

INTRODUCTION OF ECONOMIC PLANTS INTO QUEENSLAND.

By J. F. BAILEY.

*Presidential Address read before the Royal Society of
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From my position as Director of the Brisbane Botanic Gardens, it may be expected that my presidential address would deal with some subject appertaining to plant life, and it has occurred to me that it would be well to freshen the memory by a few notes as to whom we are indebted for the introduction and distribution of many of the economic plants now being largely cultivated in this State, as well as others of which trials have been made. The majority of these benefactors have passed away, but their good work for the State is largely in evidence around us at the present day. To many the names of the introducers of the plants, or the first cultivators of them, are unknown, therefore it is hoped that these notes will furnish a useful record for future reference.

Queensland stands pre-eminent among the States of the Commonwealth of Australia with regard to the number and variety of economic plants found in cultivation within her boundaries, the great diversity of climate experienced enabling plants from all parts of the world to find a home in one or another part of her large territory.

Unfortunately, a number of those responsible for the introduction of plants in the early days kept little or no record of their work, a circumstance which has rendered it difficult in compiling information.

So far as I am able to gather, the Brisbane Botanic Gardens, an institution formed in 1854, is responsible

for the introduction and distribution of a very large number of the economic plants grown at the present day, and in the early days of settlement it assumed the functions now performed by the State Farms. The name of Walter Hill, who was the first Director, and occupied the position until 1880, will ever be remembered, for it was due, in a large measure, to his efforts that such successful work was done in this direction.

The Acclimatisation Society, which was formed in 1862, has also been instrumental in forwarding this good work, and worked side by side with the Brisbane Botanic Gardens. Indeed, during the first year or two, plants introduced by the Society were intrusted to the keeping of the Gardens, until Bowen Park, the home of the Society, was ready for their reception. In connection with the work of the Acclimatisation Society, the name of L. A. Bernays, C.M.G., who, by the way, was a past president of our Society, will always be closely associated, for it was principally due to his indefatigable energies that the Society has earned such a world-wide reputation. The Society was fortunate that the mantle of this worthy gentleman fell on another enthusiastic worker. I refer to Leslie G. Corrie, who, since he succeeded Mr. Bernays in 1896, has interested himself in continuing the good work previously performed, especially with regard to sugar cane, pineapples, and bananas. Valuable assistance has also been rendered by W. H. Parker, the Vice-President of the Society.

Among those who gave practical demonstration of their interest in the work under notice, J. G. Cribb stood in the front rank, he being the introducer of many of the kinds of American fruits now being grown in the State.

One of the early introducers of economics was J. C. Bidwill who, between the time of his appointment as Lands' Commissioner in 1848 and his death early in 1853, is said to have imported quite a number of interesting plants, the best of which were removed, after his death, to the Sydney Botanic Gardens, and although I can find no list of those taken away, I believe they were included in the economics sent from that institution in 1854 to M. C. O'Connell, at Port Curtis, and to a gardener in Brisbane, and mentioned in the annual report of the Sydney Botanic Gardens for that year. G. W. Dart, a very old resident

of Maryborough, in a letter recently written to C. H. Hughes, of the same town, states that most of the kinds of fruits now grown about Maryborough were growing in Mr. Bidwill's garden at Tinana, . . . and that the large tree of *Hovenia dulcis* growing at Tinana was planted by that gentleman.

While Government Resident during the middle fifties, Captain Wickham was instrumental in introducing quite a large number of useful plants, which he cultivated at Newstead. For information as to the kinds grown, I am indebted to Robert Lane, now of the Parliament House staff, but who in those days was gardener to Captain Wickham. Mr. Lane also informed me that about the same time R. R. McKenzie had a good collection of fruits, etc., in his garden near the Bulimba point. About the same time the Hon. Louis Hope, of Cleveland, imported quite a number of useful plants, many of which he shared with the Brisbane Botanic Gardens.

With regard to the cultivation of fruits, etc., on the Darling Downs, I cannot obtain definite information on the subject, but Benjamin Crow, a well-known and very able horticulturist of Toowoomba, informs me that when he went as gardener to Dr. Nelson (father of Sir Hugh Nelson, K.C.M.G.), at Gabbinba, in the sixties, that gentleman had growing apples, peaches, figs, grapes, which appeared to be about 10 years old, and Mr. Crow planted oranges. Dr. Nelson was interested in experimenting with various plants likely to become useful, and at the time mentioned had hops and raspberries thriving. During the early sixties Mr. Penticost planted a small orangery near Toowoomba, and Messrs. Bushnell and Molde, in addition to the above mentioned fruits, had nectarines in their orchards. About this time, Mr. Crow states, good collections of fruits were grown at the following stations:—Gowrie (Mr. King's), Glengallan (Mr. Deucher's), Talgai, Eaton Vale, and others.

Dr. Joseph Bancroft, another of our past presidents, must also be included among those who worked in this direction, especially with regard to vines and Indian wheats.

The different nurserymen of Queensland have not been forgetful of the advantages to be derived by the intro-

duction of economics. Among the early ones we must record the names of A. J. Hockings, S. H. Eaves, E. Way, — Magill, Alfred Williams, of Brisbane, and C. H. Hartmann, of Toowoomba. Mr. A. T. Hockings informed me that in one of his father's letter-books is a copy of a letter dated 31st January, 1857, addressed to the Curator Botanic Gardens, Calcutta, in which he ordered the following plants:—Sweet Sop, Sour Sop, Mangosteen, Mango, Litchi, Longan, Wampee, Jack Fruit, Avocado Pear, Durian, and *Boehmeria nivea*.

On several occasions attempts have been made to introduce economic plants on the islands within the Barrier Reef. In the early seventies, Captain Bedwell, of H.M. Surveying Schooner "Pearl," on behalf of the Brisbane Botanic Gardens and the Acclimatisation Society, planted Jack Fruit and *Pandanus utilis*. In the early nineties, cocoanuts, mangoes, peaches, and other fruit trees were planted at the instance of the Department of Agriculture.

It is to be regretted that very few, comparatively speaking, of the many good things introduced in the early days, could be traced in any gardens in the State twenty years since, although thousands were distributed. However, on the formation of the Department of Agriculture, in 1888, the work of re-introducing many of the most desirable kinds was taken up, with the result that the State farms and nurseries at the present are stocked with a fine collection of economic plants of every description.

The statistics quoted herein are taken from the Annual Reports of the Queensland Government Statistician (Thornhill Weedon, F.S.S.). I also found A. Meston's Geographical History of Queensland useful in obtaining information concerning crops cultivated in the early days.

The following must not be taken as a complete list of the economic plants which have been introduced, but only those which have been given a trial in cultivation, for it must be borne in mind that very many of the kinds introduced did not progress further than the pot stage.

RUBBER.

INDIA RUBBER (*Ficus elastica*).

Growing in the Brisbane Botanic Gardens in 1867.

INDIA RUBBER VINE (*Cryptostegia grandiflora*).

Introduced during the early seventies by Brisbane Botanic Gardens and Acclimatisation Society.

PARA RUBBER (*Hevea brasiliensis*).

Growing in the Brisbane Botanic Gardens in 1877. Seeds imported by the Department of Agriculture, in 1889, and plants now growing at Kamerunga.

PANAMA RUBBER (*Castilloa elastica*).

Planted out in the Acclimatisation Society's gardens in 1882.

CEARA RUBBER (*Manihot glaziovii*).

Planted in Brisbane Botanic Gardens in 1882. A plantation growing at Mourilyan Harbour early in the nineties.

AFRICAN RUBBER (*Funtumia elastica*).

Planted at Kga, S.N., about 12 years ago. Raised at Brisbane Botanic Gardens in 1906.

EDIBLE NUTS.

QUERCUS CORNEA.

Introduced by the Brisbane Botanic Gardens in 1876.

BRAZILIAN NUT (*Bertholletia excelsa*).

Introduced by the Brisbane Botanic Gardens in 1873, and again in 1883, and distributed to establishments in the North in 1887. One of the plants introduced in 1883 is growing in the Gardens, but has made slow progress.

SPANISH CHESTNUT (*Castanea sativa*).

Growing in the Brisbane Botanic Gardens and at Bowen Park in 1866, and distributed from last mentioned place in 1875.

PECCAN NUT (*Carya olivaeformis*), andHICKORY NUT (*C. alba*).

Distributed from the Brisbane Botanic Gardens in 1874, and one of the trees of the former raised by Mr. Aldridge, of Marybcrough, has borne good nuts for some years past.

WALNUT (*Juglans regia*).

Plants distributed from the Brisbane Botanic Gardens in 1874.

CULINARY VEGETABLES.

Many of the well-known culinary vegetables were grown in the year 1826, when a convict settlement was established here.

In 1828, Potatoes (*Solanum tuberosum*) were grown at the penal establishment at Ipswich, and Backhouse

and Walker saw Sweet Potatoes (*Ipomaea batatas*) growing at Brisbane in 1836. The following are some of the varieties since introduced :—

JERUSALEM ARTICHOKE (*Helianthus tuberosus*).

By A. J. Hockings in the early sixties.

TREE TOMATO (*Cyphomandra betacea*)

By the Acclimatisation Society in 1885.

CHOCHO (*Sechium edule*)

By L. A. Bernays, C.M.G., at suggestion of Sir Anthony Musgrave, in 1882.

SWEET CORN (*Zea Mays*, vars.)

Several varieties were introduced and distributed by the Department of Agriculture in 1891.

SWEET POTATOES (*Ipomaea batatas*).

Most of the best varieties owe their presence in this State to the efforts of the Acclimatisation Society.

In 1907 the produce from 2770 acres was 15,888 tons.

YAM (*Dioscorea sativa*).

Grown by T. Petrie at North Pine, prior to 1869, in which year the Acclimatisation Society imported several varieties from the South Sea Islands.

GRASSES AND OTHER FODDER PLANTS.

PERENNIAL RYE (*Lolium perenne*).

Introduced by the Acclimatisation Society in 1865.

PRAIRIE GRASS (*Bromus unioloides*).

Seeds received by Acclimatisation Society in 1865 from Hon. W. H. Groom, Toowoomba, who stated that it had proved successful on the Darling Downs.

BUFFALO GRASS (*Stenotaphrum americanum*).

Growing at Brisbane Botanic Gardens and at Bowen Park in 1868. Distributed from first-mentioned place in 1874 for binding railway embankments.

GUINEA GRASS (*Panicum maximum*).

Introduced by Acclimatisation Society in 1867.

RED NATAL GRASS (*Tricholaena rosea*).

Introduced by Acclimatisation Society through Dr. Schomburgk of the Adelaide Botanic Gardens in 1876, and now become naturalised in many parts of the State.

SORGHUM (*Sorghum vulgare*).

Varieties introduced by the Acclimatisation Society in 1865. Numerous varieties have been introduced

by the Department of Agriculture during the past twenty years. James Henderson, of Tambourine, is said to have imported Kaffir Corn during the eighties.

PANICUM (*Setaria italica*).

Growing in the Brisbane Botanic Gardens prior to 1871.

KENTUCKY BLUE GRASS (*Poa pratense*).

Introduced by Acclimatisation Society in 1877.

TEOSINTE (*Euchlaena luxurians*).

Introduced by the Brisbane Botanic Gardens and Acclimatisation Society in 1878.

CATERPILLAR GRASS (*Paspalum dilatatum*).

Introduced by John Mahon, Principal, Queensland Agricultural College, who brought it from New South Wales, in 1897.

OATS (*Avena sativa*).

Oats were grown at the penal settlement at Ipswich in 1828. Grown extensively since the fifties, about 17,000 acres being under cultivation in 1908.

RYE (*Secale cereale*).

In 1877, the Acclimatisation Society distributed seed which had been received from Angas Mackay. It is said that Dr. Joseph Bancroft first cultivated this about Brisbane for fodder.

WONDER GRASS }
or } (*Panicum muticum*).
GIANT COUCH }

Obtained by Dr. Joseph Bancroft in the seventies, from, I believe, Dr. Schomburgh, the Director of the Adelaide Botanic Gardens.

CANARY GRASS (*Phalaris nodosa*).

Growing at Toowoomba Botanic Gardens in E. Way's time, in the seventies.

CLOVERS—THE RED CLOVER (*Trifolium pratense*), and the
WHITE CLOVER (*T. repens*).

Were introduced by the Acclimatisation Society in 1865, and the latter has become naturalised on many of our pasture lands.

LUCERNE (*Medicago sativa*).

Growing about Brisbane in the early sixties.

The following have been introduced on account of their reputation in other countris for bearing pods suitable

for fodder, but, so far as I am aware, no satisfactory results have been attained.

CAROB BEAN (*Ceratonia siliqua*).

Growing in the Brisbane Botanic Gardens and at Bowen Park in 1866, and distributed from the last-mentioned place in 1871. In 1890, seeds gathered from trees growing at the Park were distributed.

ALGAROBIA BEAN (*Prosopis juliflora*) and

MESQUIT (*P. pubescens*)

Were introduced by the Brisbane Botanic Gardens and Acclimatisation Society in 1877. Received from Honolulu.

RAIN TREE (*Pithecolobium Saman*).

Distributed by Acclimatisation Society in 1880.

OILS,

CASTOR OIL (*Ricinus communis*).

Growing at Botanic Gardens in 1861, and since become a great weed on our waste lands.

CITRONELLA OIL (*Andropogon Schoenanthus*).

Growing in the Brisbane Botanic Gardens in 1872.

CROTON OIL (*Croton tiglium*).

Growing in the Brisbane Botanic Gardens and at Bowen Park in 1866.

GINGELEY (*Sesamum indicum*).

Growing in the Brisbane Botanic Gardens in 1871, and introduced in 1889 by the Department of Agriculture.

OLIVE (*Olea europea*).

According to L. A. Bernays, in "The Olive in Queensland," it would appear that W. Cairncross was the first to grow this plant, having set out eight trees at Bulimba in 1858. Importations were made by the Brisbane Botanic Gardens, the Acclimatisation Society and F. M. Bailey, in the sixties, and by the Department of Agriculture in 1889.

OIL PALM (*Elaeis guineensis*).

Planted in the Brisbane Botanic Gardens in 1861, and still alive, but does not appear as if it would last much longer. Those planted at Kamerunga State Nursery in about 1890 have fruited during several years past.

GROUND NUT (*Arachis hypogaea*).

Two thousand "nuts" were distributed from the Brisbane Botanic Gardens in 1875.

RUSSIAN SUNFLOWER (*Helianthus annuus*).

Introduced and distributed by the Department of Agriculture in 1888.

COCOA NUT (*Cocos nucifera*).

Although the Cocoanut was early introduced, it was not until about 1867 that a proper plantation was formed, and that by a Mr. Barnes in 1867, at Mackay. In 1880, the Acclimatisation Society distributed 800 nuts, received from Singapore, among the northern planters. Shortly after its formation, 10,250 nuts were planted by the Department of Agriculture on the islands within the Barrier Reef. The North Queensland planters are evidently not fully alive to the value of this useful palm, otherwise they would follow the example of others in New Guinea, Solomon Islands etc.

DYES.**LOGWOOD** (*Haematoxylon campeachianum*).

Growing in the Brisbane Botanic Gardens in 1861, and there are three of the original trees now standing.

INDIGO (*Indigofera tinctoria*).

Introduced about 1861 by the Brisbane Botanic Gardens. Distributed by the Acclimatisation Society in 1872, and by the Department of Agriculture in 1890.

ANNATTO (*Bixa orellana*).

Growing in the Brisbane Botanic Gardens in 1861.

MADDER (*Rubia tinctoria*).

Introduced by the Brisbane Botanic Gardens prior to 1871.

SAFFLOWER (*Carthamus tinctorius*).

Growing in the Brisbane Botanic Gardens in 1871, and at the Mackay and Kamerunga State Nurseries in 1889.

NOPALEA COCCINELLIFERA.

This plant and the cochineal insect were, according to Walter Hill, thriving in the Brisbane Botanic Gardens in 1871.

FIBRES.

COTTON (*Gossypium* spp.)

Cotton was one of the earliest crops grown, for we find that in the year 1827, thirty acres were under cultivation at a branch penal settlement at Stradbroke Island. After this settlement was broken up, a lapse of some years occurred before resumption. In 1861, the following varieties were growing in the Brisbane Botanic Gardens:—

SEA ISLAND (*G. barbadense*). Chester, New Orleans, Honduras, Boyd's Prolific and Dean's.

UPLAND (*G. hirsutum*). Patte's Gulf and Peruvian.

In 1862, samples grown in various localities from Cleveland to Rockhampton were sent to the International Exhibition, London. In 1869, 14,000 acres were being cultivated. For several years prior to 1889, very little was grown, but the industry was again revived in that year, when the Department of Agriculture imported and distributed a large quantity of American seed to farmers in the West Moreton District. In 1908, the production from 540 acres was 17,521lbs.

JUTE (*Corchorus capsularis* and *C. olitorius*).

Growing in the Brisbane Botanic Gardens in 1862. During 1876 and 1877 the Acclimatisation Society endeavoured to start this industry by distributing about half-a-cwt. of seed to growers in localities from Brisbane to Mackay.

NEW ZEALAND FLAX (*Phormium tenax*).

Growing in the Brisbane Botanic Gardens, and in the garden of the Hon. Louis Hope, at Cleveland, in 1861.

MANILA HEMP (*Musa textilis*).

Growing in the Brisbane Botanic Gardens, and in the gardens of Mr. Warner, Brisbane, and Hon. Louis Hope at Cleveland, prior to 1862.

SUNN HEMP (*Crotalaria juncea*).

Introduced by the Brisbane Botanic Gardens in 1871.

SCREW PINE (*Pandanus utilis*).

Growing in the Brisbane Botanic Gardens in 1871.

FLAX (*Linum usitatissimum*).

Growing in the Brisbane Botanic Gardens in 1871.

BOWSTRING HEMP (*Sansevieria zeylanica*), and
AFRICAN HEMPS (*S. cylindrica* and *S. guineensis*).

Growing in the Brisbane Botanic Gardens in 1862.

BROOM CORN (*Sorghum saccharatum*, var.)

Has been grown extensively during the past twenty years.

MAURITIUS HEMP (*Furcraea gigantea*).

Introduced by the Brisbane Botanic Gardens during the sixties.

SISAL HEMP (*Agave rigida* v. *sisalana*).

Introduced by the Department of Agriculture, one thousand plants having been received from Yucatan in 1892.

ABUTILON PERIPLOCIFOLIUM.

Introduced by the Department of Agriculture from Trinidad in 1890.

RAMIE (*Boehmeria nivea*).

Introduced by the Brisbane Botanic Gardens about 1860, and ten thousand plants were distributed from there in 1873.

MULBERRY (*Morus alba*, and other species).

Introduced for purposes of silk-culture by Brisbane Botanic Gardens, the Acclimatisation Society and F. M. Bailey, about 1865. 4,500 cuttings were distributed from the Brisbane Botanic Gardens in 1873.

HEMP (*Cannabis sativa*).

Growing in the Brisbane Botanic Gardens in 1873.

SPICES, CONDIMENTS, PERFUMES, Etc.

CLOVE (*Caryophyllus aromaticus*).

Plants were sent to M. C. O'Connell, Port Curtis, and to a gardener in Brisbane from the Sydney Botanic Gardens in 1854. Plants were growing in the Brisbane Botanic Gardens in 1861, and a distribution was made from there and from Bowen Park in 1867 and 1874.

CINNAMON (*Cinnamomum officinalis*).

Plants were sent to M. C. O'Connell, Port Curtis, and to a gardener in Brisbane, from the Sydney Botanic Gardens in 1854. Growing in Captain Wickham's garden in 1856, and in the Brisbane Botanic Gardens in 1861, 30 plants being distributed from there in 1867

and 1874, and a number from Bowen Park in 1866, 1867, and 1874.

GINGER (*Zingiber officinale*).

Was grown at Brisbane Botanic Gardens and by A. J. Heckings prior to 1862. 160 rhizomes were distributed from the Gardens during the year mentioned.

ALLSPICE (*Pimenta communis*).

Plants sent to M. C. O'Connell, Port Curtis, and a gardener in Brisbane from the Sydney Botanic Gardens in 1854. In Captain Wickham's garden at Newstead, and in the Brisbane Botanic Gardens in 1856 and 1861 respectively.

BLACK PEPPER (*Piper nigrum*).

Growing in the Brisbane Botanic Gardens in 1861.

NUTMEG (*Myristica fragrans*).

Growing in the Brisbane Botanic Gardens in 1861. and at Bowen Park in 1866, and distributed from the latter place during same year.

CAPER (*Capparis spinosa*).

Growing in the Brisbane Botanic Gardens in 1861.

CAYENNE PEPPER (*Capsicum spp.*)

Pepper made from fruits grown by Mr. Giles, of Widgee Widgee, Wide Bay District, was shown at International Exhibition, London, in 1862.

VANILLA (*Vanilla planifolia*).

Growing in the Brisbane Botanic Gardens and at Bowen Park in 1866. Distributed to northern localities in 1866, 1872, 1874 and 1885.

PATCHOULI (*Pogostemon Patchouli*).

Introduced by the Brisbane Botanic Gardens prior to 1872.

TURMERIC (*Curcuma longa*).

Growing in the Brisbane Botanic Gardens in 1871.

CARDAMON (*Elettaria cardamomum*).

Plants and seeds were distributed by the Acclimatisation Society in 1885.

TONQUIN BEAN (*Dipteryx odorata*).

Plants growing in Brisbane Botanic Gardens in 1871, and a number received from Royal Gardens, Kew, in 1873. Some recently raised at Gardens from seed imported by Department of Agriculture.

MEDICINAL.

CAMPHOR (*Cinnamomum Camphora*).

Growing in Captain Wickham's garden at Newstead in 1856, and in the Brisbane Botanic Gardens in 1861. Was introduced for the sake of the valuable product obtainable from the tree, but is only grown as a shade tree, it being one of the best exotics suitable for this purpose. In other parts of the world it is being extensively grown for the production of camphor.

LIQUORICE (*Glycyrrhiza glabra*).

Introduced by the Brisbane Botanic Gardens in 1871.

NUX-VOMICA (*Strychnos nux-vomica*).

Introduced prior to 1871 by the Brisbane Botanic Gardens, and one of the trees now in the Gardens fruits freely every year.

PERUVIAN BARK (*Cinchona* spp.)

In 1862, *C. Calisaya*, the "Yellow Bark" was growing in the Brisbane Botanic Gardens, and in 1867, *C. succirubra*, the "Red Bark," and *C. officinalis*, the "Brown Bark," were received from Java. Plants of the two last-mentioned species were distributed by the Acclimatisation Society in 1880.

SENNA (*Cassia* spp.)

Plants of several species were growing in the Brisbane Botanic Gardens in 1865, and distributed from there in 1874.

IPECACUANHA (*Cephaelis ipecacuanha*).

Plants were sent to the Brisbane Botanic Gardens from the Royal Gardens, Kew, in 1873.

OPIUM POPPY (*Papaver somniferum*).

Growing in the Brisbane Botanic Gardens in 1875.

COCA (*Erythroxylon Coca*).

Growing in the Brisbane Botanic Gardens in 1877.

TANS.

DIVI DIVI (*Caesalpinia coriaria*).

One of the plants introduced in 1870 is still growing in the Gardens. I have not observed any others about Brisbane.

CANAIGRE (*Rumex hymenoccephalus*).

Introduced and distributed by the Department of Agriculture in 1890.

TIMBER.

Very few exotic timber trees have been tried, and those introduced have been used for shade purposes, for, as is well-known, timber suitable for almost any kind of work requiring this material abounds within our State.

The following trees were introduced by the Brisbane Botanic Gardens :—

TEAK (*Tectona grandis*),

India, in 1856, and distributed in 1875.

REDWOOD (*Sequoia gigantea*),

California, in 1859. One of the original plants still standing, but has not made good growth.

BRITISH OAK (*Quercus pedunculata*),

In 1855. One of the original plants has now formed a handsome specimen in the Gardens.

ROSEWOOD (*Jacaranda mimosæfolia*),

Brazil, in 1856, and has since become a favourite subject for planting for shade and flowering purposes.

DEODAR CEDAR (*Cedrus Deodara*),

India, in 1861.

BLACK WALNUT (*Juglans nigra*),

North America, in 1855, and plants distributed in 1875.

WEYMOUTH PINE (*Pinus Strobus*),

North America, in 1858.

PENCIL CEDAR (*Juniperus Bermudiana*),

Bermuda, in 1863.

HUON PINE (*Dacrydium Franklini*),

Tasmania, in 1863.

KAURI PINE (*Agathis australis*),

New Zealand, in 1863.

BLACKWOOD (*Dalbergia latifolia*),

India, in 1868.

LOCUST TREE (*Hymenaea Courbaril*),

West Indies, in 1863. One of the original plants has formed a fine specimen in the Gardens.

SATINWOOD (*Chloroxylon Swietenia*),

India, in 1867. One of those originally planted has formed a fine tree in the Gardens.

MAHOGANY (*Swietenia Mahogani*),

West Indies, in 1870, and again in 1907, and seed distributed to localities from Maryborough to Cooktown in 1887.

EBONY (*Diospyros Ebenum*),

Sumatra, in 1870.

LIGNUM VITAE (*Guaiacum officinale*),

West Indies, in 1871.

TOBACCO.

TOBACCO (*Nicotiana Tabacum*).

Many of the squatters of the early days grew tobacco for the sake of the dried leaf, which they used in the preparation of a sheep dip. Exhibits of prepared leaf were made at the International Exhibition, London, in 1862, by the Brisbane Botanic Gardens, and M. Thozet, of Rockhampton. Ten varieties were under trial at the Brisbane Botanic Gardens in 1870, and 400 packets of seed were distributed in 1873, and 15 varieties in 1876. In 1876, the Acclimatisation Society distributed seed of the varieties "Maryland," "Latakia," and "Virginia." Since then, other varieties have been distributed by the Botanic Gardens, the Acclimatisation Society, and the Department of Agriculture. The produce of dried leaf in 1908 was 5389 cwt. obtained from 669 acres.

SUGAR.

SUGAR (*Saccharum officinarum*).

We have records of sugar cane having been grown as far back as 1828, when it was used as a fence round the vegetable gardens attached to the penal settlement at Brisbane. Backhouse and Walker observed it being used for the same purpose in 1836. It was not until the year 1862 that any sugar was manufactured, and then only on a very small scale by Mr. Buhot, from canes obtained from the Brisbane Botanic Gardens. During this year the Hon. Louis Hope, of Ormiston, had the largest area under cultivation, viz., 20 acres, and 2,000 cuttings were distributed from the Brisbane Botanic Gardens. During the seventies, a nursery was established at Oxley by the Government, and 78 varieties were represented there in 1879. A distribution of 42 varieties was made in 1882 to 70 applicants, the weight of canes sent out amounting to 40 tons. About the year 1863, the Acclimatisation Society introduced some of the best

varieties then growing at Mauritius, and subsequently distributed various kinds of canes. In 1878, the Society entered into an exchange of canes with the Southern United States of America. Several importations have been made by the Department of Agriculture, notably some good varieties from New Guinea and Mauritius in the early nineties. Official returns show that in 1867 the 6 sugar mills then in existence produced 168 tons of sugar, and 13,100 gallons of molasses, while in 1907, 48 mills produced 188,307 tons of sugar, and 5,980,433 gallons of molasses were obtained in 1908.

BEVERAGES.

ARABIAN COFFEE (*Coffea arabica*).

Backhouse and Walker record having seen a few strong coffee plants near Brisbane in 1836. In 1862, a plantation was formed in the Brisbane Botanic Gardens, the plants having been raised from seed obtained from plants growing in Captain Wickham's garden, at Newstead, in 1858. In the year 1873, 6,400 plants were sent out from the gardens, and in 1882, there were 5,000 distributed. The Acclimatisation Society, which, by the way also distributed plants at the same time, introduced the variety "Mocha" in 1880. In 1908, 285 acres under cultivation produced 116,293lbs. of parchment coffee.

LIBERIAN COFFEE (*Coffea liberica*).

This species, which came with a great reputation from other coffee-growing countries, in the year 1882, was distributed from the Brisbane Botanic Gardens and Bowen Park, but has not come up to expectations in this State.

TEA (*Camellia theifera*).

Introduced by the Brisbane Botanic Gardens prior to 1861, and 1,000 plants distributed from there in 1862, 2,000 in 1873. Early in 1880, 3,500 plants were ready for distribution, in addition to 200 plants of the Assam variety, and there was a distribution in 1888. So far, these efforts have not resulted in any of this commodity being placed on the market.

TEA, PARAGUAY, or MATE (*Ilex paraguayensis*).

Introduced by the Brisbane Botanic Gardens prior

to 1861, but as its product did not meet with the taste of Queenslanders, it has not been grown otherwise than for shade purposes.

COCOA (*Theobroma Cacao*).

Plants were introduced by the Brisbane Botanic Gardens and Acclimatisation Society in 1866, and were distributed by the Society in the same year, and also in 1872 and 1883, and by the Botanic Gardens in 1874. A plant (under glass) fruited at Bowen Park in 1885. I saw a fine plant in fruit at Hambledon, near Cairns, in 1899, and was informed that it had been received from the Acclimatisation Society.

COLA NUT (*Cola acuminata*).

Introduced by the Department of Agriculture in the early nineties, and sent to the State Nursery at Kamerunga.

CHICORY (*Cichorium intybus*).

Grown by G. Grimes, at Coomera, in the seventies, and at Kamerunga State Nursery in 1890.

HOP PLANT (*Humulus lupulus*).

During the year 1883 experiments were made with the Hop plant at the Brisbane Botanic Gardens. The results were exceedingly good, the crop being equal to 10 cwt. per acre. It is said that in England 4 cwt. per acre for the first year is a good return. During James Pink's time (1885), 1,000 sets were imported by the Gardens, and distributed to farmers on the Downs. Another trial to start the industry was made in 1889, when the Department of Agriculture imported a number of sets from Victoria, and distributed them to farmers in the Killarney district.

FARINAS AND CEREALS.

ARROWROOT.

Both kinds of Arrowroot, viz., the White (*Maranta arundinacea*) and the Purple (*Canna edulis*) were introduced and distributed by the Brisbane Botanic Gardens about 1861. The latter species is recorded as having been grown near Ipswich, in 1844. The purple variety has for many years been extensively cultivated in South Queensland, 480,620lbs. of commercial arrowroot having been produced in 1908. The recipients in the early distribution of the

Maranta evidently did not carry on the work of growing it commercially, for we find that the Department of Agriculture found it necessary to import it again when the Kamerunga State Nursery was formed about twenty years ago.

CASSAVA (*Manihot Aipi*, the Sweet, and *M. utilissima*, the Bitter).

J. Archer presented plants to the Brisbane Botanic Gardens in 1864, and they were growing at Bowen Park in 1866.

WHEAT (*Triticum vulgare*).

In the year 1828 there was an area under this crop at Ipswich, and in the year 1856, Mr. Childs had a good crop from about 50 acres at Bulimba. In the year 1859, M. Thozet obtained some seed from wheat-straw found floating in the Fitzroy River, and cultivated some excellent wheat from it near Rockhampton. For several years prior to 1862, J. Fleming and a few others cultivated wheat near Ipswich. It was well on in the fifties before wheat was grown on the Downs, and according to a record of 1862, "At Warwick, a flour-mill to be driven by steam power is in course of erection." In 1877, the Acclimatisation Society distributed several varieties of Mexican wheats received from Angus Mackay, and in 1880 introduced a number of Indian varieties on the suggestion of Dr. Joseph Bancroft. Since 1889 the Department of Agriculture has made frequent importations of new varieties. The average area under cultivation for the ten years ended 1908 was 90,729 acres, and the average production 1,223,599 bushels.

MAIZE (*Zea Mays*).

Maize has always been our principal cereal crop, and was one of the earliest grown, for we find that about 1827 there was a good area under cultivation at the penal settlements about New Farm, Bulimba, and also at Ipswich in 1828. In 1867, a trial was made at the Brisbane Botanic Gardens with a large number of imported varieties, but none equalled those already growing in the Colony. The Department of Agriculture, since 1889, has made

frequent importations of the best varieties obtainable from maize-growing countries. The produce in 1908 from 127,655 acres was 2,767,600 bushels.

RICE (*Oryza sativa*).

Rice was growing in the Brisbane Botanic Gardens and in the garden of the Hon. Louis Hope, at Cleveland, in 1861. In 1878, 3 cwt. in 17 varieties was imported by the Brisbane Botanic Gardens from India. The Acclimatisation Society grew some good samples in 1871, and distributed seed, and during the early nineties, the Department of Agriculture made several importations of seed. The area under cultivation in 1908 was only 7 acres against 319 acres in 1899.

BARLEY (*Hordeum vulgare*).

Samples of barley grown by M. Thozet, at Rockhampton, were exhibited at the International Exhibition, London, in 1862.

BUCKWHEAT (*Fagopyrum esculentum*).

Introduced by Acclimatisation Society in 1867.

CANARY SEED (*Phalaris canariensis*).

Has been growing on the Darling Downs during the past twenty years.

FRUITS.

APPLE (*Pyrus Malus*).

Collections were introduced by the Acclimatisation Society in 1868, 1869 and 1870. In 1871, J. G. Cribb presented a collection of American apples to the Brisbane Botanic Gardens. The area in bearing in 1908 was 390 acres, and the production 31,121 bushels.

PEAR (*Pyrus communis*).

Dr. Lang observed trees growing at Brisbane in 1845. A collection of American varieties was presented to the Brisbane Botanic Gardens by J. G. Cribb. 1,730 bushels of fruit were produced from 41 acres in 1908.

PEACH (*Prunus persica*).

Trees of this fruit were seen near Brisbane by Dr. Lang in 1845, and were growing in the Brisbane Botanic Gardens prior to 1865. In 1871, J. G. Cribb donated a collection of American varieties to the Brisbane Botanic Gardens, and the Gardens introduced

four Chinese varieties in 1876. 26,563 bushels of fruit were produced from 444 acres in 1908.

ALLIGATOR PEAR (*Persia gratissima*).

Sent by Sydney Botanic Gardens in 1854 to M. C. O'Connell, Port Curtis, and to a gardener in Brisbane, and was growing in the Brisbane Botanic Gardens, and three plants were distributed from there in 1862. Fruited for the first time in 1867. Plants were introduced from the Mauritius by the Acclimatisation Society in 1867. So far as I am aware, the only fruiting plant growing about Brisbane is in W. H. Parker's garden at Enoggera.

AVERRHOA CARAMBOLA.

Introduced by the Acclimatisation Society in the eighties.

BLACKBERRY (*Rubus fruticosus*).

J. G. Cribb introduced several American varieties from America during the seventies, one of the most fruitful being Lawton's Blackberry.

BANANA (*Musa spp.*)

Backhouse records having seen bananas growing at Brisbane in 1836. In 1856, Captain Wickham had the Cavendish (*M. Cavendishi*) and the Sugar Banana (*M. sapientum*, var.) growing at Newstead, and eight varieties, including the two mentioned, were growing in the Brisbane Botanic Gardens in 1861. The Acclimatisation Society from the first also interested itself in the introduction of good varieties, notably, nine from Singapore, in 1874, and several from Fiji, in 1875. Since its inauguration in 1888, the Department of Agriculture has been active in securing good varieties from countries where this fruit is successfully grown. During the year 1908, the produce from 4,647 acres under cultivation amounted to 1,651,163 bunches.

BREADFRUIT (*Artocarpus incisa*).

Introduced by the Brisbane Botanic Gardens at the end of the fifties. In 1860, Hon. H. Hood presented plants to the gardens, and plants were distributed from there and from Bowen Park on quite a number of occasions during the sixties and seventies. Plants introduced from Fiji were distributed by the Depart-

ment of Agriculture in 1892. I saw a plant in fruit at the Botanic Gardens, Townsville, in 1899.

JACK OR JACA FRUIT (*Artocarpus integrifolia*).

Introduced from India by the Brisbane Botanic Gardens in 1856.

CHINA QUINCE (*Cydonia sinensis*).

Plants received by F. M. Bailey from South Australia, and distributed in 1866, and plants worked from these were presented to the Acclimatisation Society in 1870 by C. W. Jarrott.

CHERRY (*Prunus Cerasus*)

Several varieties have been cultivated in the Stanthorpe District during the past twenty years.

CHINESE RAISIN (*Hovenia dulcis*).

Introduced by J. C. Bidwill in 1850. Was growing in Captain Wickham's garden, Newstead, in 1856, and in the Brisbane Botanic Gardens in 1861.

ORANGE (*Citrus aurantium*).

Dr. Lang records having seen oranges growing at Brisbane in 1845. They were grown by Captain Wickham at Newstead, in 1856. Ten varieties were represented in the Brisbane Botanic Gardens in 1861, those doing best being St. Michael, Mandarin, Bahia, Siletta, Blood and Parramatta. Forty-six varieties were growing in the Gardens in 1870. The Bahia Navel and Jaffa varieties were introduced by the Department of Agriculture in 1888. In 1908, 440,312 bushels of fruit were produced on 3,121 acres.

LEMONS (*C. medica* var. *limonum*); **CITRONS** (*C. medica*),
and **SHADDOCKS** (*C. decumana*)

Were seen by Backhouse and Walker in 1836, and Lemons, Citrons, and Limes (*C. medica* var. *limetta*) were growing in the Botanic Gardens prior to 1870. 4,366 bushels of lemons were produced from 47 acres in 1908.

POMELO (*C. decumana* var.) was growing at Bowen Park in 1866.

CUSTARD APPLES (*Anona* spp.)

A. squamosa (Sweet Sop).

Plants were sent to M. C. O'Connell, Port Curtis, and to a gardener in Brisbane, in 1854, from the Sydney

Botanic Gardens. Growing in Captain Wickham's garden, at Newstead, in 1856, and in the Brisbane Botanic Gardens in 1861.

A. muricata (*Sour Sop*), and *C. Cherimolia* (*Cherimoyer*). Growing in Captain Wickham's garden in 1856, and at the Brisbane Botanic Gardens in 1861. The last-mentioned fruited at the Gardens for the first time in 1867.

A. reticulata (*Bullock's Heart*).

Growing at Bowen Bark in 1866.

Thirty-four custard apples were distributed from the Brisbane Botanic Gardens in 1862, but the species are not recorded. 557 bushels of custard apples were produced from thirteen acres in 1908.

DATE (*Phoenix dactylifera*).

Growing in Captain Wickham's garden, at Newstead, in 1856, and in the Brisbane Botanic Gardens in 1867. Some years ago the Acclimatisation Society distributed plants of good varieties to some western localities, and good fruit has recently been received in Brisbane from some plants growing near Charleville. The first plantation was one formed by Mr. Barnes, at Mackay, prior to 1868.

DURIAN (*Durio Zibethinus*).

Received by M. C. O'Connell, Port Curtis, and a gardener in Brisbane in 1854, from the Sydney Botanic Gardens, and introduced by the Brisbane Botanic Gardens and Acclimatisation Society in 1867. Distributed in that year, and also in 1874, but has not thriven for the same reason as that given in the case of the Mangosteen.

FIG (*Ficus carica*).

The following varieties were growing in the Brisbane Botanic Gardens in 1871, viz.:—Smyrna, Black, Brown and Green Ischia. Several other varieties have been introduced by the Department of Agriculture since 1888. 741 bushels of fruit were produced from ten acres in 1908.

GRAPE, CURRANT AND RAISIN (*Vitis vinifera*).

Backhouse and Walker saw grapes growing near Brisbane in 1836. In 1856, Captain Wickham had vines growing at Newstead, and twenty varieties

were to be seen in the Brisbane Botanic Gardens in 1861, those doing best being the varieties Black Hamburgh, Black Prince, White Sweetwater, Wantage, Xeres, and Muscatel Gordo Blanco. In 1871, a number of wine-producing varieties were introduced from South Australia, and in the same year J. G. Cribb presented the Gardens with thirty European and thirty American varieties; the latter were distributed to growers in Toowoomba, Warwick and Stanthorpe a year or two afterwards. In 1908, the area under vines was 1,554 acres which produced 4,239,980lbs. of fruit; 77,698 gallons of wine made,; and 619 gallons of brandy distilled. In 1865, thirty plants of the Zante currant were received from Victoria by the Acclimatisation Society, and in the same year, F. M. Bailey presented 300 cuttings of this variety to the Society, 200 of which were at once distributed. In 1871, the Sultana raisin was growing in the Brisbane Botanic Gardens, and in 1892 and 1893, forty thousand cuttings of raisin and currant grapes were distributed by the Department of Agriculture.

GUAVA (*Psidium* spp.)

Recorded by Backhouse as growing in Brisbane in 1836, but kinds not stated. *P. Cattleyanum*, the Strawberry Guava; *P. Guava*, the Apple Guava; and *P. littorale*, the Gooseberry Guava, were growing in the Brisbane Botanic Gardens in 1861.

JUJUBE (*Zizyphus jujuba*).

Growing in the Brisbane Botanic Gardens in 1864, and distributed to growers in the North, where it has taken such a hold of the lands in some localities as to be regarded as quite a nuisance.

KEI APPLE (*Aberia Caffra*).

Introduced and distributed by the Acclimatisation Society in 1876. My grandfather probably was the first to introduce this plant into Australia, he having taken plants to South Australia in 1839.

LITCHI (*Nephelium Litchi*).

M. C. O'Connell, Port Curtis, and a gardener in Brisbane, each received a plant from the Sydney Botanic Gardens in 1854, and it was represented in Captain Wickham's garden, at Newstead, and in the Brisbane

Botanic Gardens at the end of the fifties. The tree now in the Gardens fruits regularly. Another species of this genus, viz., *N. Longana*, the Longan, was also received by the same recipients above-mentioned from the Sydney Botanic Gardens in 1854. It was in the Brisbane Botanic Gardens in 1861, but is a far inferior fruit to that of its ally, the Litchi.

LOQUAT (*Photinia japonica*).

Growing at Bowen Park in 1866.

MANGO (*Mangifera indica*).

The Mango, which has become one of the most common fruits along the whole coast line of Queensland, is said to have been introduced by J. C. Bidwill at the end of the forties. Plants were sent from the Sydney Botanic Gardens in 1854 to M. C. O'Connell, at Port Curtis, and to a gardener in Brisbane. A plant was growing in the Brisbane Botanic Gardens in 1861, and fruited for the first time in 1867, and four plants were distributed from there in 1862, and also a number of grafted plants to likely growers in the North in 1883. The well-known varieties Alphonse and Raspberry were introduced from Bombay by the Acclimatisation Society in 1869, and the first-mentioned with the varieties Strawberry and Goa by the Botanic Gardens about the same time. Since then importations have been made by the institutions named, the Department of Agriculture, and privately. The production of fruit in 1908 was nearly 100,000 bushels. Crops from private gardens, however, are not included in this total.

MANGOSTEEN (*Garcinia mangostana*).

M. C. O'Connell, of Port Curtis, and a gardener in Brisbane received plants of this fruit, which is described as the most delicious in existence, from the Sydney Botanic Gardens in 1854. Although it has since been distributed on numerous occasions by the Brisbane Botanic Gardens and the Acclimatisation Society, so far has not met with success, owing no doubt to the intense humidity required for perfecting its growth not being obtainable even in our northern localities. Several other species of the genus have been introduced and have fruited here, but their fruits have been of a very inferior quality.

MONSTERA DELICIOSA.

Introduced by the Acclimatisation Society in 1874, and fruited in 1876.

PAPAW (*Carica papaya*).

Growing in the Brisbane Botanic Gardens in 1861. Since then good varieties have been frequently introduced by the Gardens, the Acclimatisation Society and the Department of Agriculture. 9,845 doz. fruit from 55 acres was the production in 1908.

PASSION FRUIT (*Passiflora edulis*) and the
GRANADILLA (*P. quadrangularis*)

Were growing in the Brisbane Botanic Gardens in 1861.

PERSIMMON (*Diospyros kaki*).

Growing in Captain Wickham's garden, at Newstead, in 1856, and in the Brisbane Botanic Gardens and Bowen Park in 1865. In 1875, the Acclimatisation Society imported ten varieties, and in 1889, the Department of Agriculture twenty varieties, from Japan. In 1908, seventeen acres produced 670 bushels of fruit.

PINEAPPLE (*Ananas sativa*).

Backhouse records having seen pineapples growing at Brisbane in 1836. They were grown by Captain Wickham, at Newstead, in 1856, and in 1861, twelve varieties were represented in the Brisbane Botanic Gardens, those doing best being Cayenne, Enville, Black Jamaica, Queen, Ripley Queen, and Moscow Queen. Good varieties have also been introduced from time to time by the Acclimatisation Society, James Pink and others. The 2,171 acres under cultivation produced 598,794 dozen fruit in 1908.

ROSE APPLE (*Eugenia jambos*).

Introduced by the Brisbane Botanic Gardens prior to 1861, and growing at Bowen Park in 1866. Another species of *Eugenia*, viz., *E. uniflora*, the Brazilian Cherry, was growing at Bowen Park in 1869.

ROSELLA (*Hibiscus sabdariffa*).

Growing in the Brisbane Botanic Gardens in 1875.

SAPODILLA PLUM (*Achras sapota*).

Growing at the Brisbane Botanic Gardens in 1861, and distributed in 1875.

STAR APPLE (*Chrysophyllum Cainito*).

Sent by Sydney Botanic Gardens to M. C. O'Connell, Port Curtis, and to a gardener in Brisbane, in 1854, and was growing at the Brisbane Botanic Gardens in 1861.

STRAWBERRY (*Fragaria vesca*).

Early in the seventies the Brisbane Botanic Gardens experimented with about a dozen varieties of strawberry, two of which are now extensively grown in South Queensland, viz., Marguerite and Trollop's Victoria. The production from 157 acres was 338,903 quarts in 1908.

TAMARIND (*Tamarindus indica*).

Plants sent by the Sydney Botanic Gardens in 1854 to M. C. O'Connell, Port Curtis, and to a gardener in Brisbane. Grown by Captain Wickham, at Newstead, in 1856, and also at the Brisbane Botanic Gardens in 1861. Twenty plants were distributed from the Gardens in 1862.

VI-APPLE (*Spondias dulcis*).

Introduced by Acclimatisation Society in 1876. Growing at Kamerunga State Nursery in 1891.

GREEN MANURES.**COWPEA** (*Vigna sinensis*).

Introduced by the Department of Agriculture in the early nineties.

VELVET BEAN (*Mucuna pruriens* var.).

Was introduced in the early nineties by the Department of Agriculture and Colonial Sugar Refining Co.



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