM— <i>continued.</i>		
(Quantity distributed to each person, 4 oz.)		
Brisbane	July 21	Ridley, T., Bald Hills
"	" 21	Hutchinson, W., Upper Oxley Creek
"	" 21	Lyons, W., Upper Oxley Creek
"	" 24	Cameron, D., Mooloolah
"	" 25	McDonald, Mrs., Remington, Gympie road
"	Aug. 2	Ives, W., Peachtrees, Coochin Creek
"	" 7	White, T., Mount Mee
"	" 7	Pearce, J., Mount Mee
"	" 9	Ferguson, W., Coomera River
"	" 16	Adams, W., North Maclean
"	" 18	Withers, M., Redhill, Coochin Creek
"	" 23	Dabbs, —, Coochin Creek
"	" 23	Bell, A., Meadows, North Pine
"	Sept. 13	Julian, J., Caboolture
"	" 13	Figgis, R., Caboolture
"	" 19	Barstoll, J., Downfall Creek
"	" 22	Petersen, F., Tingalpa Creek
"	" 27	Adamson, J. W., Caboolture
"	" 27	Malling, —, Caboolture
"	" 29	Rimmington, G., Tingalpa
"	" 29	Springfield, —, Mooloolah
Boulia	" 27	Police Magistrate
Bundaberg	July 9	Meier, G., Apple-tree Creek, Isis Scrub
"	" 10	Carolan, R., Tower Hill, Childers
"	" 30	Thompson, J., Childers
"	Aug. 31	Gahan, M., Arncliffe
"	Sept. 21	Atkinson, W. N., Watawa
"	" 29	Wallace, W. J. W., Gin Gin
"	" 29	Fleming, P. F., Gin Gin
"	" 29	Anderson, C., Apple-tree Creek, Isis
"	" 29	Amos, T., Littabella
"	" 29	Kulich, A., Childers
"	" 29	Laurisen, P. A., Gin Gin
"	" 29	Palmer, J., Littabella
Cairns	July 6	Leumann, A., Cairns
"	" 21	Monk, G. W., Cairns
"	" 21	Jucker, J., Russell River
"	" 21	Field, —, Russell River
"	" 28	Neilsen, N., Russell River
"	Aug. 31	Metcalfe, J. A., Barron River
"	Sept. 29	Hartill, J. A., Mulgrave road
"	" 29	Barkley, J., Barron River
"	" 29	Russell, J., Barron River
"	Oct. 6	Hoff, C. A., Formartine
	1889.	
"	Mar. 23	Morrison, M., Carrington
Cooktown	Aug. 21	Seidel, O. F., Cooktown
"	" 21	Wallace, C., Glenroe, McIvor R er

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	

GIANT HONDURAS SORGHUM—*continued.*

(Quantity distributed to each person, 4 oz.)

Cooktown	...	Aug. 21	Gorton, W. V., Sonata, McIvor River
Dalby	...	July 10	Richards, W., Warra
Gladstone	...	Aug. 10	Persshouse, H., Grassvale
"	...	Sept. 29	Seaton, D., Wintoun
Gympie	...	July 3	Biddles, L. H., Byrium
"	...	Aug. 22	Hendry, D., Cumbie Farm
Herberton	...	July 13	Atherton, E., Emerald End
"	...	" 13	Carrington, C., Herberton
"	...	" 13	Carr, W. T., Barron River
"	...	" 13	Campbell, E., Strathvale
"	...	" 13	Gordon, R., Carrington
"	...	" 13	Garraway, H. E., The Springs
"	...	" 13	Halloran, H. I. B., Evelyn
"	...	" 13	Jackson, J., Martintown
		1888.	
"	...	July 13	Loder, F., Atherton
"	...	" 13	Morrow, A. E., Martintown
"	...	" 13	Morrow, C. M., Martintown
"	...	" 13	Mazzlin, W., Boggy Creek
"	...	" 13	Moran, R., Carrington
"	...	" 13	Moran, J., Barron
"	...	" 13	Mellwaine, H. C., Muttaborra
"	...	" 13	Newell, J., Herberton
"	...	" 13	Nash, W. D., Nigger Creek
"	...	" 13	McDonald, J., Barron
"	...	" 13	Roberts, A., Herberton
"	...	" 13	Turnbull, D. F., Martintown
"	...	" 13	Whittingham, R. E., Flaggy Creek
"	...	" 13	Williams, E. P., Evelyn
"	...	" 13	Wilson, H. C., Gunawarra
Ingham	...	Sept. 29	Smith, H., Ingham
Ipswich	...	July 3	Harvey, E., Maroon
"	...	" 6	Hawkins, W. C., Three-mile Creek
"	...	" 3	Harding, I., Purga Creek
"	...	" 6	Hutchins, F., Ipswich
"	...	" 12	Jones, D., Redbank Plains
"	...	" 12	Würthwick, Walloon
"	...	" 18	Ryan, Milo, Purga
"	...	" 18	Duke, J. C., Flagstone Creek, Helidon
"	...	" 18	Cameron, C. C., Ipswich
"	...	" 19	Winks, W., Peak Crossing
"	...	" 25	Morgan, R., Purga
"	...	" 25	Muller, P. F. E., Black Duck, Gatton
"	...	" 31	Tunstall, W., Coochin
"	...	Aug. 9	Ironmonger, F. W., Riverside, Pine Mountain
"	...	" 31	Hamley, J., Upper Tenthill, Gatton
"	...	Sept. 5	Walsh, P., Flagstone Creek, Helidon

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
1888.		
GIANT HONDURAS SORGHUM— <i>continued.</i>		
(Quantity distributed to each person, 4 oz.)		
Ipswich ...	Sept. 14	Fisher, A., Old Racecourse
" ...	" 14	McKee, F., Laidley
" ...	" 14	Goggins, T., Laidley
" ...	" 14	McGregor T., Moombra, Esk
" ...	" 29	Robinson, J., Gatton
Mackay ...	Aug. 10	Bissett, W., Avondale
" ...	" 16	Clarkson, C. H., Lagoons
" ...	" 16	Ross, D., Mackay
" ...	" 31	Iwers, B. D., Donnybrook
" ...	" 31	Johnston, C., Allandale
" ...	" 31	Perkins, G. J., Gaythorn
" ...	" 31	Radford, W., Hill End
" ...	Sept. 8	Harvey, G. J., Glen Orkney
" ...	" 18	MacKenzie, A. R., Marion Mill
" ...	" 18	Lloyd, A. H., Dumbleton
Maryborough ...	July 16	Dean, J. E., Woodlands
Nanango ...	Aug. 31	Cowley J., Taabinga Village
Rockhampton ...	Sept. 29	O'Shanesy, J., Kabra
Roma ...	" 3	Twine, W. R., Belivah
St. Lawrence ...	Aug. 3	Phillips, R., St. Lawrence
" ...	" 10	Armstrong, W., St. Lawrence
Toowoomba ...	July 3	Robinson, W. R., Toowoomba
" ...	" 9	Davidson, P. J., Crosshill, Oakey
" ...	" 11	Crow, B., Toowoomba
" ...	Aug. 20	Skally, P., Crow's Nest
" ...	" 22	Mühling, H., Toowoomba
" ...	Oct. 6	Lack, F., Clifton
Townsville ...	July 9	Woodman, J. R., Antil Plains
" ...	" 9	Gulliver, B., Acacia Vale
" ...	" 9	Sauzier, C. G., Seaforth
" ...	" 28	Cutten Bros., Bicton
" ...	Sept. 8	Gilson, R., Jarvisfield
Warwick ...	" 29	Gwyther, H. M., Warwick
" ...	Mar. 15	Sharratt, R., Allora
<i>Supplementary List.</i>		
1889.		
Brisbane ...	April 4	Axe, J., Gneering
" ...	" 15	Taylor, A. J., Bunya, Samford
" ...	" 15	McAughray, M., Samford
Bundaberg ...	Mar. 15	Shippard, E. J., Rosehill Farm, Childers
" ...	" 15	Logan, R., Pine Creek
" ...	" 15	Christensen, H. M., Childers
" ...	" 15	Nilson, N., Spring Vale, Gregory
Dalby ...	" 15	McKeon, F., Maida Vale
Ipswich ...	April 5	Smith, J. F., Lowood
" ...	" 5	Kelly, J., Flinders
Mackay ...	Mar. 15	Martin, R., Mandarana
" ...	" 15	Browne, C. W., Mackay
" ...	" 15	Jackson, H. W., Mackay

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	

GIANT HONDURAS SORGHUM—*continued.*

(Quantity distributed to each person, 4 oz.)

Mackay ...	Mar. 15	Adrian, W. S., Mackay
" ...	" 15	Bomsen, O. C., Morning Star
" ...	" 15	Josling, H., Moorlands
" ...	" 15	Browne, R. S. P., Walkerston
Normanton ...	" 15	Thomas, H., Normanton
Rockhampton ...	" 15	Cairns, W., Balnagowan
" ...	" 15	Miller, D., Black Gin Creek
St. Lawrence ...	" 15	Christian, M. M., St. Lawrence
Toowoomba ...	" 15	Bigg, A., Merryfields Farm
America ...	April 23	Sterling Syrup Works, Kansas, U.S.A.

## JAPANESE FLOUR MAIZE—

(Amount distributed to each person,  $\frac{1}{2}$  oz.)

1888.

Beenleigh...	July 10	Grimes, S., Coomera
" ...	" 10	Proud, J., Southport
" ...	" 18	Lergessner, F., Upper Nerang
" ...	" 25	Duncan, J., Benowa, Southport
" ...	Aug. 2	Davy and Gooding, Beenleigh
" ...	" 9	Ferguson, W., Coomera River
" ...	" 18	Dempsey, J., Kerry
" ...	" 20	Stephens, W. H., Kerry
" ...	" 22	Moroney, W., Beaudesert
" ...	Sept. 18	Taswell, —, Veresdale
" ...	" 21	Toxwell, —, Coomera
" ...	" 21	Oxenford, —, Coomera
" ...	" 21	Hall, J., Albert River
" ...	Oct. 1	Learmonth, T., Beenleigh
Brisbane ...	July 2	Freer, H., Maroochie
" ...	" 2	Sargeant, A., Zillmere
" ...	" 2	McGilchrist, J., Acrobat Creek, Mooloolah
" ...	" 2	Steele, J., Acrobat Creek, Mooloolah
" ...	" 6	Phillips, R., Brisbane
" ...	" 10	Franz, Mrs., Caboolture
" ...	" 10	Cahir, D., Blackall road, Woodford
" ...	" 10	Atkins, J., Blackall road, Woodford
" ...	" 10	Kenney, D., Blackall road, Woodford
" ...	" 10	Buckle, Jos., Caboolture
" ...	" 12	Mackay, —, Pullen Vale
" ...	" 12	Remington, R. R., Rosehill, Mooloolah
" ...	" 12	Brown, C., Harrison's Pocket, North Pine
" ...	" 17	Murray, N. N., Maclean
" ...	" 19	Goodwin, H., Mooloolah
" ...	" 21	Ridley, T., Bald Hills
" ...	" 21	Hutchinson, W., Upper Oxley Creek
" ...	" 21	Lyons, W., Upper Oxley Creek
" ...	" 24	Cameron, D., Mooloolah
" ...	" 25	Nixson, M. T., Toombul

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
<b>JAPANESE FLOUR MAIZE—<i>continued.</i></b>		
(Amount distributed to each person, $\frac{1}{2}$ oz.)		
Brisbane ...	July 25	McDonald, Mrs., Gympie road, Mooloolah
" ...	" 28	Gregory, C. W., Brookfield
" ...	" 28	Clarkson, J., Indooroopilly
" ...	" 28	Anderson, P., Caboolture
" ...	Aug. 7	White, T., Mount Mee
" ...	" 7	Pearce, J., Mount Mee
" ...	" 7	Kington, J., Sheep Station Creek, Kilcoy
" ...	" 10	Walker, Mrs. A., Redland Bay
" ...	" 16	Ives, —, P.O., Coochin
" ...	" 16	Adams, W., P.O., Oxley Creek
" ...	" 18	Withers, M., Redhill, Coochin Creek
" ...	" 23	Dabbs, —, Coochin Creek
" ...	" 23	Bell, A., Meadows, North Pine
" ...	Sept. 13	Jensen, O., Caboolture
" ...	" 13	Julian, J., Caboolture
" ...	" 13	Figgis, R., Caboolture
" ...	" 22	Petersen, F., Tingalpa Creek
" ...	" 27	Adamson, J. W., Caboolture
" ...	" 27	Malling, —, Caboolture
" ...	" 29	Remington, G., Tingalpa
" ...	" 29	Springfield, —, Mooloolah
" ...	" 29	Shurwell, J., Cobb's Camp
" ...	Oct. 4	Sorby, E. K., Petrie's Creek, Woombye
Bouliia ...	Sept. 27	Police Magistrate
Bundaberg ...	July 10	Carolán R., Tower Hill, Childers
" ...	" 13	Watkins, T. J., Coalbrook Vale Farm
" ...	" 16	Tchorzewski, J., Barolin Gardens
" ...	" 16	Fleming, P. F., Gin Gin
" ...	" 21	Woolley, W., care of Woolley and Bergin
" ...	" 21	Williams, E., Abingdon, Isis
" ...	" 21	Barnes, T. E., Isis Scrub North
" ...	" 24	Atkinson, W. N., Watawa
" ...	" 24	Amos, T., Littabella
" ...	" 24	Morgan, H., Childers
" ...	" 24	Kivlen, T., Pine Farm, North Kolan
" ...	" 24	Campbell, W., Isis Scrub
" ...	" 24	Crampton, E., Halesowen, Gin Gin
" ...	" 30	Thompson, J., Childers
" ...	" 30	Starke, W., Childers
" ...	" 30	Nixon, G. W., South Kolan
" ...	Aug. 3	Phillips, J. W., Buona Vista, Gin Gin
" ...	" 6	England, J. M., Childers
" ...	" 6	Poulsen, H. L., Isis Scrub
" ...	" 10	Humphrey, H., Gin Gin
" ...	" 31	Laurisen, L. H., Electra
" ...	" 31	McGibbon, T., Apple-tree Creek
" ...	" 31	Gahan, M., Arneliffe
" ...	Sept. 29	Christensen, H. M., Childers
" ...	" 29	Palmer, J., Littabella

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
JAPANESE FLOUR MAIZE— <i>continued.</i>		
(Amount distributed to each person, $\frac{1}{2}$ oz.)		
Bundaberg	Sept. 29	Laurinsen, P. A., Gin Gin
"	" 29	Anderson, C., Apple-tree Creek
"	" 29	Wallace, W. J., Gin Gin
Cairns	July 6	Leumann, —, Russell River
"	" 21	Monk, G. W., Cairns
"	" 21	Jucker, J., Russell River
"	" 21	Field, H., Russell River
"	" 28	Lindsay, E., Mulgrave road
"	" 28	Welch, D., Russell River
"	" 28	Richardson, C., Russell River
"	Aug. 6	Hoff, C. A., Formartine
"	" 6	Miller, S., Blackfellows' Creek
"	" 16	Bowen, T., Skeleton Creek, Mulgrave road
"	" 31	Metcalf, J. A., Barron River
"	Sept. 29	Barkley, J., Barron River
"	" 29	Russell, I., Barron River
"	" 29	Hartill, J. A., Mulgrave road
Cooktown	July 25	Dick, J., Cooktown
"	Aug. 21	Wallace, C., Glenroe, McIvor road
Dalby	July 10	Richards, H., Warra
Gladstone	" 25	Harvey, R., Glenview
"	Aug. 10	Pershouse, H., Grass Vale, Gladstone
Gympie	" 22	Hendry, D., Cumbie Farm
Herberton	July 13	Atherton, E., Emerald End
"	" 13	Carr, W. T., Barron River
"	" 13	Campbell, E., Strathvale
"	" 13	Gordon, R., Carrington
"	" 13	Jackson, J., Martintown
"	" 13	Morrow, C. M., Martintown
"	" 13	Waugh, J., Evelyn
"	Aug. 10	Jackson, P., Carrington, Herberton
Ingham	" 3	Atkinson, J., care of Land Agent
"	" 16	White, W. T., Stone River
"	" 16	Brooke, E. R., Tully River, Cardwell
"	" 21	Pershouse, W. A., Cardwell
"	" 21	Elliott, G. W., Stone River, Ingham
"	" 21	Tooth, G., Stone River, Ingham
"	Sept. 29	Smith, H., Ingham
"	" 29	Wildsoet, M., Bedford Creek
Ipswich	July 3	Harvey, E., Maroon
"	" 3	Harding, J., Purga
"	" 3	Lucas, J., Purga
"	" 6	Ryan, P., Hillside, Peak Crossing
"	" 6	Hawkins, W. C., Three-mile Creek
"	" 6	Hutchins, F., Ipswich
"	" 9	Tryhom, C., Ma Ma Creek
"	" 9	Brennan, M., Redbank Plains
"	" 9	Kerwin, M., Upper Coochin
"	" 10	Foreman, T., Pine Mountain

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
JAPANESE FLOUR MAIZE— <i>continued.</i>		
(Amount distributed to each person, $\frac{1}{2}$ oz.)		
Ipswich ...	July 10	McMicken, G., Mount Berryman, Laidley
" ...	" 12	Jones, D., Redbank Plains
" ...	" 12	Würthwick, J., Walloon
" ...	" 12	Ryan, J., Black Duck Creek, Gatton
" ...	" 16	Arnold, D. D., Ivory's Creek, Cressbrook
" ...	" 16	Arnold, John, Ivory's Creek, Cressbrook
" ...	" 18	Ryan, M., Purga
" ...	" 18	Hancock, W., Ipswich
" ...	" 18	Cameron, C. C., Ipswich
" ...	" 19	Winks, W., Peak Crossing
" ...	" 19	O'Brien, A., Upper Tenthill, Gatton
" ...	" 25	Morgan, R., Purga
" ...	" 25	Miller, P. F. E., Black Duck Creek, Gatton
" ...	" 30	Bell, G., Kholo, North Ipswich
" ...	" 31	Tunstall, W., Coochin, Dugandan
" ...	Aug. 2	Maddin, T., Whitestone, Gatton
" ...	" 2	Ryan, M., Whitestone, Gatton
" ...	" 9	Ironmonger, F. W., Riverside, Pine Mountain
" ...	" 16	Parkinson, L. H., Tenthill, Gatton
" ...	" 22	McGeary, H., Hillgrove, Rosewood
" ...	" 31	Hamley, J., Upper Tenthill, Gatton
" ...	Sept. 10	Creech, W., care of E. Bostock, Ipswich
" ...	" 14	Fisher, A., Old Racecourse
" ...	" 14	McKee, F., Laidley
" ...	" 14	Goggins, T., Laidley
" ...	" 14	Gregor, T., Moombra, Esk
" ...	" 29	Robinson, J., Gatton
Mackay ...	July 16	Chavasse, G. W., Forest Vale, Hamilton
" ...	Aug. 10	Bissett, W., Avondale, Mackay
" ...	" 16	Costello, J., Millicent Coffee Estate
" ...	" 16	Locke, T., Mackay
" ...	" 16	Kable Bros., Brightly, Mackay
" ...	" 31	Archbold, W., Palm Vale
" ...	" 31	Ross, D. G., Hamilton
" ...	" 31	Perkins, G. J., Gaythorn
" ...	" 31	Johansen, J. N., Kelvin Grove, Mackay
" ...	" 31	Radford, W., Hill End, Mackay
" ...	" 31	Bradshaw, W. S., care of C. T. Lorgan, Mackay
" ...	" 31	Jackson, H., Mackay
" ...	Sept. 8	Harvey, G. F., Glen Orkney
" ...	" 14	Bomsen, O. C., Wallingford
" ...	" 18	McKenzie, A. R., Marion Mill
" ...	" 18	Lloyd, A. H., Dumbleton
Maryborough ...	July 10	Howard, W., Isis Junction
" ...	" 18	McKellar, A., Cowal, Tiaro
" ...	" 18	Pickering, J., Tiaro
" ...	Aug. 22	Hall, A., Tiaro
Nanango ...	" 31	Cowley, J., Taabinga Village

APPENDIX C—*continued.*

LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
JAPANESE FLOUR MAIZE— <i>continued.</i>		
(Amount distributed to each person, $\frac{1}{2}$ oz.)		
Port Douglas ...	July 25	Stewart, J. W., Allanton, Daintree River
" ...	Aug. 31	Fischer, F. C., Daintree River
" ...	" 31	Reynolds, W., Daintree River
Rockhampton ...	Sept. 5	Bugnion, F., Byfield, Yeppoon
" ...	" 5	Ganter, I., Byfield, Yeppoon
" ...	" 5	O'Shanesy, Rabsa, Rockhampton
Roma ...	" 3	Twine, W. R., Belivah
" ...	Aug. 9	Robinson, A., Roma
St. Lawrence ...	" 10	Armstrong, W., St. Lawrence
" ...	" 31	Streeter, A. G., Scrubby Creek
" ...	Sept. 14	Phillips, R., St. Lawrence
Toowoomba ...	July 9	FitzGerald, N. T., Clifton Colliery
" ...	" 10	Borghert, N., Gowrie Little Plains
" ...	" 10	Northdürft, —, Gowrie Little Plains
" ...	" 10	Deller, G., Perth street, Toowoomba
" ...	" 10	Duke, J. C., Flagstone Creek, Helidon
" ...	" 10	Morley, J., Fairview, Gowrie Junction
" ...	" 10	Mühling, L., McKenzie street, Toowoomba
" ...	" 10	Bowell, F., Toowoomba
" ...	" 10	Rowbotham —, Monkey Waterholes
" ...	" 10	Renton, H. W., Oak Farm, Grantham
" ...	" 10	Abbott, F., The Ferns, Helidon
" ...	" 11	Crow, B., Toowoomba
" ...	" 13	Merchin, G. A., Gomorah, Gowrie Junction
" ...	" 13	Davidson, P. J., Crosshill, Oakey
" ...	" 16	Costello, T., Pittsworth
" ...	" 16	Suteliffe, C. H., Crow's Nest
" ...	" 16	Ridler, W. H., Geham
" ...	" 21	Bourchier, W. H., Geham
" ...	" 21	Kreitschmar, F., Gowrie road
" ...	" 21	Yesberg, H., Racecourse
" ...	" 21	Herman, F., Gowrie road
" ...	" 21	Zupp, —, Racecourse road
" ...	" 21	Murphy, —, Cabarlah
" ...	Aug. 4	Greer, W., Geham
" ...	" 20	Skally, P., Crow's Nest
" ...	Sept. 5	Walsh, P., Flagstone Creek
" ...	" 15	Read, G. B., Texas
" ...	Oct. 6	Bigg, A., Merryfields Farm, Toowoomba
Townsville ...	July 28	Cutten Bros., Bicton, Clump Point
" ...	Sept. 8	Gilson, R., Jarvisfield
Warwick ...	July 12	Bourke, J., Gladfield
" ...	" 12	Leney, G. T., Allora
" ...	" 12	Wright, J., Goomburra
" ...	" 16	Dempsey, —, Upper Freestone Creek
" ...	" 18	Ramsey, I., Freestone Creek
" ...	" 18	Margetts, F. W., Warwick
" ...	" 21	Marriage, J., Yangan
" ...	" 24	Gwyther, H. M., Gladfield, Warwick



APPENDIX C—*continued.*LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
JAPANESE FLOUR MAIZE— <i>continued.</i>		
(Amount distributed to each person, $\frac{1}{2}$ oz.)		
Warwick ...	July 25	Reeve, B. C., Emu Vale
" ...	" 31	Simmons, T. S., Allora
" ...	Aug. 1	Gillespie, Mrs. S., Swan Creek
" ...	" 4	Byrne, G., Killarney Railway Station
" ...	" 4	Byrne, W., Killarney Railway Station
" ...	" 7	Simon, H. L., Lower Freestone Creek
" ...	" 7	Siebenhausen C., Danderoo Railway Station
" ...	" 8	Devaney, D., Oakey Creek
" ...	" 11	O'Connor, J., Head of Condamine
" ...	" 31	Hughes, J., Lower Freestone Creek
" ...	Sept. 8	Smale, A. L., Freestone Creek
" ...	Oct. 6	Lynam, F., Allora
" ...	" 6	Lack, F., Clifton
NEPAUL ORANGE—		
(Few seeds allotted to each person.)		
Beenleigh ...	April 18	Bailey, —, Pimpama
Brisbane ...	" 18	Veivers, D., Upper Logan
" ...	" 18	Corrie, G., 208 Queen street
" ...	" 18	Fletcher, Price, Queenslander
" ...	" 18	Whish, C. B., Lands Office
" ...	" 18	Williams, J., Runcorn
" ...	" 18	Piquenet, F. G., Boisdale, Mooloolah
" ...	" 18	Pearson, J. A., Albert Buildings
" ...	" 18	Rendle, Dr., Caboolture
" ...	" 18	Everett, H., Caboolture
" ...	" 18	Gregory, C. W., Brookfield
" ...	" 18	Woolcock, W., Red Hill
" ...	" 18	Pink, E. C., Wellington Point
" ...	" 18	Cribb, J. G., Milton
" ...	" 18	Summerlin, L., George street
" ...	" 18	Botanic Gardens
Ipswich ...	" 18	Smith, J. F., Lowood
" ...	" 18	Hamley, I., Gatton
" ...	" 18	Jones, D., Redbank Plains
Nanango ...	" 18	Cowley, E., Taabinga Village
Rockhampton ...	" 18	Botanic Gardens
Toowoomba ...	" 18	Pentecost, H. L., Range
" ...	" 18	Roessler Brothers, Middle Ridge
" ...	" 18	Queen's Park
Townsville ...	" 18	Gulliver, B., Acacia Vale
BAHIA NAVEL ORANGE—		
Brisbane ...	May 9	Summerlin, L., George street
" ...	" 9	Pink, E. C., Cleveland
" ...	" 9	Williams, —, Runcorn
" ...	" 9	Corrie, L. G., Redland Bay
Beenleigh ...	" 9	Bailey, —, Pimpama
Ipswich ...	" 10	Butchard, —, Ipswich
" ...	" 10	Philp, J., Gatton

APPENDIX C—*continued.*

LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	

BAHIA NAVEL ORANGE—*continued.*

Rockhampton ...	May 10	Curator, Queen's Park
Toowoomba ...	" 10	Pentecost, H. L., Range
" ...	" 10	Roessler Bros., Toowoomba
" ...	" 10	Fletcher, Price, Toowoomba
Warwick ...	" 10	Clements, W., care of A. Morgan, M.L.A.

## OLIVE TRUNCHEONS—

(Number distributed to each person, 6.)

Beenleigh...	July 6	Ross, T., Beenleigh
" ...	" 10	Grimes, S., M.L.A., Coomera
" ...	" 10	Proud, J., Southport
" ...	" 10	Jennings, W., Albert Falls
" ...	" 16	Thiedecke, C., Yatala
" ...	" 18	Lergessner, F., Upper Nerang
Brisbane ...	" 3	Ward, W. L., Hardgrave road
" ...	" 6	Beck, R. M., Eight-mile Plains
" ...	" 6	Sergeant, A., Zillmere
" ...	" 9	Rose, J., Cobb's Camp
" ...	" 10	Franz, Mrs., Caboolture
" ...	" 10	Buckle, J., Caboolture
" ...	" 10	Cahir, D., Blackall road, Woodford
" ...	" 11	Peek, F., Mount Cotton
" ...	" 12	McKay, —, Pullen Vale
" ...	" 12	Thorne, E., Coorparoo
" ...	" 16	Malcolm, M., Maclean
" ...	" 19	Goodwin, H., Mooloolah
" ...	" 31	Lergessner, F., Upper Nerang
" ...	Aug. 2	Piquenet, F. G., Upper Nerang
" ...	Sept. 3	Nixson, M. T., Toombul
" ...	" 5	Pearce, J., Mount Mee
" ...	" 5	White, T., Mount Mee
Bundaberg ...	July 13	Watkins, T. J., Coalbrook Farm
" ...	" 16	Tchozewski, —, Barolin Gardens
" ...	" 31	Atkinson, W. N., Wataroh
" ...	" 31	Amos, T., Littabeila
" ...	" 31	Morgan, H., Childers
" ...	" 31	Campbell, W., Isis Scrub
" ...	" 31	Woolley, W., care of Woolley and Bergin
" ...	" 31	Williams, E., Abingdon
" ...	Aug. 31	Barnes, T. E., Isis Scrub North
" ...	" 31	Thompson, T., Childers
" ...	" 31	Starke, W., Childers
" ...	" 31	England, J. M., Childers
Cairns ...	" 24	Mason, W. W., Barron River
" ...	" 24	Unbehau, A., care of W. J. Hall
" ...	" 25	Jucker, J., Russell River
Gympie ...	" 22	Hendry, D., Cumbie Farm
Herberton ...	" 25	Grant, P. G., Herberton
" ...	" 25	Mazzlin, W., Boggy Creek

APPENDIX C—*continued.*LIST of SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
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OLIVE TRUNCHEONS—*continued.*

(Number distributed to each person, 6.)

Herberton	...	Aug. 25	Moran, R., Martintown
"	...	" 25	Moran, J., Barron
"	...	" 25	Newell, I., Herberton
"	...	" 25	Moran, R., Carrington
Ingham	...	" 28	White, W. T., Stone River
Ipswich	...	July 3	Harvey, E., Maroon
"	...	" 6	Hawkins, W. C., Three-mile Creek
"	...	" 10	Renton, W. H., Oak Farm, Grantham
"	...	" 16	Arnold, D. D., Ivory's Creek
"	...	" 16	Arnold, J., Ivory's Creek
"	...	" 18	Ryan, M., Purga
"	...	" 18	Cameron, C. C., Ipswich
"	...	Sept. 3	Morgan, R., Purga
"	...	" 3	Tunstall, W., Coochin
"	...	" 3	Hamley, J., Upper Tenthill, Gatton
Mackay	...	July 16	Chavasse, G. W., Hamilton
"	...	" 16	Lloyd, A. H., Dumbleton
"	...	" 16	Jackson, H., Howard Peak
"	...	" 16	Beaton, D., Strathgael
"	...	" 16	Bomsen, O. C., Wallingford
"	...	" 16	Wales, J., Bowen road
"	...	" 16	Neilson, —, Hamilton
"	...	" 16	Ball, A. J., Nebo road
"	...	" 16	Rafter, W., North side
"	...	" 13	Ready, J., Racecourse
"	...	" 13	Dutailis, C. R., Nebo road
"	...	" 13	Ditton, A., Sandy Creek
"	...	" 13	Biddle, G., Baldwin Farm, Merani
"	...	" 13	Murry, E., Black Rock, St. Helens
"	...	" 13	Edgar, —, Coningsby
"	...	" 13	Coyne, D., Marion Mill
"	...	" 13	Bassy, F. H., Mackay
"	...	" 13	Burk, E., Walkerston
"	...	Aug. 24	Kable Bros., Brightly
"	...	" 24	Clarkson, C. H., Lagoons
Maryborough	...	July 10	Howard, W., Isis Junction
"	...	" 18	McKellar, A., Cowal, Tiaro
Port Douglas	...	Aug. 25	Hart, D., Mossman
Roma	...	Sept. 3	Robinson, A., Roma
"	...	" 3	Twine, W. R., Belivah, Roma
Toowoomba	...	July 6	Knoblouch, L., Gowrie road
"	...	" 6	Hirst, T., Crow's Nest
"	...	" 10	Mühling, H., Perth street
"	...	" 11	Crow, B., Toowoomba
"	...	" 16	Ridler, W. H., Geham
"	...	Sept. 3	Curtis, H., Pittsworth
"	...	" 3	Greer, W., Geham
Townsville	...	Aug. 25	Cutten Bros., Bicton, Clump Point

APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT OF AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
OLIVE TRUNCHEONS— <i>continued.</i>		
(Number distributed to each person, 6.)		
Warwick	July 6	Stirling, R., Warwick
"	" 6	Shiple, A., Killarney
"	" 6	Lyons, J., Warwick
"	" 9	O'Leary, J., Clifton Railway Station
"	" 12	Bourke, J., Gladfield
"	" 12	Margetts, F., Warwick
"	" 12	Wright, J., Goomburra Station
"	" 12	Lamb, W. D., Yangan
"	" 16	O'Dempsey, J. P., Upper Freestone Creek
"	" 18	Ramsey, J., Freestone Creek
"	" 19	Margetts, F. W., Warwick
"	Sept. 3	Marriage, J., Yangan
"	" 3	Reeve, B. C., Emu Vale
"	" 3	Byrne, G., Killarney
"	" 3	Byrne, W., Killarney
"	" 3	O'Connor, J., Head of Condamine
"	" 3	Simon, H., Lower Freestone Creek
"	" 3	Hughes, J., Lower Freestone Creek
OLIVE BERRIES.		
Brisbane	Aug. 18	Dempsey, J., Kerry, Upper Albert
"	" 18	Withers, M., Redhill, Coochin Creek
"	" 18	Ives, W., Simpson's, Coochin Creek
"	" 7	Pearce, J., Mount Mee
"	Sept. 13	Julian, J., Caboolture
"	" 13	Figgis, R., Caboolture
Beenleigh	Oct. 11	Dunn, W., Beenleigh
Cairns	Aug. 31	Metcalf, J. A., Barron River
Gympie	" 22	Hendry, D., Cumbie Farm
Mackay	July 13	Chairman, Chamber of Commerce (for distribution)
Nanango	Aug. 31	Cowley, J., Taabinga Village
Toowoomba	" 20	Skally, P., Crow's Nest
RAMIE ( <i>Boehmeria Nivea</i> ).		
Quantity to each person, $\frac{1}{2}$ oz.		
Brisbane	Aug. 16	Henderson, J., Tambourine
Cooktown	1889. Jan. 25	Asmus, H. J., Walhalla
Ipswich	1888. Aug. 31	Hamley, J., Gatton
Mackay	" 31	Iwers, B. D., Donnybrook
"	Oct. 27	Edgar, B., Conningsby
"	Dec. 18	Moerarity, W., Marion Mill
"	" 18	McInnis, A., Marion Mill
"	" 18	Willock, C. I., Rosemount
"	" 18	Bolton, F. W., Farleigh
"	" 18	Millar, J., Marion Mill
"	" 18	Baumgartner, J. C., Marion Mill
"	" 18	Larkey, D., Mirani
"	" 18	Lloyd, A. H., Dumbleton
"	" 18	Coyne, D., Marion Mill
"	" 18	Langford, B., Hamilton
"	" 18	Remmis, A., The Chare
"	" 18	Christensen, J. L., Homebush
"	" 18	Draper, A., Eton
"	1889. Jan. 25	Cowley, J., Kempsey
"	" 25	Clarkson, C. H., Lagoons
"	" 25	Burandt, R., Mackay
"	" 25	Brown, R. S. P., Walkerston

APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT OF AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	
RAMIE ( <i>Boehmeria Nivea</i> )— <i>continued.</i>		
Quantity to each person, $\frac{1}{2}$ oz.		
Mackay ...	Jan. 25	Bornsen, O. C., Morning Star
" ...	" 25	Maslin, S., Mackay
" ...	" 25	Silke, W., Lagoons
" ...	" 25	Josling, H., Moorlands.
	1888.	
Port Douglas ...	Nov. 12	Riley, G., Mossman River
Toowoomba ...	July 10	Borghert, N., Gowrie Little Plains
" ...	Sept. 16	Holberton, M. H., Toowoomba
Townsville ...	Aug. 21	Jack, R., Fernlea, Lower Burdekin
RIPARIA ( <i>Phylloxera</i> resisting vine).		
Beenleigh ...	Sept. 13	Batten, C., Nerang
" ...	" 18	Cox, C. W., Pimpama
Brisbane ...	" 18	Pink, J., Wellington Point
" ...	Oct. 9	Williams, —, Eight-mile Plains
Ingham ...	" 9	Cowley, A. S., Ingham
Ipswich ...	Sept. 18	Robertson, J., Abbotsford, Gatton
Roma ...	" 18	Bassett, S., Roma
" ...	" 18	Twine, W. R., Roma
Toowoomba ...	" 18	Searle, G., Toowoomba
" ...	" 18	Henza, H., North Ridge
" ...	" 27	Groom, W. H., Toowoomba
ACACIA PYCNANTHA (Broad-leaf Wattle).		
Amount to each person, 4 oz.		
Beenleigh ...	July 10	Proud, J., Southport
" ...	Sept. 5	Hope, G. A., Svatston Farm, Nerang
Brisbane ...	July 24	Supt., St. Vincent's Orphanage, Nudgee
	1889.	
" ...	Feb. 9	Clarkson, J., Indooroopilly
Bundaberg ...	" 9	Atkinson, W. N., Watawa
	1888.	
Cairns ...	July 6	Leumann, A., Russell River
" ...	Aug. 6	Miller, S., Blackfellows' Creek, Cairns
Cooktown ...	" 21	Seidel, O. F., Cooktown
" ...	" 21	Asmus, H. J., Walhalla, Cooktown
Dalby ...	July 10	Richards, H., Warra
Ingham ...	Aug. 3	Atkinson, J., care of Land Agent
Gympie ...	July 3	Biddles, L. H., Byrium
Ipswich ...	" 10	Ridgway, R. G., Harrisville
	1889.	
" ...	Feb. 9	Cribb and Kingston, Mount Walker
	1888.	
Mackay ...	Aug. 16	Costello, J. M., Millicent Coffee Estate
St Lawrence ...	" 21	Armstrong, W., St. Lawrence
Toowoomba ...	July 11	Crow, B., Toowoomba
Townsville ...	" 9	Woodman, J., Mount Antill Plains
Warwick ...	" 24	Gwyther, H. M., Gladfield
	1889.	
Maryborough ..	Feb. 9	Martin, B., Pialba
Ipswich ...	" 9	Renton, W. H., Oak Farm, Grantham
Rockhampton...	April 3	Hartley, S. W., Rockhampton
ACACIA DECURRENS ( <i>Black Wattle</i> ).		
Amount to each person, $\frac{1}{2}$ oz.		
Beenleigh ...	July 10	Proud, J., Broadwater Park
Brisbane ...	" 24	Supt., St. Vincent's Orphanage, Nudgee
" ...	" 28	Clarkson, J., Indooroopilly
" ...	Feb. 9	Clarkson, J., Indooroopilly
Cairns ...	" 6	Leumann, A., Russell River, Cairns
" ...	Aug. 6	Miller, S., Blackfellows' Creek
Cooktown ...	" 21	Seidel, O. F., Cooktown

## APPENDIX C—continued.

LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	

ACACIA DECURRENS (*Black Wattle*)—continued.Amount to each person,  $\frac{1}{2}$  oz.

Cooktown ...	Aug. 21	Asmus, H. J., Walhalla, Cooktown
Gympie ...	July 3	Biddles, L. H., Byrium, Gympie
Ingham ...	Aug. 3	Atkinson, J., Ingham
Ipswich ...	July 10	Ridgway, R. G., Harrisville
Toowoomba ...	" 11	Crow, B., Toowoomba
Townsville ...	" 9	Woodman, J., Mount Antill Townsville
Warwick ...	" 24	Gwyther, H. M., Gladfield, Warwick

## BUCKWHEAT.

Amount to each person, 8 oz.

Beenleigh ...	Sept. 27	Bradbury, T., Beenleigh
Dalby ...	Oct. 2	Dun, H. P., Irvingdale
Herberton ...	Sept. 27	Carrington, C., Herberton
Ipswich ...	" 27	Hamley, J., Gatton
" ...	" 27	Seally Bros., Harrisville
Maryborough ...	" 27	O'Kelly, P., Ferney, Mary River
Toowoomba ...	" 27	McDowall, A., Toowoomba
" ...	" 27	Gore, F. A., Yandilla
Roma ...	" 27	Twine, W. R., Roma
Warwick ...	" 27	Leney, G. T., Allora
" ...	" 27	Free, —, Swan Creek

ARNATTO (*Bixa Orellana*).

Amount to each person, 1 oz.

Brisbane ...	July 10	Proud, J., Broadwater Park
" ...	" 10	Franz, Mrs., Caboolture
" ...	" 12	Remington, R. P., Rosehill, Gympie road
" ...	" 13	McDonald, G. T., Rocklea
" ...	" 21	Ridley, T., Bald Hills
" ...	" 21	Hutchinson, W., Upper Oxley Creek
" ...	" 21	Lyons, W., Upper Oxley Creek
" ...	" 25	McDonald, Mrs., Gympie road, Mooloolah
Bundaberg ...	" 9	Meier, G., Apple-tree Creek, Isis
" ...	" 10	Carolan, R., Tower Hill, Childers
" ...	" 30	Thompson J., Childers
Cairns ...	" 6	Leumann, A., Russell River
" ...	" 21	Field, H., Russell River
" ...	" 21	Jucker, J., Russell River
" ...	" 21	Monk, G. W., Cairns
Dalby ...	" 10	Richards, H., Warra
Gympie ...	" 3	Biddles, L. H., Begrium
Herberton ...	" 3	Carrington, C., Herberton
" ...	" 3	Carr, W. T., Barron River
" ...	" 3	Halloran, H. J. B., Evelyn
" ...	" 3	Jackson, J., Martintown
" ...	" 3	McIlwaine, H. C., Muttaborra
" ...	" 3	Newell, J., Herberton
" ...	" 3	Nash, W. D., Nigger Creek
" ...	" 3	Roberts, A., Herberton
" ...	" 3	Williams, E. P., Evelyn
Ipswich ...	" 12	Würthwick, R., Walloon
" ...	" 16	Arnold, D. D., Ivory's Creek
" ...	" 16	Arnold, J., Ivory's Creek
" ...	" 18	Ryan, M., Purga
" ...	" 18	Cameron, C. C., Ipswich
" ...	" 25	Morgan, R., Purga
" ...	" 25	Muller, P. F. E., Black Duck Creek, Gatton
" ...	" 31	Tunstall, W., Coochin, Dugandan
Port Douglas ...	" 28	Hart, D., Mossman River
St. Lawrence ...	" 28	Streeter, A. G., St. Lawrence

APPENDIX C—*continued.*  
LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	

ARNATTO (*Bixa Orellana*)—*continued.*

Amount to each person, 1 oz.

Toowoomba	...	July	9	Davidson, P. J., Crosshill, Oakey
Townsville	...	"	9	Woodman, J., Mount Antill Plains
"	...	"	9	Gulliver, B., Acacia Vale
"	...	"	9	Sauzier, C. G., Seaforth
"	...	"	28	Cutten Brothers, Bicton, Townsville
"	...	Aug.	3	Faucett, J. W., State School
Warwick	...	July	3	Stirling, R., Warwick Railway Station

## SPANISH PEA-NUT OR EARTH-NUT.

Amount to each person, 12 seeds.

		1888.		
Beenleigh	...	Oct.	31	Grimes, S., Coomera
"	...	"	31	Dunn, W., Beenleigh
Brisbane	...	"	27	Lee, —, Zillmere
"	...	"	29	Moore, W., Milton
"	...	"	29	Abbott, H. P., A.J.S. Bank
"	...	"	29	O'Connor, J., Oxley
"	...	"	31	Kellaway, E. B., Toombul
"	...	"	31	Williams, —, Eight-mile Nursery
"	...	"	31	Henderson, J., Tambourine
"	...	"	31	Cowley, A. S., Parliament House
"	...	Nov.	2	Britten, S., Ninderry, Gympie road
Bundaberg	...	Oct.	31	Rowland, J., Bundaberg
Cairns	...	"	31	Swallow and Derham, Hambleton
Cooktown	...	"	31	Dick, J., Cooktown
Dalby	...	"	31	Dunn, H. P., Irvingdale
Ipswich	...	"	29	Jones, D., Redbank Plains
"	...	"	31	Germain, J., Ipswich
"	...	"	31	Philp, J., Gatton
"	...	"	31	Hamley, J., Gatton
"	...	"	31	Moffatt, J., Harrisville
Mackay	...	"	31	Armitage, —, Mackay
"	...	"	31	Perkins, G. J., Mackay
Maryborough	...	"	31	Brennan and Gerahty, Maryborough
Port Douglas	...	"	31	Montgomery, J., Port Douglas
"	...	"	31	Stewart, J., Daintree River
"	...	"	31	Hart, D., Mossman River
Roma	...	"	31	Twine, W. R., Roma
Toowoomba	...	"	31	McDowall, A., Toowoomba
"	...	"	31	Pentecost, H. L., Toowoomba
"	...	"	31	Crow, B., Toowoomba
"	...	"	31	Gore, F. A., Yandilla
"	...	"	31	Lack, F., Clifton
Townsville	...	"	31	Gulliver, B., Acacia Vale
Warwick	...	"	31	Slade, W. B., Glengallan
"	...	"	31	Margetts, Dr., Warwick

## RUSSIAN SUN FLOWER.

Amount to each person,  $\frac{1}{2}$  oz.

Beenleigh	...	Oct.	17	Compigné, A. W., Beenleigh
"	...	"	17	Johnston, R., Beenleigh
"	...	"	17	Laws, C., Beenleigh
"	...	"	19	Thiedecke, C., Yatala
"	...	"	27	Walker, —, Upper Coomera
"	...	"	29	Shalier, W., Beaudesert
"	...	"	29	Shalier, J., Slack's Creek
"	...	Nov.	2	Watt, A., Bannockburn
"	...	"	2	Keeweeny L. J., Beaudesert
"	...	"	2	Grimes, S., M.L.A., Coomera
"	...	"	13	Theodore, F., Beenleigh

APPENDIX C—*continued.*

LIST OF SEEDS distributed by the DEPARTMENT OF AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
RUSSIAN SUN FLOWER— <i>continued.</i>		
Amount to each person $\frac{1}{2}$ oz.		
Beenleigh	Nov. 22	Mills, D., Cowley Lodge, Pimpama
"	" 29	Dennis J., Loganlea
Brisbane	Oct. 16	Adamson, J. W., Caboolture
"	" 16	Shaw, T. W., Spring Creek
"	" 16	Fenwick, W., Sandgate road
"	" 19	Remington, C., Tingalpa
"	" 16	Shurwell, F., Woombye
"	" 22	Taylor, A. J., Bunya Wangon
"	" 23	Smith, H., Ashmore, Southport
"	" 23	Proud, J., Southport
"	" 23	McDowall, W., Oxley
"	" 23	Robertson, —, Bromelton
"	" 24	Barker G., Beaudesert
"	" 25	Carver, T. G., Kenmore
"	Nov. 2	Britten, S., Ninderry
"	" 13	Watts, M., Coochin Creek
"	" 15	McDonald, P., Maroochie
"	Dec. 7	Birchley, G., Nudgee
"	Dec. 7	Hatchman, W., Nundah
"	" 12	Ellison, R., Nudgee
"	" 17	McLeven, R., Gympie road
"	" 29	Fewtrell, G., Mooloolah
	1889.	
"	Jan. 2	Rutter, H., Caboolture
"	" 15	Smith, A. E., Nudgee
"	" 17	Cahir, D., Woodford
"	Mar. 8	Robinson, W., Woodford
"	April 2	Axe, J., Gneering
"	" 25	Piquenet, F. G., Mooloolah
	1888.	
Bundaberg	Oct. 30	Logan, R., Pine Creek
"	" 30	Newett, E., Electra
"	" 30	Rowe, S., Bundaberg
"	Nov. 8	Sheppard, E. J., Childers
"	" 8	Sugden, R. O., Gin Gin
"	" 8	Starke, W., Childers
"	" 8	Butcher, T. W., Isis Scrub
"	" 20	Brandt, A., Littabella
"	Dec. 20	Woodman, M., Gregory
Cairns	Nov. 2	Meyers, E., <i>Chronicle</i> Office
"	" 13	Unbehaun, A., Fernhill
"	" 13	Richardson, C. P., Russell River
"	" 13	Welch, D., Russell River
"	" 13	Reid, —, Russell River
"	" 17	Draper, A. J., Cairns
	1889.	
Cooktown	Jan. 21	Asmus, H., Walhalla
	1888.	
Dalby	Oct. 22	McKeon, F., Maida Hill
"	Nov. 28	Dun, H. P., Irvingdale
	1889.	
"	Feb. 25	Syms, W. E., Maida Hill
	1888.	
Geraldton	Nov. 13	Cochran, A., Mourilyan
Gympie	" 2	Williams, G. S., Park Hill, Gympie
Herberton	Dec. 19	Land Agent (1 lb. forwarded for distribution)
Inglewood	Oct. 23	Jeffries, T., care of Land Agent
Ingham	Nov. 2	Weip, C., Murray River



APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	
RUSSIAN SUN FLOWER— <i>continued.</i>		
Amount to each person, $\frac{1}{2}$ oz.		
Ingham	Nov. 2	Heywood, H., Cardwell
"	" 17	Jefferies, J., care of Land Agent
"	" 17	Smith, H., Ingham
"	" 17	Kennedy, W. C., Cardwell
"	" 29	Griffin, —, Cardwell
"	Dec. 29	Townson, G., Ingham
Ipswich	Oct. 16	Winks, W., Peak Crossing
"	" 19	Lamprecht, L., Fernie View
"	" 19	Pickles, J., Calvert
"	" 19	Brennan, M., Redbank Plains
"	" 19	Dowie, H. D., Walloon
"	" 22	Kingston, F. C., Mount Walker
"	" 22	Walton, C., Rosevale
"	" 24	Burn, R., Laidley
"	Nov. 2	Wilson, G. H., Ipswich
"	" 2	Wilson, G. R., Ipswich
"	" 2	Schneider, F., Dugandan
"	" 6	Rea, J., Walloon
"	" 8	Ryan, M., Purga Creek
"	" 14	Palmer, J., Newtown
"	Dec. 20	Gonnan, J., Helidon
	1889.	
"	March 14	Harvey, E., Maroon
"	April 5	Smith, J. F., Lowood
	1888.	
Mackay	Oct. 12	Radford, W., Hill End
"	" 12	Jackson, H., Mackay
"	" 12	Perkins, G. J., Gaythorn
"	" 27	Thornber, J. H., Mackay
"	" 27	Hayward, J., Walkerston
"	" 27	Peard J., Mackay
"	" 27	Cook, J., Balnagowan
"	" 27	Kable Bros. and Keen, Brightly
"	" 27	Edgar, B., Coningsby
"	" 27	Pearce, G., Mackay
"	" 27	Murray, A. R., Hamilton
"	" 27	Bomsen, O. C., Morning Star
"	Nov. 27	Brown, R. S., Walkerston
"	" 27	Coyne, D., Marion Mill
"	" 27	Clarkson, C. H., Lagoons
"	" 27	Watson, C. E., Fernbrook
"	" 27	Iwers, B. D., Donnybrook
"	" 27	Iwers, J. F., Brooklands
"	" 27	Donaldson, J. Homebush
"	" 27	Ross, D., Hamilton
"	" 27	Ross, D. J., Hamilton
"	" 27	Muller, G., Eton
"	" 27	Maslin, S., Mackay
"	" 27	Silke, W., Lagoons
"	" 27	Josling, H., Moorlands
"	" 27	Cowley, J., Kempsey
"	" 28	Innes, C. C., Mackay
	1889.	
"	Feb. 22	Chavasse, G. W., Hamilton
	1888.	
Normanton	Nov. 13	Thomas, —, Riverview
Port Douglas	" 17	Montgomery, J. J., Mayfield
"	" 29	Stewart, J. W., Allanton
"	Dec. 14	Fischer, F. C., Daintree

APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	

RUSSIAN SUN FLOWER—*continued.*Amount to each person,  $\frac{1}{2}$  oz.

Port Douglas ...	March 16 1888.	Hart, D., Mossman River
Rockhampton...	Nov. 2	Ganter, J., Byfield, Yeppoon
"	" 2	Bugnion, M. F., Byfield, Yeppoon
"	" 2	Meilland, L., Yeppoon
"	" 13	Tonjes, C., Rockhampton
"	" 23	Swadling, J., Limestone Creek
"	" 23	Miller, D., Black Gin Creek
"	" 23	Jones, G., Stanwell
Roma ...	Oct. 22	Gaden, E. A., Dulacca
"	" 24	Roberts, J., Roma
"	" 24	Turbayne, D., Mitchell
"	Nov. 27	Fisher, J., Roma
St. Lawrence ...	Dec. 13	Christian, M. M., St. Lawrence
"	" 13	Hopson, H., St. Lawrence
"	" 13	Parnell, A. T., St. Lawrence
"	" 21	Lawrence, W., St. Lawrence
Thornborough	Nov. 13	Evenden, G. J., Hodgkinson River
Toowoomba ...	Oct. 16	Holberton, M. H., Toowoomba
"	" 29	Costello, T. Pittsworth
"	" 29	Bigg, A., Merryfields Farm, Toowoomba
"	Nov. 2	Dwyer, W., Toowoomba
"	" 2	Duke, J. C., Helidon
"	" 2	Robinson, J. B., Toowoomba
"	" 5	Lack, F., Clifton
"	" 28	Baxendale, H., Pittsworth
Townsville ...	" 20	Penman, J., Ross River
"	Dec. 17	Ross, J., Bluegate, Lower Burdekin
Warwick ...	Oct. 16	Gwyther, H. M., Warwick
"	" 17	Lamb, D., Yangan
"	" 22	Wecker, J. H., Lower Freestone Creek
"	Nov. 2	Mrs. A. Hill, Warwick
"	" 2	Hansen, E., Killarney
"	" 13	Stafford, T. L., Freestone Creek
"	Dec. 1	Ransome, H. C., Warwick

## SWEET POTATOES.

50 lb. to each person.

Mackay ...	Nov. 8	Pill, T., Bowen road
"	" 8	Smith and White, Merani
"	" 8	Dimmick, G., Beach road
"	" 8	Thornber, J. H., Mackay
"	" 8	Cameron, W. J., Mackay
"	" 8	Moerarity, —, Marion Mill
"	" 8	Weiske, F., Weiske's road
"	" 8	Muggleton, Plane Creek
"	" 8	Hill, C., Walkerston
"	" 8	Perry, J., Eton
"	" 8	Willock, —, Rosemount
"	" 8	McKenny, P., Plane Creek
"	" 8	Paget Bros., Nindaroo
"	" 8	Dupuy, —, North Side
"	" 8	Cullen, M., Boomerang Lagoons
"	" 8	Williams, F., Mackay
"	" 8	Stevens, F. J., Colton Vale
"	" 8	Hodges, W. G., Mackay
"	" 8	Harvey, G., Mackay
"	" 8	Johnston, W., Dingle Farm
"	" 8	Locke, T., Town Common road

APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	

SWEET POTATOES—*continued.*  
50 lb. to each person.

Mackay	Nov.	8	Hess, —, Homebush
"	"	8	Hansen, —, Homebush
"	"	8	Hendy, H., North Side
"	"	8	Costello, J., Millicent Coffee Estate
"	"	8	Survien, —, Hamilton
"	"	8	McEwen, A., Sandringham
"	"	8	Browne, C. W., Mackay
"	"	8	White, G., Sandringham
"	"	8	Henderson, J. B., Beaconsfield
"	"	8	McInnis, —, Marion Mill
"	"	8	Barnes, J. G., Cremorne Gardens
"	"	8	Webster, C., Mackay
"	"	8	Bradbury, R., Mackay
"	"	8	Rolleston, J., Eton
"	"	8	McInnis, D., Victoria Mill
"	"	8	Clarkson, Dr., Lagoons
"	"	8	Gladstone, —, North Side
"	"	8	Maslin, S., Victoria Mill
"	"	8	Pratt, D., Town Common road
"	"	8	Donaldson, J., Sandiford
"	"	8	Denman, —, Returia
"	"	8	Florence, —, Te Kowai
"	"	8	Christie, J., Mackay
"	"	8	Porter, J., Eton
"	"	8	Kable Bros. and Keen, Brightley
"	"	8	Robertson, W., North Side
"	"	8	Treloar, H., Bowen road
"	"	8	Gallanty, —, Habana
"	"	8	Petersen, —, Homebush
"	"	8	Kemp, C., Kempsey
"	"	8	Bömsen, O. C., Balnagowan
"	"	8	Cook, J., Balnagowan
"	"	8	Raymond, P. A., St. Helens
"	"	8	Finee, P., Walkerston
"	"	8	Ward, J., Mackay
"	"	8	Hoey, Mrs., St. Helens
"	"	8	Brown, T., Town Common
"	"	8	McDonald, D., Town Common
"	"	8	Armitage, J., Eimeo

## LIBERIAN COFFEE.

Amount to each person,  $\frac{1}{2}$  oz.

Beenleigh	Nov.	17	Kopleck, W., Waterford
"	"	17	Proud, J., Beenleigh
"	"	17	Walker, Mrs. A., Redland Bay
"	"	17	Hope, G. A., Svatston Farm, Nerang
Brisbane	"	17	Decaux, L., South Pine road
"	"	17	Trundle, —, Brisbane
"	"	17	Goodwin, H., Mooloolah
"	"	17	Hutchinson, W., Upper Oxley Creek
"	"	17	Lyons, W., Upper Oxley Creek
"	"	17	Pearce, J., Mount Mee
"	"	17	Mayer, C. H., Lutwyche
Bunaberg	"	17	Meier, G., Apple-tree Creek
"	"	17	Carolan, R. Childers
"	"	17	Campbell, W., Isis Scrub
"	"	17	Thompson, J., Childers
"	"	17	Anderson, C., Apple-tree Creek
"	"	17	McKellar, A., Cowal, Tiaro
"	"	17	Nilson, N., Spring Vale

APPENDIX C—*continued.*

LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name a&d Address.
	1888.	

LIBERIAN COFFEE—*continued.*

Amount to each person,  $\frac{1}{2}$  oz.

Cairns	...	Nov. 17	Knight C., Mackey's Creek
"	...	" 17	Hoff, G. A., Fomartine
"	...	" 17	Koch, J., Fomartine
"	...	" 17	Leumann, A., Russell River
"	...	" 17	Field, H., Russell River
"	...	" 17	Jucker, J., Russell River
"	...	" 17	Monk, G. W., Russell River
"	...	" 17	Nilsson, W., Russell River
Cardwell	...	" 17	Heywood, H., Cardwell
Cooktown	...	" 17	Gorton, W. V., McIvor River
Dalby	...	" 17	Richards, W., Warra
Gladstone	...	" 17	Clymo, J., Calliope
Gympie	...	" 17	Biddles, L. H., Byrium
Herberton	...	" 17	Carrington, C., Herberton
"	...	" 17	Jackson, J., Martintown
Herberton	...	" 17	McIlwaine, H. C., Muttaborra
"	...	" 17	Newell, J., Herberton
"	...	" 17	Nash, W. D., Nigger Creek
"	...	" 17	Roberts, A., Herberton
"	...	" 17	Williams, E. P., Evelyn
Ingham	...	" 17	Smith, H., Ingham
"	...	" 17	Jefferies, —, Ingham
Ipswich	...	" 13	Ryan, M., Purga
"	...	" 13	Hawkins, W. C., Three-mile Creek
"	...	" 13	Cameron, C. C., Ipswich
"	...	" 13	Mueller, P. F. E., Black Duck Creek
"	...	" 13	Morgan, R., Purga
"	...	" 13	Tunstall, W., Dugandan
"	...	" 13	Parkinson, L. H., Tenthill, Gatton
"	...	" 13	McKee, F., Laidley
"	...	" 13	Goggins, T., Laidley
Mackay	...	" 13	McDonald, D., Auctmacroish
"	...	" 13	Clarkson, C. H., Lagoons
"	...	" 13	Ross, D., Hamilton
"	...	" 13	Johansen, C., Allandale
"	...	" 13	Hudson, G., Mackay
"	...	" 13	Edgar, B., Coningsby
"	...	" 13	Harvey, G. T., Glen Orkney
Normanton	...	" 13	Thomas, —, Normanton
St. Lawrence	...	" 13	Streeter, A. G., St. Lawrence
Toowoomba	...	" 13	FitzGerald, M. I., Clifton Collier
"	...	" 13	Davidson, P. I., Crosshill
Townsville	...	" 13	Woodman, J. R., Mount Antill P
"	...	" 13	Gulliver, B., Acacia Vale
"	...	" 13	Sauzier, C. G., Seaforth
"	...	" 13	Cutten Brothers, Bicton
"	...	" 13	Fawcett, J. W., State School

## BARLEY (self-husking).

Amount to each person,  $\frac{1}{2}$  oz.

Herberton	...	June 16	Carrington, C., Herberton
"	...	" 16	Carr, W. T., Barron River
"	...	" 16	Campbell, E., Strathvale
"	...	" 16	Gordon, R., Carrington
"	...	" 16	Halloran, H. T. B., Evelyn
"	...	" 16	Jackson, J., Martintown
"	...	" 16	Mooron, C. M., Martintown
"	...	" 16	Mazzlin, W., Boggy Creek
"	...	" 16	Moran, R., Carrington

APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1888.	

BARLEY (self-husking)—*continued.*Amount to each person,  $\frac{1}{2}$  oz.

Herberton	...	June 16	Moran, J., Barron
"	...	" 16	McIlwaine, H. C., Muttaborra
"	...	" 16	Newell, J., Herberton
"	...	" 16	Nash, W. D., Nigger Creek
"	...	" 16	McDonald, J., Barron
"	...	" 16	Whittingham, R. E., Flaggy Creek
"	...	" 16	Williams, E. P., Evelyn

## JAPANESE PLUMS.

Number to each person, 1.

Brisbane	...	Dec. 28	Pink, E. C., Wellington Point
Ipswich	...	" 28	Philp, J., Gatton
"	...	" 28	Winks, W., Peak Crossing
Toowoomba	...	" 28	Pentecost, H. L., Toowoomba
Mackay	...	" 28	Armitage, J., Mackay

5 plums and 48 persimmons (*Diospyros Kaki*) for State Nursery, Mackay.JAPANESE PERSIMMONS (*Diospyros Kaki*).

Number to each person, 4.

Beenleigh	...	Dec. 28	Dunn, W., Beenleigh.
Brisbane	...	" 28	Pink, E. C., Wellington Point.
Dalby	...	" 28	Dun, H. P., Irvingdale.
Ipswich	...	" 28	Jones, D., Redbank Plains.
"	...	" 28	Philp, I., Gatton.
"	...	" 28	Winks, W., Peak Crossing.
Roma	...	" 28	Bassett, S., Roma.
Toowoomba	...	" 28	Pentecost, H. L., Toowoomba.
"	...	" 28	Searle, G., Toowoomba.
"	...	" 28	McDowall, A., Toowoomba

## NARIKO BEAN (from South Sea Islands).

1889.

Beenleigh	...	Jan. 18	Dunn, W., Beenleigh
Bowen	...	" 18	Smith, R. H., Bowen
Brisbane	...	" 18	Pink, E. C., Wellington Point
Cairns	...	" 18	Monk, G. W., Cairns
Ipswich	...	" 18	Dickens, S., Fernvale
Mackay	...	" 18	Perkins, G. J., Mackay
Port Douglas	...	" 18	Montgomery, J. J., Allanton
Townsville	...	" 18	Cutten Bros., Bicton
"	...	" 18	Gulliver, B., Acacia Vale
Toowoomba	...	" 18	Pentecost, H. L., The Range

## SISSU-TREE (Native of Himalayas).

A few seeds allotted to each person.

Beenleigh	...	April 18	Castles, W., Loganholme
Brisbane	...	" 18	Whish, C. B., Brisbane
"	...	" 18	Williams, J., Runcorn
"	...	" 18	Piquenet, F. G., Boisdale, Mooloolah
"	...	" 18	Pearson, J., Brisbane
"	...	" 18	Rendle, Dr., Caboolture
"	...	" 18	Woolcock, W., Red Hill
"	...	" 18	Acclimatization Society
"	...	" 18	Hay, Jas., North Pine
"	...	" 18	Botanic Gardens
Ipswich	...	" 18	Hamley, J., Gatton
"	...	" 18	Queen's Park
Maryborough	...	" 18	Queen's Park
Rockhampton	...	" 18	Botanic Gardens
Toowoomba	...	" 18	Pentecost, H. L., Range

APPENDIX C—*continued.*

LIST OF SEEDS distributed by the DEPARTMENT OF AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	

SISSU-TREE (Native of Himalayas)—*continued.*

A few seeds allotted to each person.

Toowoomba ...	April 18	Crow, B., Toowoomba
" ...	" 18	Queen's Park
Townsville ...	" 18	Gulliver, B., Acacia Vale
" ...	" 18	Queen's Park

## MISCELLANEOUS.

## GUINEA GRASS.

Mackay ...	Jan. 25	Pioneer River Farmer's Association
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## SUGAR CANE.

Mackay ...	Jan. 11	Stevens, F. J., Mackay
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## QUEENSLAND GRASSES.

Director, Agricultural Experiment Station, Starkville, Mississippi,  
U.S.A.

## KAFFIR CORN.

Mackay ...	Feb. 15	Raymond, P. A., St. Helens, Pioneer River Farmer's Association
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## DUTOIT WHEAT.

Warwick ...	Feb. 18	Armstrong, R., Erin Vale
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## JOHNSON GRASS.

Ipswich ...	Feb. 12	Seally Bros., Harrisville
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## TOBACCO.

Cooktown ...	April 19	Davis, J. C., Kepunda Farm, Bloomfield River
St. Lawrence...	" 19	Phillips, R., care of Land Agent
Stanthorpe ...	May 8	Mathers, Jas., Stanthorpe

## CAROB BEAN.

Beenleigh ...	April 5	McInnes, —, Pine Mount Saw Mills, Upper Nerang
Cooktown ...	" 5	Hislop and Co., Wyalla, Bloomfield River

EDIBLE GOURD (*Benicasa cerifera*).

Cooktown ...	April 5	Hislop and Co., Wyalla, Bloomfield River
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## ESPARTO GRASS.

Brisbane ...	July 10	Henderson, J., Tambourine
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TREES forwarded to DIRECTOR, BOTANICAL GARDENS, ADELAIDE,  
in Wardian case.

Date.	Number.	Name of Tree.
1888.		
September 6 ...	10	Buckinghamia calissima (seedling)
" ...	1	Aristolochia grandiflora
" ...	1	Bignonia ficonia Hilli (rare)
" ...	2	Pincuta vulgaris (Allspice)
" ...	4	Clerodendron nutans
" ...	12	Ficus Benjaminea (Weeping Fig)
" ...	5	Barklya syringifolia
" ...	4	Stenocarpus sinuatus
" ...	1	Gardenia globosa
" ...	1	Sarguinea ferruginea (climber, Hong Kong)
" ...	1	Strophanthus aurantiacus
" ...	1	Kigelia pinnata (Sacred Tree of Nubia)
" ...	2	Macadamia tenifolia (Queensland Nut)

APPENDIX C—*continued.*LIST OF SEEDS distributed by the DEPARTMENT of AGRICULTURE,  
arranged in LAND AGENTS' DISTRICTS.LIST of TREE SEEDS forwarded to POLICE MAGISTRATE, BIRDSVILLE, on  
21st August, 1888.

Cocos plumosa (Wine Palm)  
 Bauhinia Hookerii (Queensland Ebony)  
 Callitres robusta (Cypress Pine)  
 Jacaranda mimosafolia  
 Stenocarpus Cunninghamii (flowering tree)  
 Erythrina speciosa (shade and flowering tree)  
 Barklya syringifolia (shade and flowering tree)  
 Cassia pistuchiafolia (shade and flowering tree)  
 Cassia fistula (flowering tree)  
 Macadamia tenifolia (flowering tree)  
 Sterculea quadrifida  
 Cryptomeria japonica  
 Evodia erecta  
 Pinus sinensis  
 Aruacaria Cookii  
 Eucalyptus marginata  
 Hibiscus sp.  
 Ficus macrophylla  
 Tristania conferta  
 Eupomartia vaurinia  
 Acacia blackwood  
 Pittosporum undulatum  
 Sterculea sp.  
 Eucalyptus globulus  
 Diploglottis Cunninghamii  
 Sideroxylon australe  
 Erythrina speciosa

MEDITERRANEAN WHEATS (from Vilmorin, Andrieux, and Co., Paris).  
 Small quantity to each person.

Land Agent's District.	Date forwarded.	Name and Address.
	1889.	
Beenleigh ...	April 6	Dunn, H., Veresdale, Logan
" ...	" 6	Davey and Gooding, Beenleigh
Brisbane ...	" 6	Rose, J., Wombye
" ...	" 6	Hay, J., North Pine
Toowoomba ...	" 6	Bishoff, D., Gowrie road
" ...	" 6	Muhling, L., Middle Ridge
" ...	" 6	Wecker, G., Highfields
Warwick ...	" 6	Matthews, J., Lower Freestone Creek
" ...	" 6	Bellingham, W. R., Greenmount
" ...	" 6	Holmes, S., Pittsworth
" ...	" 6	Weimers, B., Pittsworth
" ...	" 6	Hagenback, P., Freestone Creek

EGYPTIAN WHEATS (8 varieties—small quantity).

Warwick ...	April 18	Gore and Co., Yandilla
Brisbane ...	May 7	Bancroft, Dr., Caboolture

MISCELLANEOUS WHEATS (26 varieties—samples).

Warwick ...	May 7	Sharp, D., Pittsworth
" ...	" 7	Hagenbach, P., Warwick

## APPENDIX D.

SCHEDULE of PLANTS and SEEDS forwarded to STATE NURSERY,  
MACKAY.

Date Forwarded.	Name of Plant.
1889.	
April 6	Kaffir Corn
" 6	Mediterranean Wheat (Galando Hybrid)
" 6	" " (Defiance Red Bordeaux)
" 13	Nepaul Orange
" 13	Sissu Tree
" 13	Egyptian Wheat (Feftich Wheat, from Sakha, No. 1)
" 13	" " " " " " " " No. 2)
" 13	" " " " " " " " Otiah
" 13	" " Behur, No. 1
" 13	" " Santa Feftich
" 13	" " Behur, No. 2
" 13	" " Port Said, No. 2
" 13	Phoenix paludosa (Date family)
" 13	Black Barley Wheats
" 13	" Tartarian Oats
" 13	Rye
" 13	Honeydew Sorghum
" 13	Dhourra
" 13	Ceara Rubber
" 13	Nariko Bean, from South Sea Islands
" 13	Carob Tree ( <i>Certonia Siligua</i> , Linn.)
" 13	Annatto ( <i>Bixa Ovellana</i> )
" 13	Papa Grass (from Cooper's Creek)
" 13	Trigonella Grass (from Cooper's Creek)
" 13	Nantes Carrot
May 3	Capparis Spinosa
" 3	Lin de Rega (Linseed)
" 3	Chicory Samage
" 3	Rape (small seeded)
" 3	Connecticut Tobacco (French grown)
" 3	Havana
" 3	Kentucky White Stem Tobacco (French grown)
" 3	Maryland
" 3	Virginia
" 3	White Burley
" 3	Turkish
" 3	Connecticut
" 3	Havana
" 3	Kentucky White Stem
" 3	Maryland
" 3	White Burley
" 3	Indian
" 3	Hungary
" 3	Debroe
" 3	Hungary Verpelet
" 3	Violet
" 3	Aromatic Turkish
" 10	12 Bahia Navel Orange Trees, in Wardian case



APPENDIX E.

SCHEDULE of SEEDS and PLANTS applied for, but not yet to hand.

Plants or Seeds Applied for.	Variety.	To Whom Application sent.
Japan Clover ...	...	Board of Agriculture, Sac., California
White Hickory, or Scaly-bark Hickory	...	Department of Agriculture, Washington
Locust Tree ...	Black ...	Department of Agriculture, Washington
Ash ...	White ...	Department of Agriculture, Washington
Sugar Maple ...	...	Department of Agriculture, Washington
Cotton-wood ...	...	Board of Agriculture, California
Clover ...	Japan ...	Department of Agriculture, Japan
Anatsja, or Tea of Heaven	Hydrangea Thunbergii ...	Japan
Date Plum ...	Diospyros Kaki ...	"
Banana ...	Musa sapientum ...	South Sea Islands
Bread-Fruit ...	Artocarpus ...	"
Cotton ...	Gossypium ...	America ...
Texas Millet ...	Panicum Texanum ...	" ...
Buffalo Grass ...	Buckloe dactyloides ...	" ...
Pepino, or Melon Shrub	Solanum Guatemaleusa ...	" ...
Spanish Lime ...	Melicocca bijuga ...	"
Cinnamon ...	Cinnamomum Zeylaincum	Ceylon ...
Allspice ...	Pimenta communis ...	" ...
Ipecacuanha ...	Cephalis ipecacuanha ...	" ...
Cardamon ...	Elettaria cardamomum ...	" ...
Nutmeg ...	Mysistica fragrans ...	" ...
Black Pepper ...	Piper nigrum ...	" ...
Areca Nut ...	...	" ...
Para India Rubber	Hevea trasiliensis ...	" ...
Leechee ...	Nephelium Litchii ...	China ...
Apricots ...	...	" ...
Plums ...	...	" ...
Cherries ...	...	" ...
Daphne Paper ...	Daphne payracea ...	" ...
Tea ...	Various kinds ...	" ...
Til, or Ginelly Oil	Sisamum Indicum ...	India ...
Tinnevelly Senna...	Cassia acutifolia ...	" ...
Mecca Senna ...	Cassia augustifolia ...	" ...
Bastard Saffron ...	Canthanins tinctoris ...	" ...
Gram, or Chick Pea	Cicer arietinum ...	" ...
Jute fibre plant ...	Corchorus capsularis ...	" ...
Opium Poppy ...	Papaver somniferum ...	" ...
Indigo ...	Indigofera tinctoria ...	" ...
Mango ...	Magnifera Indica... ...	" ...
Job's tears ...	Coix lachryma ...	" ...
Rice ...	Oryza sativa ...	" ...
Lemon Grass ...	Andropogon citratus ...	" ...
Otaheite Gooseberry	Cicea disticha ...	" ...
Tamarind ...	Tamarindus Indica ...	" ...
Tea ...	Various kinds ...	" ...
Chinchona ...	...	" ...
" ...	Succirubra ...	" ...
" ...	Legeriana calisaya ...	" ...
" ...	Officinalis ...	" ...
" ...	Condaminea ...	" ...
" ...	Robusta ...	" ...
Cascara sagrada ...	...	State Board of Agriculture, California

Through the Hon. the Chief Secretary.

## APPENDIX E—continued.

## SCHEDULE of SEEDS and PLANTS applied for, but not yet to hand.

Plants or Seeds Applied for.	Variety.	To Whom Application sent.
Cocoanuts .. ...	Different varieties ...	New Guinea ...
" ...	Meldive ...	Singapore ...
" ...	Ship ...	" ...
" ...	Jaffra ...	" ...
" ...	Goa ...	" ...
" ...	Dutch ...	" ...
" ...	Ceylon ...	" ...
" ...	Portuguese.. ...	" ...
" ...	Minute ...	" ...
" ...	Globular ...	" ...
" ...	Tanjore ...	" ...
" ...	Sanbright ...	" ...
" ...	Goulpatra ...	" ...
" ...	Crimson ...	" ...
Ein-kom ...	One corn ...	Wurtemberg ...
Coffee ...	Coffee Arabica ...	Acclimatisation So- ciety
Guinea Cork ...	...	J. H. Hart, Trinidad
Hops ...	...	Secretary for Agricul- ture, Melbourne
Serradella Grass ...	...	Dr. Goessmann Am- herst, Massachusetts

Through the Hon. the Chief  
Secretary.

## APPENDIX F.

SCHEDULE of SEEDS Purchased by DEPARTMENT of AGRICULTURE  
for DISTRIBUTION.

From whom Purchased.	Address.	Name of Plant.	Quantity.
Vilmorin, Andrieux, and Co.	Paris	<i>Mediterranean Wheats—</i> Rouge Inversable ...	50 kilos
" ...	"	Petanielle Blance ...	50 "
" ...	"	Trimenia Barbu du Sicile	25 "
" ...	"	Belatourka ...	25 "
" ...	"	de Pologne ...	25 "
" ...	"	Richelle Blanche de Naples	25 "
" ...	"	de Mars sans barbe ...	25 "
" ...	"	Quinoa white ...	4 oz.
" ...	"	Benicasa cerifera ...	4 "
" ...	"	Galega officinalis ...	10 lb.
" ...	"	Lizania aquatica ...	1 paper
" ...	"	Cytisusproliferus albus	1 lb.
" ...	"	Humulus Japonicus ...	$\frac{1}{3}$ oz.
" ...	"	Lucerne de Provence...	2 lb.
" ...	"	" de Poitou ...	2 "
" ...	"	" Rustique ...	2 "
" ...	"	Pyrethum de Caucase	$\frac{1}{3}$ oz.
" ...	"	Anthyllis Vulneraria	$\frac{1}{2}$ lb.
" ...	"	Panicum frumentaceum	1 kilo
" ...	"	Eragrostis Abyssinica	100 gram.
" ...	"	Soja Hispida ...	4 oz.
" ...	"	" " grainuvis	4 "
" ...	"	" comestible d'Etam- pes	4 "

## APPENDIX F—continued.

SCHEDULE of SEEDS Purchased by DEPARTMENT of AGRICULTURE  
for DISTRIBUTION.

From whom Purchased.	Address.	Name of Plant.	Quantity.
Vilmorin, Andrieux, and Co.	Paris ...	Lotier corniculé ...	
"	"	" velu ...	4 oz.
"	"	" cultivé ...	4 "
"	"	Astragalus galegifornis	1 paper
"	"	" a feuille de Reglisse	1 "
"	"	Mellilot de Siberié ...	2 lb.
"	"	" grand de bois	2 "
Stuart, J. M. Superintendent Botanic Gardens	Brisbane ... St. Helena ... Brisbane ...	Ramie seed ... Sweet Potatoes ... Japanese Plums ...	14 oz. 2 tons 10
"	"	" Persimmons	90
Cocking and Co. School of Agriculture	Yokohama ... Dookie, Vic- toria	Chorogi ... Purple straw Wheat ...	50 lb. 11 bags
"	"	Champlain Hybrid ...	10 " 1 bag
"	"	White Tuscan ...	
"	"	Steinwedels ...	2 bushels
Queensland Farmers' Agency	Brisbane ...	Kaffir Corn ...	1 "
Gilson, J.	Ceylon ...	Nepaul Orange Seed ...	small qty.
"	"	Sissu Tree ...	"
Vilmorin, Andrieux, and Co.	Paris ...	<i>Egyptian Wheats—</i> Sakka and Mecir	small qty.
"	"	Veftich No. 1, Egypt	"
"	"	" d'Afray	"
"	"	" des Santa	"
"	"	Gruno Behur, 1	"
"	"	" " 2	"
"	"	" Saidi, 1	"
"	"	" " 2	"
"	"	Nantes Carrot ...	$\frac{1}{2}$ lb.
"	"	Capparis Spinoza ...	3 oz.
"	"	Lin de Riga ...	1 lb.
"	"	Chicory ...	2 "
"	"	Rape ...	2 "
"	"	French-grown— Connecticut Tobacco	2 papers
"	"	Havana "	2 "
"	"	Maryland "	2 "
"	"	Virginia "	2 "
"	"	White Burley "	2 "
"	"	Cure "	2 "
"	"	American saved— Hockman Connecti- cut Tobacco ...	2 "
"	"	Connecticut Tobacco	2 "
"	"	Havana "	2 "
"	"	Kentucky, white stem	2 "
"	"	Maryland Tobacco	2 "
"	"	White Burley "	2 "
"	"	S. Indian "	2 "
"	"	Hungarian "	2 "
"	"	Debroe "	2 "
"	"	Hungarian Verpelet Tobacco ...	2 "
"	"	Violet Tobacco ...	2 "
"	"	Aromatic Turk Tobacco	2 "

## APPENDIX G.

SCHEDULE of PLANTS and SEEDS Contributed to the DEPARTMENT of AGRICULTURE during the year ended 30th June, 1889.

Name of Donor and Address.	Name of Plant or Seeds.
Town Council, Adelaide, South Australia	Olive Truncheons
School of Agriculture, Dookie, Victoria	Olive Berries
Botanic Gardens, Adelaide, South Australia	Esparto Grass
Botanic Gardens, Adelaide, South Australia	Rush-leaved Lygeum
Town Council, Adelaide...	Olive Oil
Shaw, J. Mackenzie, Brisbane...	Riparia Vine Seed
Henderson, J., Tambourine ...	Buckwheat
Gulliver, B., Townsville...	Ceara Rubber
Department of Agriculture, Georgia ...	Kolbs Gem Water-melon
Browne, C. W., Mackay ...	Dhourra Seed
Bancroft, —, Brisbane ...	Cow Pea
Cecil, A., Brisbane ...	Nariko Bean (from Erromanga)
Acclimatisation Society, Brisbane ...	Ramie Plants
Botanic Gardens, Brisbane ...	Guinea Grass
Botanic Gardens, Adelaide ...	Carob Bean
Acclimatisation Society, Brisbane ...	Broom Millet
Henderson, J., Tambourine ...	Kaffir Corn
Greenup, E. B., Texas ...	Havana Tobacco
Sterling Syrup Works, Kansas, U.S.A.	Honeydew Sorghum
Piquenet, F. L., Mooloolah ...	Gold-leaf Virginia Tobacco
Department of Agriculture, Germany	Asperset or Esparcette
Baneroft, Dr., Brisbane ...	Seed Wheats (26 varieties)
White, P., Laidley ...	Giant Honduras Sorghum





April 20	Mr. J. Dolan	...	9½	25	13	86	...	...	...	12 noon	76	...	0 36	...	Cream returned ...	Heavy rain. Attendance, 27 adults and 3 pupils. Butter turned out very sweet but soft. Coldest water obtainable, 74 deg. F. Weather showery. Attendance, 50 adults and 5 pupils. Used Baby for separating. Time occupied, 4 hours 10 minutes. Ground too soft for using horse-works. Great interest still taken in dairy, some coming long distances to view. Butter from this day's milk of good flavour but rather soft, as water supplied for washing was at too high a temperature.	
"	Churning ...	...	9½	...	...	...	...	...	...	...	...	...	...	...	...	...	
April 22	Mr. S. Andrews	...	6½	25	12	...	...	...	...	12 noon	80	...	...	...	Handed to suppliers of milk, who delivered <i>pro rata</i> Butter from milk supplied on this day was made on 24th April	Weather showery. Attendance, 69 adults, 6 pupils, and about 30 children. There were a great number of ladies attended this day and took great interest in the cheese-making, most of them being in attendance for eight hours and more.	
"	T. Burke	...	24		12	...	...	...	...	...	...	...	...	...			...
"	J. Andrews	...	22		10	...	...	...	...	...	...	...	...	...			...
"	Duggan	...	0½		8	...	...	...	...	...	...	...	...	...			...
"	Simpson	...	4½		8	...	...	...	...	...	...	...	...	...			...
"	W. Dolan	...	1½		10	...	...	...	...	...	...	...	...	...			...
"	J. Dolan	...	6½		12	...	...	...	...	...	...	...	...	...			...
"	Dwyer...	...	1½		8	...	...	...	...	...	6 p.m.	74	...	...			...
"	Moylan	...	2	9	...	...	...	...	...	...	...	...	0 45	...			
April 23	Mr. W. Andrews	...	28	...	...	...	8	...	...	...	...	...	...	...	Handed to suppliers of milk, who delivered <i>pro rata</i>	Weather showery. Attendance, 69 adults, 6 pupils, and about 30 children. There were a great number of ladies attended this day and took great interest in the cheese-making, most of them being in attendance for eight hours and more.	
"	S. Andrews	...	4	27	10	...	...	...	...	12 noon	78	...	...	...			
"	Moylan	...	8		12	...	...	...	...	...	...	...	...	...			...
"	Duggan	...	2		8	...	...	...	...	...	...	...	...	...			...
"	Leonard	...	0½		8	...	...	...	...	...	...	...	...	...			...
"	J. Andrews	...	0½		8	...	...	...	...	...	...	...	...	...			...
"	T. Burke	...	3		10	...	...	...	...	...	...	...	...	...			...
"	Simpson	...	2		14	...	...	...	...	...	...	...	...	...			...
"	J. Dolan	...	3		10	...	...	...	...	...	...	...	...	...	...		
"	W. Dolan	...	8½	12	...	...	...	...	...	6 p.m.	72	...	...	...			
"	W. Dolan	...	2	10	...	...	...	...	...	...	...	...	...	8 30			
April 24	Mr. W. Andrews	...	34	...	...	...	...	38½	...	...	...	...	...	8 30	Cream returned ...	Weather showery. Attendance, 40 adults and 6 pupils.	
May 1	Mr. W. R. Oxenford	...	4	...	10	...	...	...	...	12 noon	84	...	...	...	Handed to suppliers of milk	Heavy rains. Attendance, 76 adults and 7 pupils. Baby machine used for 1 hour.	
"	R. Heathwood	...	36	...	12	...	...	...	...	12 noon	76	...	...	7 0			
"	R. Heathwood	...	13	...	10	...	...	...	...	...	...	...	...	...	Cream returned ...	...	
"	R. Heathwood	...	49	25	...	...	...	...	...	...	...	...	...	7 0	...	...	
May 2	Mr. W. R. Oxenford	...	34½	...	12	...	...	...	...	12 noon	86	...	...	...	Butter returned to suppliers	Fair weather. Attendance, 37 adults and 4 pupils. Pupils present were instructed in use of AI machine.	
"	S. Grimes	...	24	...	10	...	...	...	...	...	...	...	...	...			
"	G. H. Foxwell	...	4½	...	10	...	...	...	...	...	...	...	...	...			
"	W. Ferguson	...	54	...	10	...	...	...	...	...	...	...	...	...			
"	R. Heathwood	...	8½	...	12	...	...	...	...	6 p.m.	76	...	...	...	...	...	
May 2	R. Heathwood	...	55	27	...	79	24½	...	...	...	...	...	0 35	...	...	...	

APPENDIX H—continued.  
TRAVELLING DAIRY DAILY REPORT—OXENFORD.

Date.	Name of Supplier of Milk.	Gallons of Milk Received.	Gravity of Milk.	Percentage of Cream.	Temperature of Cream.	Butter Made.	Cheese Made.	DAILY TEMPERATURE.		TIME OCCUPIED IN—		Disposition of Butter and Cheese.	Remarks.
								Hour.	Reading of Thermometer.	Churning.	Cheese-making.		
1889.													
May 3	Mr. R. Heathwood	8	...	12	70	...	...	12 noon	84	h. m.	...	Cream returned ...	Fair weather. Attendance, 50 adults and 7 pupils. 8 gallons used in 1 Baby Separator.
May 4	Mr. W. R. Oxenford	34	...	12	...	...	37 $\frac{3}{4}$	12 noon	80	6 40	...	Handed to suppliers of milk	Weather, fair and warm. Attendance, 92 adults and 7 pupils.
" 4	Barr	12	...	10	...	...	...	...	...	...	...	Cream returned	Used Baby Separator for 2 hours.
" 4	R. Heathwood	8	...	12	...	...	...	...	...	...	...	Cream returned	
		...	26	...	...	...	...	...	...	6 40	...		
May 6	Mr. W. R. Oxenford	18	...	12	...	...	...	12 noon	82	...	...	Handed to suppliers of milk	Weather fair, with slight showers.
" 6	Barr	11 $\frac{1}{2}$	...	10	...	...	...	...	...	...	...		Attendance, 25 adults and 4 pupils.
" 6	R. Heathwood	7	...	12	...	...	...	...	...	...	...		Separating occupied 27 minutes.
" 6	W. Ferguson	4 $\frac{1}{2}$	...	12 $\frac{1}{2}$	...	...	...	6 p.m.	78	...	...		
		41	27	...	77	...	...	...	...	...	...		
May 7	Churning	...	...	...	66	19	...	12 noon	70	2 25	...	Handed to suppliers of milk	Continuous rains. Attendance small.
		10	25	...	...	...	...	12 noon	72	...	...	Cream returned ...	Heavy rains. Attendance, 37 adults and 4 pupils.
May 8	Mr. R. Heathwood	7 $\frac{1}{2}$	...	12	...	...	...	...	...	...	...	Returned to suppliers of milk	More rain. Attendance, 35 adults and 4 pupils.
May 9	Mr. R. Heathwood	15	...	12	...	...	...	...	...	...	...		
" 9	Barr	...	26	...	...	...	...	12 noon	76	6 25	...		
		22 $\frac{1}{2}$	...	...	...	...	29 $\frac{1}{4}$	12 noon	...	...	...		



May 10	Mr. Heathwood	...	19	...	...	...	...	...	...	...	...	...	...	Returned to suppliers of milk	Fine weather. Attendance, 43 adults and 8 pupils.
"	Barr	...	16	...	...	...	...	...	...	...	...	...	...		
			35	26	...	40	12 noon	88	...	...	6	45			
May 11	Mr. W. R. Oxenford	...	18	...	...	...	...	...	...	...	...	...	...	Returned to suppliers of milk	Fine weather. Attendance, 100 adults and 4 pupils.
"	Barr	...	16	...	...	...	...	...	...	...	...	...	...		
			34	27	...	39	12 noon	84	...	...	6	30			

By Authority: JAMES C. BEAL, Government Printer, William street, Brisbane.

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

PLANT INDUSTRY REPORT NO. 100

Year	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	Total
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...

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# VITICULTURE

AND

# WINE-MAKING

IN THE

SOUTHERN DISTRICTS OF QUEENSLAND.

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REPORT OF THE UNDER SECRETARY FOR AGRICULTURE.

---

BY AUTHORITY :

JAMES C. BEAL, GOVERNMENT PRINTER, WILLIAM STREET, BRISBANE.

1889.

VITICULTURE

AND

WINE-MAKING

IN THE

SOUTHERN DISTRICTS OF QUEENSLAND.

REPORT OF THE UNDER SECRETARY FOR AGRICULTURE

JAMES G. BARR, GOVERNMENT VINEYARDIST, WITH A FOREWORD BY A. J. HAYES

1883

## VITICULTURE AND WINE-MAKING IN THE SOUTHERN DISTRICTS.

Department of Agriculture,  
Brisbane, January, 1889.

SIR,—In reply to your B.C. of the 2nd November, 1888, desiring to be informed what steps could be taken to increase the area under vines and to improve the manufacture of wine, and instructing me to visit the chief centres of vine-growing and wine manufacture in the southern parts of the colony, I have the honour to report that I have visited Mitchell, Toowoomba, Warwick, Ipswich, Pimpama, Coomera, Nerang, and several vineyards in the immediate vicinity of Brisbane.

### MITCHELL.

At Mitchell very little has as yet been done in the planting of grape vines. The only vineyard of any importance in this district, so far as I could ascertain, is a small one of about 2 acres, situated in the township, and owned by a Mr. Searle.

**MR. SEARLE'S VINEYARD.**—I visited this vineyard, and went carefully over it in company with the proprietor.

The township of Mitchell is situated on the western bank of the Maranoa River; the surface is flat, of a siliceous formation, and the soil in Mr. Searle's vineyard is a fair sample of the surrounding district.

Although, as Mr. Searle admits, he is but an amateur viticulturist, he appears to be possessed of a good deal of common sense, and is quite aware that it is not sufficient for the growth of vines to dig a hole and stick a vine into it, or to plough the land shallow and then lay out the vineyard and plant the cuttings. All the ground in this vineyard is trenched to a full depth of 2 feet, the soil well turned up to the weather, and by these means a good crop of fruit has been secured even in dry weather. At the time of my visit his vines looked remarkably healthy, and were heavily laden with fruit. The vines are planted well apart, affording plenty of space for light and air.

In training the vine for fruiting purposes, different growers have adopted different systems, without regard to the nature of the plant. Some adopt the "trellis" system, others again simply tying to stakes; while at one vineyard at Roma the owner, Mr. Twine, has, with some of his vines, adopted what is called the "goblet system," which is accomplished by taking a long fruit vine, bending it round in arch form, and tying it back to the main stem. For convenience in working the ground and keeping it clean, the stake or goblet system is preferable to the trellis; but, on the other hand, a larger quantity of fruit is secured by the latter system. Mr. Searle has adopted the trellis, as it answers his purpose very well with the small area of land he has under cultivation, and which can be easily worked and kept clean.

As knowledge of the nature and habits of the grape vine increases amongst the viticulturists of this colony, it will doubtless be found when viticulture has become a fixed industry that different varieties of vines require different varieties of soil.

In the Mitchell district are to be found different classes of soil—rich, deep loam, scrub land of volcanic formation, and sandy soil well drained, and yet retaining sufficient moisture to develop the fruit even in such a protracted drought as the district was suffering from at the time of my visit.

Although Mr. Searle is but an amateur, he has got hold of the correct idea that by grafting he can increase the hardihood of his vines and secure a better class of fruit. As yet he has experimented with only one vine, but to judge from appearances his graft has been a thorough success.

Grafting is a matter that the viticulturists of this colony cannot too soon devote some time and attention to, for it is a well-known fact that by grafting the more delicate vines on to stocks that have proved themselves more able to resist the diseases that grape vines are subject to in this colony, the better chance there is of securing a crop than by growing direct from the parent stock. And there is another point which must also be kept steadily in view: So far, Queensland has been exempt from the dreaded *Phylloxera vastatrix*. As this disease has already attacked some of the vineyards in New South Wales, it may almost be looked upon as a certainty that at no distant day this disease will visit Queensland; therefore it behoves every viticulturist to commence without delay raising resistant stock on which to graft the weaker kinds, which would be more liable to be attacked by this enemy to vignerons.

**RIPARIA.**—This Department was fortunate enough to secure a few small parcels of the *Riparia*, one of the wild vines of America, and distributed them to some of the principal vignerons. This is one of the best varieties of resistants, and will adapt itself to the worst soils; is at home in either arid, pebbly land or strong soil. Some writers in Europe affirm that it is so little attacked by *Phylloxera* that it is able to resist this scourge. Others again believe that although not absolutely phylloxera-proof, it is one of the varieties most able to resist the attack.

#### MEETING AT MITCHELL.

While at Mitchell I held a meeting of those interested in agricultural pursuits, and after addressing those present, desired expressions of opinions upon the future prospects of agriculture and viticulture in that district. In reply, I was informed that unless some means of providing water for irrigation purposes could be devised, there was little prospect for either agriculture or viticulture.

In nearly every case those who have selected land in this district are men of limited means who are not able to incur the expense of the storage of water by dam-making, or procuring an underground supply by sinking.

**SINKING FOR WATER.**—If a bore were put down by the Government to test the district, and water was procured, it would be the means of stimulating private enterprise, as farmers and others would then know that by incurring certain expenses they would be sure to obtain water, which, when applied to the land, would speedily recoup them for any expenses incurred in obtaining it.

The Divisional Board at the time of my visit were sinking a well for the supply of the town, but water was not reached before my departure from Mitchell.

#### ROMA.

At Roma I visited the vineyards of Messrs. Bassett, Bourne, Caddell, Smith, Robinson, Twine, Leach, and Randall.

**BASSETT'S VINEYARD.**—Mr. Bassett's vineyard is situated about 1 mile from the town of Roma. The soil is of a loose, sandy nature, evidently well adapted to the growth of the grape vine. The area under crop is about 60 acres. Mr. Bassett states that, like many others when first entering upon this industry, he was possessed of very little knowledge of grape vines, or the proper method of laying out a vineyard, consequently, after planting the first portion, he found that he had placed the vines too close together, and the rows also too near to each other—viz., 5 feet between and 4 feet in the rows.

In the second portion of the vineyard planted he improved his system of planting by placing the vines wider apart—viz., 6 feet in and 5 feet between the rows.

More experience was gained by his second planting, the result being that in the last portion planted he adopted what he considers to be the proper space in the Roma district—viz., 10 feet between and 6 feet in the rows.

In preparing the soil for the vines, the land was ploughed in the usual manner to a depth of 6 or 7 inches. This shallow ploughing may be sufficient for the loose sandy soil around Roma, but I am of opinion that even in that class of soil considerable advantage would be gained by a subsoil plough following the first plough, thus bringing the soil under the mellowing influence of the atmosphere, and which would undoubtedly prove beneficial to the grape vines, especially young vines.

Mr. Bassett has adopted the stake system in his vineyard, and having such a large area of ground to work, he is probably right in adopting this system.

Although the trellis system has many advocates, tillage is greatly facilitated with the stake system, by allowing the use of horses in keeping the ground clean, and in stirring up the soil both along and across the rows. The hoe can then be used in cleaning up near the roots of the vine.

I learnt from inquiry that, except in close, muggy, wet weather, the vines in this district are seldom attacked by oidium, and when attacked the fungi gives way readily to an application of sulphur mixed with fine ashes. This freedom from disease is, no doubt, to be attributed to the absence of the humidity which induces the disease in the coast districts. Black spot occasionally appears on the vines, but not to such an extent as to do any serious damage to the fruit.

The average yield from this vineyard is about 2 tons to the acre, making 200 gallons of wine; and as Mr. Bassett has a name for making good wine, he is able to dispose of all he produces without difficulty.

The cellar, which is partly above and partly below ground, is built of corrugated iron in 7 feet 6 inch lengths, with a space of 18 inches filled in with battens to the wall-plate, and covered with corrugated

iron. The building with one part underground is about 36 feet by 40 feet, and attached to the end is a building of the same material, about 50 feet by 24 feet, constructed on the same principle.

No effort appears to be made to keep a regular degree of temperature in this cellar; indeed, from the mode of construction, great difficulty would be experienced in securing a regular degree of temperature in such a building. From what I have ascertained of the manner of wine-making in other countries, there is no doubt that the question of temperature plays an important part in the production of really first-class wine.

This subject is of great practical importance and deserves more consideration than it has hitherto received at the hands of our wine-makers, and may to a certain extent be the reason why so much of the wine manufactured in Queensland has been so far below the standard in quality.

**BOURNE'S VINEYARD.**—The next place visited was Mr. Bourne's, situated upon Bungil Creek. The soil is much the same as Mr. Bassett's, and a large amount of money has been expended in bringing the place to a high state of cultivation. The vines are well and regularly planted in rows 10 feet apart and 6 feet in the row. This vineyard has been planted about five years. The vines looked healthy, and were fairly well loaded with fruit; but, as in many other vineyards, the vines suffered very much from a severe frost which visited this district as late as the 6th October last.

An attempt has been made at irrigation from a waterhole in the creek. A force pump has been erected, worked by horse gear, the water being pumped into a 400-gallon tank, then run into a barrel, whence it is lifted out in watering-cans similar to those used by the Chinese in watering their gardens. But irrigation carried out on such a scale is comparatively valueless, as the area irrigated—viz., twenty acres—is too large to be successfully treated by such means.

**SMITH'S VINEYARD.**—Mr. Smith's was the next place visited. He has about 4 acres of three-year-old vines, and has planted  $6\frac{1}{2}$  acres this season.

The old vines were bearing well for their age, but it was only by careful and continuous watering from a well on the ground that the newly planted portion was saved during the drought. The soil is very light and sandy, and to judge from appearances would require some fertilising agent, if a succession of crops is to be gathered.

**ROBINSON'S WHEAT.**—At Robinson's, a short distance along the road, I was pleased to find that he had succeeded in growing some of the wheat sent out by this department in the early part of the year, notwithstanding the very dry weather.

The sandy soil of Roma, retaining what little moisture it received, enabled this man to gather a small crop, whereas on stronger land the wheat has been a complete failure.

Robinson has a small area under vines, but they are not so well looked after as in other vineyards.

**TWINE'S VINEYARD.**—A drive of some 8 miles brought me to Mr. Twine's vineyard, where there are 17 acres situated on the side of a ridge under vines.

The soil is of a very sandy nature, and to all appearances would yield but poor returns, but Mr. Twine informs me that he generally



gathers a very good crop. This year, however, will be an exception, as the late frost was very severe at his place, destroying nearly three-fourths of his fruit. At the time of my visit the vines were languishing for want of rain, and were it not for the retentive nature of the sandy soil there would have been no fruit whatever, and in all probability many of his stocks would have perished. The vines are planted 10 feet by 6 feet. In one part of the vineyard the trellis system has been adopted, and in the other part stakes are used. Mr. Twine has also tried the goblet system with a few of his vines, and is so thoroughly satisfied with it that he expresses his intention to adopt it extensively in further pruning.

Mr. Twine works his land deep before planting, and the appearance of his vines during such a protracted drought proves the wisdom of such a course. His cellar, 24 feet by 20 feet, is a very primitive building, consisting of bark walls and roof, the walls being about 4 feet in height. I am of opinion that such a building is not at all adapted for the making and storage of wine. Mr. Twine has a considerable quantity of wine in stock, small barrels being used in preference to the larger ones in general use in wine cellars.

LEACH'S VINEYARD.—On my journey back to Roma I visited the vineyard of Mr. Leach, which is situated on a ridge, with a fall to the east, west, and north. The soil is a strong, reddish loam of a calcareous nature, and in my opinion, strengthened by the appearance of the vines, this is the best class of soil in the district for the grape vine. The land was broken up with a bullock plough 17 inches deep, harrowed, and then cross-ploughed to the depth of nearly 2 feet. The effect of this treatment tells its own tale, as in no part of the Roma district did I see such healthy vines, and showing such a large crop of fruit. Altogether there are 26 acres under vines, one-half being wine grapes and the other half table fruit.

Some distance from this vineyard, Mr. Leach has 10 acres more planted, making in all 36 acres. No wine has yet been made, the vines being only three and four years old. A large amount of money has been spent on this place, and the owner is entitled to every success.

Although neither an agriculturist nor viticulturist, this man evidently knows how a vineyard should be prepared, laid out, and worked. The vines are planted in rows 10 feet by 6 feet, and the stake system has been adopted. The frost did little injury to the vines, and in a short time this will be a very valuable property.

HARLAN'S VINEYARD.—Nearer the town there is another very fine vineyard, the property of Mr. Harlan, who was from home at the time of my visit, but I went carefully through his vines, which are planted on a sandy ridge, and although suffering from the effects of the frost, give evidence of a large crop. The stocks are about five years old, and looked remarkably well considering the season; careful tillage, no doubt, conducing to this result.

#### MEETING OF FARMERS AT ROMA.

During the time I was at Roma, I held a meeting of farmers and others in the Town Hall, kindly lent for the occasion by the Mayor, who occupied the chair. After addressing the meeting, and exhibiting samples of raisins prepared by Mr. Spawn, at Melbourne, I invited expressions of opinions from those present, as to what steps could be taken to increase the area under grapes and improve the manufacture

of wine. The following clipping from the *Western Star* gives the gist of what was said on that occasion. Mr. Bassett was not present at the meeting, but subsequently wrote giving his views on the subject, which letter I also append:—

“Mr. John Page said he had been in the colony since 1852, but he thought the Queensland Government had been backward in coming forward to assist the farmers since separation from New South Wales. He considered that the best kind of assistance that could be given would be in establishing some system of water storage. Without that farmers could do nothing. They required a good supply of water so that irrigation of the cultivated land could be brought about. Without water they could not make things grow. It was all very well to preach, but they required practical help in this direction, and it would be a great benefit to the public at large.

“Mr. Alexander Robinson referred to no market being available for either grapes or wine. He himself made excellent wine from black cluster grapes, as good a wine as any produced in any part of the world. One thing required to improve the condition of the farmers and improve the quality of the wine was a wine manufactory. That would help the district as much as anything, for if they had a market or buyer for the grapes or ‘must’ they could extend their vineyards and employ men to work them. Not only that: they required a distillery where a good marketable brandy could be produced; also a bonded store. The farmers were all poor men, and could not provide these things, but they could grow excellent grapes from which good wine could be made. If the wine industry were established on a sound footing the vigneron would become prosperous and Roma would grow into a big city. At present the farmer got nothing for his crop after the charges for sending to Brisbane were paid, and the best thing he could do was to make a few barrels of good wine for himself and get drunk. They all knew that in favourable seasons there was not a better district in the country for wheat-growing. As to the storage of water, they could not expect the Government to sink a well on every selection. But the Government had helped the sugar industry by enabling sugar-growers to start central mills. Why should not help be given in a similar way to the wine-grower?

“Mr. Bing thought that so far as a central wine-making company was concerned the farmers and residents of the district had an opportunity offered them to help themselves. He held in his hand a prospectus of such a company, and if the people here would only come forward and take up 2,000 or 3,000 shares work would be begun almost immediately, and the affair would be bound to be a success. There was nothing to prevent a really good return for the outlay, and such a company would advance the interests of vigneron and the townspeople generally better than anything else he knew of. Already some 7,000 or 8,000 shares had been arranged for disposal to people in Brisbane, and if the people here would show some confidence in an undertaking calculated to be of so much benefit locally the company would be carried to a successful issue. He hoped the residents here would lose no time in applying for shares. If they once got a wine company at work there was no reason why they should not also make brandy and dry grapes for raisins as well. If the proper description of grapes were grown they could make as good raisins here as in America or Victoria.

“Mr. Shorman said that not many vines were suitable for raisins, but they wanted the wine company here. It was unfortunate that through bad seasons and the want of a market for their produce the farmers here were just now so poor. If they were better off the shares of the proposed company would be much more readily taken up. If the company could be formed and be got to work this year it would do more to advance the interests of the district than anything else.

“Mr. Twine said he understood the Government was desirous of assisting as far as possible in increasing the area under vines and in improving the

quality of the wine. No doubt if the Government could assist by facilitating the formation of the wine company it would be done, but the company would be formed if the people here would only put their shoulders to the wheel. He strongly urged the people of Roma to take up shares. It depended upon them whether the company was floated or not. As to Mr. McLean's visit, he thought the farming industry might be benefited by the department starting experimental farms in various districts; not model farms, but farms where new descriptions of plants would be raised. And these might be developed into training schools for the youth of the country who intended to follow agricultural pursuits. In Victoria large sums were voted by Parliament as bonuses for raising agricultural products, and he advocated a similar policy here. Mr. Twine referred to the inadequate number of trucks suitable for carrying fruit to Brisbane, and said one such truck should be attached to each train. He also advocated that better facilities should be provided by the railway for sending fruit to New South Wales and to the westward. It was not because there was no market that so many tons of grapes had in past years rotted on the ground. It was because of the want of means to get the fruit to the railway. The Government had reduced the freight on grapes from 56s. to 17s. per ton, and he thought all had been done in that direction they could expect. Mr Twine concluded by referring to bores for artesian water, which he thought might very properly be entrusted to the divisional boards.

“Mr. Lister said that although the drought had been very bad, some of the farms near the Minmi were looking very well. There was no doubt something else should now be done to develop the resources of the district, and when the wine company was established there would be a good future for Roma. He thought artesian bores might be put down by the Government in central places, and a charge made to farmers on a sort of time payment system.

“Mr. McLean said he was very much pleased to find so much interest taken in agriculture in this district, and expressed his thanks to the farmers for having attended the meeting. That was the largest meeting of farmers he had met, and it was a pleasure to him to meet them. He proposed a vote of thanks to the Mayor for presiding, which was carried amidst loud cheers.”

**WINE COMPANY.**—In support of what was stated by some of the farmers about the formation of a wine company, I have not the slightest doubt that such a step would be a complete solution of the difficulty under which the grape-growers at Roma are labouring. Firstly, farmers as a rule have not sufficient money at their disposal to purchase the proper appliances and for the construction of proper cellarage to carry on successfully the industry in which they are engaged. Secondly, they are not able to afford to be out of their money long enough to allow their wine to mature, and to place a superior article upon the market.

**PASTEURIZATION.**—Doubtless by the discovery of M. Pasteur, of Paris, wine can be matured, or at least all the qualities of matured wine can be imparted by the process called “Pasteurization” in a comparatively short time, but as certain apparatus are required in carrying out this process, the question of money is again raised. By the establishment of a company the grower would find a ready local market for his produce. The company being in the possession of means would be able to purchase and bring to bear all the most modern appliances, aided by the scientific knowledge necessary in the manufacture of wine, and could also afford to keep it long enough to properly mature.

There cannot be a doubt that the chief reason why colonial wine has not hitherto been in favour has been in consequence of the very inferior article placed before the consumer.

In dealing with this subject a great many points have to be taken into consideration, as certain conditions affect more or less the composition of wine, such as the soil, climate, mode of cultivation, weather during the particular season that the grapes were ripened. Thus the same varieties of grapes grown under different conditions of soil, climate, &c., produce different wines, and even in the same country the same variety of grapes produces wines varying considerably in different seasons.

The vigneron of Queensland have not had sufficient experience, or have failed to take sufficient interest to consider the points, and it will only be by some educational system inaugurated by the Government that the vigneron will be made alive to their own interests, and to the importance of the industry in which they have embarked.

#### TOOWOOMBA.

At Toowoomba, and more especially in that part of it called the "Middle Ridge," is about the only part of Queensland where the principle of intense culture is carried out. The farms are all small, from five to ten acres in extent, and in the absence of irrigation, these small areas prove, I believe, very profitable to the cultivators. The majority of the farmers are Germans, and nearly all of them have some land under vines, varying in area from half-an-acre up to 10 acres.

The soil is very rich, of volcanic formation, and in almost every case where vines are growing it has been trenched to a depth of 2 feet, and kept remarkably clean and free from weeds. Oidium and black spot attack the vines, owing, doubtless, to the humidity of the atmosphere, there being occasionally heavy fogs, but as the land is kept so clean there is little difficulty in keeping the disease under proper control.

A large variety of vines are grown in this district, and, in some places, in rather limited areas. In one case, I was informed by the proprietor of a farm that he had 160 varieties of vines growing in 10 acres, and in another case, in  $3\frac{1}{2}$  acres there are forty varieties of American vines, in addition to a goodly number of European types. This mode of cultivation is, I am convinced, a mistake, as there is no part of the world where it would be possible to make such a large variety of vines thrive in a given district and in a given area.

Although the grape may be said to flourish in Toowoomba, it will never be a first-class wine district, so that it would be wise if those farmers who are determined to devote their land to viticulture would select a few varieties of the types which thrive best, discard all others, and thereby profit considerably by their action.

A mistake has been made by the viticulturists of Toowoomba in planting their vines too close, in some cases not more than 3 feet by 3 feet, in others not more than 4 feet by 4 feet, and seldom are they placed wider apart than 5 feet by 5 feet. When asked why they planted so closely, the answer invariably was because they are planted the same distance apart in Germany. They have not yet learned that a difference of soil and climate demands a different mode of treatment.

Notwithstanding the small areas under cultivation, the people appear to be in comfortable circumstances, with good houses well

furnished, the necessary outbuildings, with very often a buggy house and buggy. I visited a number of these vineyards, but as they closely resemble one another, I will only particularise one or two as a type of the whole.

**BAYER'S VINEYARD.**—Mrs. Bayer has an area of 10 acres under crop, part of which was laid out twenty years ago; the land was trenched 2 feet deep, and the vines planted 4 feet by 4 feet. The stake system is adopted; the vines look healthy, with a fair average crop of fruit, which would probably have been better, had there been fewer varieties, and only those best adapted for table and wine making been grown. The bulk of the fruit is made into wine, for which there is a ready market in the colony, some of it being sent to the Northern ports. Mrs. Bayer has the proper appliances for making wine, with a good cellar, and every convenience for storage.

**HERZER'S VINEYARD.**—Mr. Herzer,  $3\frac{1}{2}$  acres. This land was broken up 14 inches deep with a German pronged hoe and planted about 4 feet by 5 feet. There is not a sign of a weed to be seen in the whole vineyard, and the vines are remarkably healthy and heavily fruited. He sells as many table grapes as possible, making the balance into wine. The vines are all staked, of which there are no less than forty varieties of American vines, besides of many European types.

**KEAN'S VINEYARD.**—Mr. Kean has about  $3\frac{1}{2}$  acres under vines.

The soil is trenched 2 feet deep, is very gravelly, containing a large percentage of ironstone. Fair average crop, but showing signs of disease, which is owing to the bad state of the health of the proprietor, who is not able to look after the place. Good wine must have been made from this vineyard at one time, as Mr. Kean holds a certificate of merit and a medal for wines, gained at the Colonial and Indian Exhibition in London.

As the oidium makes its appearance, the sulphur bellows are kept at work and the disease brought under.

Besides being an important grape district, Toowoomba will, before long, produce large quantities of apples, pears, plums, figs, and peaches. These can all be produced in large quantities, and of as fine quality as in any part of the world, and therefore it is a mystery why these fruits are imported from California when they can be grown equally well here.

## WARWICK.

In the Warwick district there are a few vineyards, but comparatively little has been done in the way of viticulture, but this will ultimately be, without doubt, one of the best wine-producing districts in the colony.

**KIRCHER'S VINEYARD.**—The vineyard of Mr. Kircher, one of the oldest in the district, is situated about 10 miles from the town of Warwick, and consists of 10 acres of deep sandy loam, very free and easily worked. The land was ploughed and subsoiled to a depth of 18 inches. Three different styles have been adopted—trellis, stake, and bush forms. He has confined himself to a few of the best wine-producing varieties (*vide* list at end of report), and has profited thereby. A large quantity of wine is made every year, part of which is exported to Scotland. This is the only case that I came across in which the

viticulturist exported wine from Queensland to Great Britain or Europe. The manufacturing appliances are very complete, the cellarage accommodation being most ample. The cellar, which is of stone, consists of three flats; on the top flat the pressing and straining is carried on; the wine is then drawn off into large casks on the second flat, where it is allowed to ferment, and finally it is run into large casks on the bottom flat, which is below ground, where it matures and is bottled off.

The oidium is kept in check by sulphur used three times in the season.

**TETZEL'S VINEYARD.**—Mr. Tetzal has about 20 acres under crop, about 2 miles from the town.

Mr. Tetzal's vines are much younger than Mr. Kircher's and look remarkably healthy. He has also a very complete wine manufacturing plant.

**STERLING'S.**—I was much interested in visiting a small area of half-an-acre planted two years ago by Mr. Sterling on decomposed granite. Although only two years old, the vines had a large quantity of first-class fruit, showing clearly that this class of country was well adapted to the growth of the vine. This is the first instance I met with of vines growing upon a granite formation, and I would point out that some of the most celebrated wines of France are produced from vines growing upon such a formation—viz., Côte-Rotie, Rousillon, and Hermitage.

Judging from appearance, and the fact that the climate of Warwick is well suited to the growth of the grape, I am of opinion that a large area of the granite country could be profitably utilised for grape culture.

Mr. Beresford Hudson, of Rosehill, near Warwick, has a considerable area under table grapes, which he intends to grow, as I am given to understand, for the supply of Brisbane and other markets.

#### IPSWICH.

In the Ipswich district little attention has been paid to the grape vine, but there is an old and important vineyard established on Warrill Creek, about 5 miles from the town.

**IRWIN BROS.**—This property is owned by Messrs. Irwin Bros., and a large quantity of wine is annually made there, the bulk of which is shipped to the Northern ports. The vineyard consists of 28 acres, in which the chief varieties grown are Hermitage, Black Spanish, Tinto, and Solferino. The soil is a deep black loam containing magnesia, lime, and iron, three important constituent elements in the production of good wine. The land was broken up with a bullock plough, with eighteen bullocks, after which followed a subsoil plough, giving a depth of 18 inches. Drains 35 feet apart form an important factor in this vineyard. The vines are planted 5 feet by 5 feet, and are trained to a wire trellis. The past dry season has militated greatly against the fruiting; still there is a fair crop, which only requires a continuance of dry weather to ensure a good output of wine. Mr. Irwin reckons that in a fair average season he makes 300 gallons of wine to the acre.

There is large cellarage accommodation on this vineyard—the largest, I believe, in the colony; and also a small distillery for the manufacture of spirit from the refuse of the grapes.

Notwithstanding that the Warrill wine has a good reputation, and a ready market is found for all he can make, Mr. Irwin is of opinion that wine-making will never be a profitable or successful undertaking on the coast side of the Main Range, and in this he is supported in his opinion by men of experience in Toowoomba, who doubt that even in their district a really first-class wine will be produced, the climate not being dry enough.

This season being so dry, little oidium has appeared, but in a close, wet, muggy season sulphur has to be resorted to.

#### BEENLEIGH, &c.

In that portion of the colony south of Brisbane, embracing Beenleigh, Pimpama, Coomera, and Nerang, comparatively little has been done in the way of grape-growing, either for wine-making or table use.

**COX'S VINEYARD.**—The only place of importance is that of Endcliffe Vale, owned by Mr. C. W. Cox, and situated near to the township of Pimpama. The vineyard consists of 24 acres. The vines are planted on a poor stony ridge, which must have cost a large amount of money to break up to a depth of 12 inches. The varieties grown are chiefly black and white Hermitage. The rows are 8 feet apart, and the vines are planted 4 feet apart in the rows. The land is drained every 30 feet by stone drains 4 feet deep. The vines are trained to a trellis composed of three wires and about 4 feet high, and notwithstanding that the vines are very subject to oidium, and require constant care and attention, there was a really good show of fruit at the time of my visit. The land is carefully cultivated and free from weeds. The cellar, which is a fine one, is a double building of wood with iron roof. The walls are about 16 feet high, and admirably adapted for the purpose. The fruit is passed through rollers, and then run into the must vat, whence it is drained off, and put into large 1,000 gallon barrels or tuns, which were made on the premises, of American oak, imported by Mr. Cox. Everything here is complete, perfect and clean; but the owner complains that he is unable to sell his wine, which is probably owing to the bad reputation that colonial wine has acquired, though I am informed by judges that the Endcliffe Vale wine is very superior.

**BATTEN'S VINEYARD.**—At Nerang, Mr. Batten has about 5 acres under grapes, chiefly of the Isabella varieties, and makes a small quantity of wine. The soil is a black alluvial on the river bank, and produces a large quantity of fruit, but is not adapted to the production of a first-class wine.

#### BRISBANE.

In the Brisbane district a number of vineyards have been established, and in the earlier days a considerable quantity of wine was manufactured; but as population in the metropolis and the surrounding suburbs increased, and a market opened up for the sale of grapes, less wine was manufactured, it being found more profitable to dispose of the grapes for table use, and again, as the demand for residence areas increased, some of the vineyards have been cut up into allotments and sold for building sites. The principal vineyards still under crop are those of Messrs. Pullen, Gerler, and Childs.

**PULLEN'S VINEYARD.**—Mr. Pullen's vineyard is situated on the bank of Kedron Brook, near to the Bunya timber reserve, about 5 miles from the town.

The area under vines is about 16 acres, partly table and partly wine grapes; a considerable number of Iona stocks are to be found in this vineyard, but the fruit is not in favour with the public. It is in reality a first-class table grape, and Mr. Pullen thinks that the cause of the prejudice against it is its colour. The public seem to think that grapes should be black or white, whereas the Iona is a red grape. There was a large crop of fruit upon the vines, but as the oidium is very bad in this locality, constant care is required to keep the vines free, and a large quantity of sulphur is used for this purpose. The soil is a deep black loam, very free and easily worked. In a dropping season the scarifier has to be kept constantly at work to keep down the weeds.

Until lately Mr. Pullen made some of his grapes into wine, but as he found a difficulty in disposing of his product, whilst on the other hand there is a ready market for all the table grapes he can grow, he has therefore abandoned wine-making, and is devoting all his attention to supplying the market with table grapes.

**GERLER'S VINEYARD.**—Mr. Gerler's vineyard—one of the oldest in the colony—is situated near Nudgee, about 4 miles from town. The area under vines is 15 acres, the soil siliceous; the ground is trenched 2 feet deep and well drained with timber placed thus  $\wedge$ . The bulk of the vines are of the Isabella variety, with a few sweet-water and white Portugal. One stock of the Isabella variety is over 12 inches in diameter, and in one season carried over 2,000 well-formed bunches of fruit. Until lately wine was made on this property, but for the same reason that influenced Mr. Pullen it has been abandoned, and the cultivation of table grapes only carried on.

Mr. Gerler says that with the exception of a few of the early varieties, such as sweetwater, which he sends into town, he can sell the bulk of his crop to hawkers, who come and buy from the vine.

**CHILDS'S VINEYARD.**—Mr. Childs's vineyard and wine manufactory is situated near Nudgee, 9 miles from town. He has 20 acres under vines, and suffered considerable loss before he could get a few distinct varieties to succeed upon his land. Being so near the sea, and the land comparatively low, his vines suffer from repeated attacks of oidium, so that he has to use large quantities of sulphur to keep the disease in check. The soil being loose and gravelly, is well adapted to the growth of the vine, were the other conditions equally favourable. The varieties he finds most suitable are the Pineau, Hermitage, Iona, and Isabella. The whole of his crop is made into wine, besides which he purchases grapes for wine-making, and finds a ready market for his product. In addition to the usual class of wines, he has entered upon the production of a champagne, for which there is a great demand. His cellars are commodious, and his appliances for wine-making good, though not equal to some vineyards that I have visited. In addition to grapes, Mr. Childs grows large quantities of oranges, persimmons, and other fruits.

The time at my disposal prevented me from visiting anything like all the vineyards in the southern portion of the colony, but those I have visited and which I have instanced in this report are fairly representative of the whole.



SOILS FROM ROMA.—When at Roma I secured several samples of soils from different parts of the district, which I forwarded to the Government Analyst for analysis, but up to the time of writing this report no information of the analysis has come to hand.

The question of increasing the area under vines naturally brings up the law of supply and demand.

In a colony with a comparatively small population and a fairly large area under vines, no doubt there are many who are not able to find a market for their grapes, and who may argue that the present area is quite equal to the demand, but from information derived during my visit to the different districts I have arrived at a different conclusion. I believe that by the use of more energy, and a more careful appreciation of their industry, the viticulturists of Queensland could find a market for at least double the present production.

Without doubt, during the height of the grape season the fruit is sold in the Southern markets at a very low figure, but there is a very large demand in the North which has not yet been met by the Southern vignerons. There are, however, some causes for this, to which I will refer later on. In nearly every instance I was informed by the viticulturists whom I questioned upon the subject, that a market could easily be obtained for all the wine they produced, and in some cases they were compelled by the demand to dispose of their wine much sooner than they wished, and thus were not able to allow their wine to properly mature; I therefore conclude that there are no heavy stocks on hand. Some viticulturists, however, complain that they are heavily handicapped by railway freights and charges.

In addition to selling grapes for table use, and producing wine, raisins—of which a very large quantity are annually imported—could easily be produced in Queensland. The muscatel grape, from which raisins are chiefly made, grows well here, and by the introduction of Spawn's evaporating process, by which grapes are converted into raisins in eight hours, there is no reason why we should not grow our own raisins instead of importing them, the importation of which alone during last year amounted to 80,000 lb.

The sultana, a seedless variety of grape, succeeds over a larger area than the muscatel, and should be extensively planted for raisin purposes. In California at the present time wine vineyard property is not easily disposed of, raisin property now growing into favour with investors.

As a means of increasing the vine area, I would point out that the town common at Warwick, with an area of 16,000 acres, is of little intrinsic value to the people as it now stands, but would be rendered of great value if, say, 10,000 acres were resumed and surveyed into 80-acre farms, leaving sufficient areas at two or three points for township purposes, thus carrying out to all intents and purposes the Village Settlement Scheme. From what I have seen of the Warwick district, I am of opinion that this will be one of the best grape-growing districts of the colony, and a large number of farms would be quickly taken up and planted with vines.

Application is constantly being made at this office for information relative to village settlements by persons wishing to select, and dissatisfaction is often expressed that the majority of the settlements open to selection are so far from railway communication and markets, thus precluding selectors from taking up the land, as the small area

allowed—viz., 80 acres—is not enough to support a family at so great distances from market; but here in the vicinity of Warwick, with a railway and market close by, a successful grape-growing settlement could be established, which would prove a permanent benefit to the town.

I am of opinion that the importance of the vine industry would justify the Government in appointing an expert, who would be able to deal with the whole question of grape-growing and wine-making. A great number of the farmers of Queensland know little of agriculture, but a large proportion of the viticulturists know less of the nature and habits of the grape vine. An expert such as I have referred to would form part of the staff in connection with a School of Agriculture, which should be established at as early a date as possible, and which should have a viticultural laboratory in connection therewith. The school would be combined with a farm for practical teaching, and would soon become self-supporting.

At the present time railway freights militate greatly against the grape-growers, in support of which I would refer to Mr. Bassett's letter appended hereto. But one phase of the subject has evidently been overlooked by Mr. Bassett. I have before referred to the Northern market for grapes. Mr. Bassett informed me that if he could get pine sawdust carried at anything like reasonable rates he could pack large quantities of grapes and ship them north, but the railway freight on sawdust is so prohibitory that he had to abandon the idea. No doubt there are many others who would avail themselves of this market, did they see a reasonable margin for profit.

Although not strictly within your instructions for this report, but which has direct relation to existing vineyards, is a question which I would bring under your notice—viz., the danger of an invasion of *Phylloxera vastatrix*. The only Act bearing upon the subject in the Queensland Statutes is "*The Grape Vine Diseases Act of 1877*," 41 Vic. No. 15, but this Act deals only with the importation of diseased vines. No matter how strictly the Act is enforced, and supervision over the importation of vines carried out, there is still great danger to be guarded against. It is already in New South Wales, and the experience of Californian viticulturists proves that the winged female has been blown across high mountain ridges, and hitherto clean districts have by this means been infected. In view of such a danger I would suggest that a Bill be introduced into Parliament making provision for vineyards attacked by this pest being rigorously dealt with.

The subject of improving the manufacture of wine presents many difficulties. Notwithstanding that nearly every wine-maker professes to make good wine, the public verdict is that a large quantity is very inferior in quality. One reason for this is, I think, a want of knowledge of the proper variety of grapes to be grown to produce first-class wine; another, the suitability of the soil and climate to the production of a first-class article; another, want of proper cellarage accommodation, and also the want of care and caution during the time of fermentation; and, in addition, that a great number of those engaged in the industry are not in a position financially to wait until the wine has properly matured.

As a means in the direction of improving the manufacture of wine, and spreading information as to the proper varieties to be grown in each district, I am of opinion that viticultural associations should be

established in grape-growing localities. Every well-established community should form and perfect such organisations for mutual support and advantage. The meetings of such local societies afford opportunities for the interchange of opinions and advice, and enable every member to follow his calling in a more systematic manner and with increased intelligence. Such associations being established, the Department of Agriculture would be able to inaugurate conventions, where all the branches of the industry could be brought together, and from which much sound opinion and information would be evolved.

In every vine-growing portion of the world great interest has been taken by the various Governments in viticulture.

Viticultural sections have been established in connection with schools of agriculture and agricultural colleges. If these institutions have been found a necessity in countries where the vine has flourished for centuries, and the people trained for generations to their special business, how much more necessary is it in a young community such as this, where the large majority of the people engaged in the industry have entered upon it without any previous training, and who are not ashamed to acknowledge that they are feeling their way in the dark, that a similar institution should be established here!

I have already alluded to the establishment of a wine-making company at Roma, and I again repeat that I believe that this is a step in the right direction for the production of first-class wine. On the principle that everyone who has a cow thinks that he can make the best butter, so everyone who has a few grape vines has an idea that there is no difficulty in turning out first-class wine, or, as one person said to me, "I cannot see that there is any secret in wine-making," and yet the great bulk of the colonial wine in the market is pronounced by the consumer as being not fit to drink. The establishment of butter factories has been the means of placing a better article on the market, which commands a higher price than that produced by the farmers; so in like manner would a wine company improve the quality of the wine, and also provide a ready market for the grape-grower.

The following papers and letters appended herewith, which were received by me upon the subject of this report, are forwarded for your consideration:—

1. Letter from Mr. Bassett, Roma, relative to railway freights.
2. Letter from Mr. C. W. Cox, of Pimpama, relative to license fees.
3. Manuscript of pamphlet on wine-making written by Mr. H. Tardent, of Roma, which I would suggest be printed in pamphlet form for distribution.
4. Schedule of varieties of grapes grown in the Roma District.
5. Schedule of grapes grown in Warwick District.
6. do. do. Toowoomba.
7. do. do. Ipswich.
8. do. do. Brisbane.
9. Return showing area under crop in 1887 for wine, table use, and unproductive, and showing the production of wine and table grapes.

I have, &c.,

PETER McLEAN,

Under Secretary for Agriculture.

The Honourable Secretary for Public Lands.

## 1. LETTER FROM S. S. BASSETT, ROMA.

“Roma, 25th November, 1888.

“DEAR SIR,—Not having attended your meeting, I will make my suggestions in writing—that is, the lowering of the freight on colonial wine. It is the principal product of the district, and the freight at present is £7 a ton. Now, it would be very convenient for myself and many others to sell our young wines if an opportunity offered at from 2s. to 3s. a gallon, but if we sold at these prices and paid 8d. a gallon freight, and often the cask has to be given in—then there are other charges for commission agents, &c.—that you can see plainly enough there would not be a great deal left for the producer after all these charges are taken from a price such as 2s. or 3s. a gallon; and if wine has to be sold young, that is to say, twelve months old, it must be sold at the price above mentioned, for neither a consumer nor a speculator would give more for it in its rough and raw state. And if our vine and wine trade is to be encouraged the freight should be made consistent with the price the article will fetch in its raw state, for there are many people here who could make wine greatly to their advantage if they could only sell it within the following twelve months; and if you will suggest a considerable lowering of the freight, such as would be consistent with the price the wine would fetch, you would be improving the interests of all concerned in the vine and wine trade, and in the course of time, when people find a sale for their production in wine, as well as at present in grapes, a growing increase of trade in both wine and grapes must follow. Hoping you will view the matter as I do, and do your best to further our interest in the direction suggested,

“I remain yours truly,

“S. S. BASSETT.

“P. McLean, Esq.”

“P.S.—Brisbane people grow grapes and make wine as well as we do—they have neither to pay freight nor commission agent—and if we are handicapped to the extent of 1s. a gallon, where are we? It looks as if we would be all behind, and in the wrong place.—S.S.B.”

## 2. LETTER FROM C. W. COX, PIMPAMA.

“SIR,—On your recent visit to my vineyard you were kind enough to say that any suggestion on viticulture I might make you would be glad to hear.

“In the first place it is an industry that requires capital, to purchase and prepare the land, drain, plant, and purchase vines. It takes three years before the vines bear, and three years for the maturing of the wine—the expenses going on all these years. I find my expenses in the cultivation of twenty-six acres amount to £500 per year. Any season you are subject to violent hailstorms, which may destroy any returns for that year. It therefore requires the cheapest labour, like the sugar industry, to carry on this industry. You require to be ever watchful. As an example, this morning on going my rounds I found one vine thick with oidium; on calling the attention of the chief man to it, he remarked, ‘There are millions of yellow bugs on this patch, which must have settled since yesterday.’ Enough to destroy the

entire twenty-six acres in a very short time if not attended to at once—destroying them with kerosene. Another great drawback is the £10 license to sell wine. The license is seldom continued the second year.

“In the other colonies the license is from £1 to £2, thereby encouraging this industry. Why should not storekeepers be allowed to sell a bottle of wine if needed, as in England?”

“Unless every assistance is given by the Government to the wine-maker, I am afraid it will prove unproductive, and therefore not entered into.

“Yours faithfully,

“CHAS. W. COX.

“Mr. P. McLean, Under Secretary for Agriculture.”

### 3. MANUSCRIPT ON WINE-MAKING, WRITTEN BY H. TARDENT, ROMA.

“DEAR SIR,—In spite of the difficulty of expressing technical matters in a language of which I have but a very imperfect knowledge, I will try, in compliance with your request, to formulate some practical hints on wine-making, trusting they may be of some use to such of our farmers as have embarked in vine-growing without previous training in this branch of agriculture.

“Let us suppose a selector having several acres under vines and wishing to transform his crop into wine either for his own use or to increase his income by selling some gallons of palatable wine.

“The first thing to be done is to build a slab or bark shed, with a wooden or bark roof, and so constructed as to be easily ventilated during the heat of the day and protected against currents of cold air during the night. If your means and the site at your disposal allow you, it is better to dig a deep underground cellar, sufficiently dry and ventilated to prevent the formation on the walls and casks of fungus and mould, even in the wettest season.

“The next thing is to obtain some casks, new if possible, and made from oak; if not, casks which have been used for French wine, spirits of wine, or brandy will do. Rum, whisky, or beer casks are unfit. Take care to ascertain that they have a sweet smell. If they smell foul or mouldy, on no account use them, for it is very difficult to get rid of the smell, and your wine will get spoiled.

“Wash your casks well, first with cold water, then with boiling water, into which put a handful of common salt and rinse again and again until the water comes out perfectly clean. A little sulphuric acid diluted in cold water, peach-tree leaves, or lees are also very useful in taking away the bad smell of casks and cleansing them of any germs of disease they may contain. After having rinsed the casks thoroughly, let them drip and put in the bung. Burn sulphur only in those casks which have to remain a long time unused, or in which you will put made wine for keeping or for sending away. Sulphuric vapours mixed with young must would stop the fermentation and give to the wine a bad garlic taste.

“Your casks clean inside and out, put them in your shed or cellar on strong firm beams, say at  $1\frac{1}{2}$  feet from the ground, so that it will be easy to place under the tap a pail or bucket. Leave also a space between the casks and walls to enable you to go round in case of leakage.

"Now you want a press. I give here the rough sketch of a simple wooden press without vice, which may be easily made at home, and which was used successfully during the early days of the colony of Swiss vine-growers at Shabag, in Bessarabia.

"It consists of two cross-beams, 4 feet in length, 3 inches by 6 inches; on them lay two long beams from 15 to 20 feet and 4 x 4 inches, one end of them projecting at least 2 feet beyond the cross-beams. Mortise through beams and cross-beams four upright posts (4 x 4 inches), two of them 5 feet long, the two others 10 feet. At the top, mortise again a cross-beam, thoroughly strengthen and brace the whole with wooden wedges at both ends. Then a long lever of strong flexible wood is fixed with an iron bar about the middle of the shortest posts, whilst the other end of the lever is pressed down by means of a rope coiling round a common horizontal windlass, working underneath the projecting sides of the long beams. On these latter, near the axle of the lever, put a wooden shelf and on it a strong wooden box, full of holes, in which you press your grapes covered with little planks and wooden blocks.

#### "Gathering.

"When all this is ready, begin your vintage, taking care not to gather the bunches when wet from dew or after rain, and also not before they are fully ripe. Put your left hand under the bunch to prevent the falling of berries, and with your right hand cut the stem with a sharp knife or ordinary scissors. Pick up the unripe or unsound berries, and put them in a distinct pail to make vinegar of, and place the sound ones in a pail or basket, taking care not to crush them in the vineyard. Do not forget to pick up the over-ripe berries which have fallen to the ground, for you would not only reduce the quantity but also rob your wine of its best elements.

#### "Fermentation.

"The fermenting process, which troubled for long centuries the learned of all wine-producing countries, was completely elucidated some ten years ago by the celebrated French scientist, M. Pasteur. His remarkable experiments have clearly demonstrated that fermentation is produced by the action of microscopic animalculæ (*Micoderma vini*). Those tiny and interesting beings are to be found on the bloom of the berries and on the stalks and leaves of the vine. When placed in favourable conditions of heat and atmosphere, they come to life, multiply with incredible fecundity, eat the sugary matter, excrete alcohol and carbonic acid, and then, like other microbes, being unable to live in their own products, they die and fall to the bottom of the liquid, whence they have to be racked off, together with some remaining albuminoid matters and other impurities. The other constituent parts of the grapes dissolve and combine in the alcohol, forming the product known as wine, more or less good according to the quality of grapes used and the perfection of the chemical processes. I have taken the trouble to compare some fifty different manners of making wine, and have always found that the empiric methods used in the celebrated vineyards fully bore out M. Pasteur's inferences, whereas, wherever fermentation was badly performed, there were some failures in the conditions indicated by Pasteur.

"I must apologise for intruding this little bit of theory amid

practical hints; but it seems to me that the more a man understands the why and wherefore of what he is doing, the better he can overcome the difficulties and find out the cause of his failure.

“ *White Wine.*

“The grapes being brought as yet uncrushed from the vineyard, you pass them through a roller crusher, if you have one; if not, you may use a common corn-sheller, or simply, as it is yet being done for the best *crus* of France, you may thresh them in thin woven bags, with naked feet thoroughly washed. Then take a perfectly clean fork and stir the mixed mass over and over again to aerate it well: for the fermenting agents, the oxygen of the air, have to live. Now rack off the must by filtering it through a sieve or basket, to prevent the falling in of skins and pips, which would be very injurious to wine if fermented with it; and distribute the must in equal parts among your casks. This done, put the murk at once on the press and press gradually—say, from three to five hours—and distribute also the press must in equal parts among the casks, leaving about 4 inches empty for the working of the fermentation, and then leave it to itself.

“If you succeed in having an equable and moderate temperature, which may be attained by putting on the casks wet bags when the heat is too great, and woollen blankets when the nights are cold, the wild fermentation will set in in about twenty-four hours. Do not fill up the casks while fermentation is going on, as many people here do, for not only much wine will be lost over the bung-hole, but it will spread over the casks and floor, and form there plenty of nests for acetic fermentation. Moreover, you rob your wine of its bouquet, as you may easily ascertain by rubbing in your hands a little of the rejected scum and putting them to your nose, when you will perceive, even better than in the made wine, the finest smell of the kind of grapes used. If nevertheless you wish to fill up the casks, to have your wine clarified a little sooner, do it with wine fermented to the same extent as that which is in the cask, and not with fresh must, for this latter will never be thoroughly fermented, and will give a sour-sweet liquid—well known here—much more like sugared vinegar than sound wine.

“When the boiling (wild) fermentation is over, put on the bung-hole a bit of thick blotting paper with a brick over it, or a little bag of sand. Begin the filling-up—at least once a week, and with wine—only when the tumultuous fermentation is over. After three months, more or less, on a nice cloudless day, rack off into well-washed and sulphurated casks.

“ *Red Wine.*

“The manufacture of red wine is a little more complicated, for here you want the colour, contained in the skin of the berry, and also the tannin. Therefore, after having crushed the grapes as for white wine, put them in a standing vat, or, for want of it, in a cask from which the head is taken away. If you leave all the stalks your wine will be coarse: if you remove them entirely, as is wrongly done in many Australian vineyards, the wine will be deficient in astringency and not keep well. My practice is to remove from a half to two-thirds of the stalks, according to the kind of grapes, and the result was always a good one. If you have not a grape-picker (*egrapoir*), the removing of stalks may be easily done by rubbing the branches on wire-netting spread over the

vat. Leave also about one-fifth of the vat unfilled and cover it with a wooden lid or a bag, leaving, however, a little hole for the escape of carbonic acid.

“If the temperature is not below 64 degrees Fahr., the vat, after twenty-four hours, is in full fermentation. The stalks and skins separate themselves from the liquid and form on the top a kind of crust. If left thus, the temperature will be much higher and fermentation quicker in the solid mass than in the liquid underneath, which would be injurious to the quality of the wine. As soon, therefore, as wild fermentation is over thrust the crust down and mix well. After a short time fermentation will set in again, but rather slowly. The right moment for racking off requires some skill to tell, and is better learned from practice. If done too early the wine is weak, deficient in colour, and gets easily spoiled; if too late, the wine is coarse, hard, and difficult to mature. As a guiding rule bear in mind this: when your ear applied to the vat perceives no longer the gentle noise peculiar to fermentation and the crust begins to fall of itself to the bottom, make haste, rack off, and press at once the residuum, distributing the juice in equal portions, and so forth, as for the white wine.

“Do not put any sugar or any foreign matter in the red or in the white must. Though there is nothing unlawful in the use of pure cane sugar—which is sometimes necessary in countries where grapes are poor and cannot ripen well—nevertheless it is rather noxious in a country like this, where grapes are rather too rich in sugary matters, and relatively poor in ferment, tannin, and tartaric acid.

“The important thing for securing success is to be always master of the fermentation, which has to be performed slowly but uninterruptedly to the end. If done too quickly, it gives a hard product, without velvety flavour and bouquet; if too slow, weak and unsound wine, liable to become sour and acid. If the above directions are exactly followed you will have the best wine which the season, soil, and species of grapes can produce—a wine fit for your own use and saleable to the wine merchant, who, with proper maturing and skilful blending, may accommodate it to every consumer. It is not made otherwise even by large producers, who have only the advantage of better cellars and better appliances, such as double lids, crushers, grape-pickers, hydraulic bungs, &c. But even then, wine-making, like butter-making, is less dependent upon external circumstances than upon absolute cleanliness and careful attention.

• “Watch carefully to prevent the further fermentations which occur frequently in wines not fully free of albuminoid matters at blossoming and vintage time, and also its turning sour or into vinegar. For every such wine contains the germs of other microbes (*Micoderma aceti*), which are always awaiting a favourable opportunity to come into life and transform the alcohol into acetic acid. The best means for that purpose are absolute cleanliness, frequent burning of sulphur, regular filling up of casks to prevent the wine from coming into contact with the air, and better to heat the wine up to about 140 degrees Fahr., according to Pasteur's directions. I have experienced this during many years on a great variety of wines, and am fully convinced myself that it in no way injures the wine, but, on the contrary, ameliorates it, develops its bouquet, accelerates its maturing, and kills every germ of disease, so that a wine thus treated will never get sick until it comes again into contact with air, or rather with the germs contained in the air.



"I limit myself to the foregoing for the present, as I have the intention of writing ere long a treatise, specially adapted to Queensland, on vine-growing and wine-making, in which full particulars will be given about the various kinds of grapes and the manufacture of special wines.

"In the meantime I shall be very pleased to impart, through you, sir, or directly, to every would-be vine-growing farmer such experience as I have on the matter; for I am of opinion that a badly made wine is not only prejudicial to the interests of its owner, but also to the country which produces it. Queensland will take her stand among the sister colonies, and make good her footing in the markets of the world, only when she has some leading firms furnished with the best modern appliances, and backed up by a numerous phalanx of successful private producers.

"HRY. TARDENT.

"To the Under Secretary for Agriculture, Brisbane.

"Brisbane, November, 1888."

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#### ANALYSES OF SOIL FOR VINE-GROWING.

"Myrtle Villa, Belle-vue street, Milton,

"2nd December, 1888.

"DEAR SIR,—In reference to analyses of soil for vine-growing, which you are intending to cause to be made, I send you the following list, as for us vine-growers it is important to know which of those bodies are deficient, and in what proportions are to be found those present in the soil:—

"1, Proportion and nature of sand; 2, Phosphate of lime; 3, Hydrate of alumina; 4, Oxide of iron; 5, Washed chalk; 6, Sulphate of potash; 7, Chloride of sodium; 8, Gypsum (anhydrous); 9, Carbonate of magnesia; 10, Oxide of manganese; 11, Peatate of potash; 12, Peatate of soda; 13, Peatate of ammonia; 14, Peatate of iron; 15, Peatate of alumina; 16, Insoluble peatic acid.

"I have, &c.,

"HRY. TARDENT.

"To the Under Secretary for Agriculture, Brisbane."

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#### 4.—SCHEDULE OF VARIETIES OF GRAPES GROWN IN THE ROMA DISTRICT.

*European Varieties.*—Black Prince, Black Hamburg, Black Spanish (wine), Black Cluster (wine), Black Hermitage (wine), White Syrian, White Solferino, Green Solferino, Sweetwater, Muscat of Alexandria, Muscat Red, Muscat Hamburg, Muscat Gordo Blanc, Golden Champion, Royal Ascot, Duke of Buccleugh, Verdeilho, White Portugal.

*American Varieties.*—Adirondack, Catawba, Elsinburg, Goethe, Iona, Israella, Isabella, Lenoir, Ives Seedling, Mascatawine, Monuka (seedless), Rebecca, Wilder.

#### 5.—SCHEDULE OF PRINCIPAL VARIETIES OF GRAPES GROWN AT WARWICK.

Muscat of Alexandria, Muscat Red, Isabella, White Syrian, White Solferino, Black Prince, Black Hamburg, Black Spanish, Black Hermitage, Green Solferino, Verdeilho, Scuppernong.

## 6.—SCHEDULE OF PRINCIPAL VARIETIES GROWN AT TOOWOOMBA.

Black Spanish, Isabella, White Solferino, White Syrian, Muscat of Alexandria, Muscat Red, Verdeilho, Hermitage, and a large variety of American vines.

## 7.—SCHEDULE OF PRINCIPAL VARIETIES OF GRAPES GROWN IN IPSWICH.

Black Hermitage, White Hermitage, Tinto, Solferino, Black Spanish.

## 8.—SCHEDULE OF PRINCIPAL VARIETIES OF GRAPES GROWN IN BRISBANE.

Black Hermitage, White Hermitage, Iona, Isabella, Black Hamburg, Pineau, Sweetwater.

RETURN SHOWING THE AREA UNDER CROP DURING 1887 FOR WINE-MAKING, TABLE GRAPES, UNPRODUCTIVE LAND; AND THE PRODUCE DURING THAT YEAR OF WINE AND TABLE GRAPES.

District.	Area under Crop.			Produce.	
	Wine.	Table.	Unproductive Land.	Wine.	Table Grapes
				Gallons.	Lb.
Allora ... ..	11	11	8	2,550	28,666
Blackall ... ..	...	3	...	...	1,840
Brisbane ... ..	116	184	31	5,791	523,838
Bundaberg ... ..	...	9	3	...	9,560
Cleveland ... ..	4	12	5	686	18,710
Crow's Nest ... ..	1	2	6	214	5,500
Dalby ... ..	...	4	4	...	3,574
Esk ... ..	2	...	1	290	...
Gatton ... ..	22	4	14	3,665	4,224
Goodna ... ..	3	2	...	800	3,000
Gympie ... ..	3	18	1	60	38,600
Highfields ... ..	12	5	5	1,767	4,082
Ipswich ... ..	42	15	3	4,862	23,942
Logan ... ..	38	15	8	5,565	6,420
Marburg ... ..	23	4	3	3,689	11,570
Maryborough ... ..	3	17	5	450	22,903
Mitchell ... ..	...	2	11	...	5,130
Nerang ... ..	1	4	3	200	10,394
Normanby ... ..	29	2	5	5,600	310
Rockhampton ... ..	...	6	14	...	5,442
Roma ... ..	82	196	122	14,320	635,140
St. George ... ..	...	10	3	...	19,040
Stanthorpe ... ..	3	5	5	250	8,830
Surat ... ..	...	1	...	...	1,700
Taroom ... ..	...	1	...	...	3,080
Tiaro ... ..	...	2	2	...	5,480
Toowoomba ... ..	131	26	30	32,877	53,798
Warwick ... ..	77	66	76	22,300	265,581

ANALYSIS OF SOILS FROM MITCHELL, ROMA, AND MARANOA RIVER,  
REFERRED TO IN REPORT.

Constituent Elements.	Village Settlement, Mitchell.	Twine's Selection, Roma.	Tardent's Selection, Maranoa River
	Percentage.	Percentage.	Percentage.
Volatile matter ... ..	11·250	7·590	6·470
Insoluble silica and alumina ... ..	86·937	88·871	84·172
Soluble silica ... ..	·220	·140	·170
Oxide of iron ... ..	Trace	·800	3·520
Alumina... ..	·600	1·210	3·360
Lime ... ..	·140	·150	·432
Magnesie ... ..	·163	·144	·252
Potash ( $K_2O$ ) ... ..	·222	·380	·516
Soda ( $Na_2O$ ) ... ..	·449	·688	1·005
Phosphoric Acid ( $P_2O_5$ ) ... ..	Trace	Trace	·076
Sulphuric Acid S ( $O_3$ ) ... ..	·019	·027	·027
Chlorine ... ..	Trace	Trace	Trace
Nitrogen ... ..	·074	·089	·107

(Signed) ROBERT MAR, F.C.S.,  
Government Analyst.

Year	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880
Population	11,250	11,500	11,800	12,100	12,400	12,700	13,000	13,300	13,600	13,900	14,200
Area	100	100	100	100	100	100	100	100	100	100	100
Value	100	100	100	100	100	100	100	100	100	100	100
...	...	...	...	...	...	...	...	...	...	...	...

General Report on the  
 Government of the

by the Hon. the Secretary of the





