

1886.
NEW ZEALAND.

AGRICULTURAL DEPARTMENT

(REPORTS OF OFFICER IN CHARGE).

Presented to both Houses of the General Assembly by Command of His Excellency.

REPORT ON THE AGRICULTURAL MACHINERY SHOWN AT THE INDUSTRIAL EXHIBITION HELD IN WELLINGTON, 1885.

THE agricultural implements and machinery shown at the New Zealand Industrial Exhibition, held at Wellington this year, were, considering the time of year and distances from the chief centres of implement factories, very creditable indeed. In two classes especially—ploughs and chaffcutters—the show was quite as complete and good as is to be seen at some of our largest agricultural and pastoral shows, but in some other classes, such as grass-mowers and winnowing machines, it is to be regretted that no specimens were exhibited at all.

There can be no gainsaying the workmanship and practical utility of the implements exhibited; most of them, in fact, have stood the searching tests of continued use in the fields, and owe their excellence to the careful watching and constant alteration of defects by the makers. Messrs. Duncan and Co., of Christchurch, were the largest prize-winners, but it must be remembered that Messrs. Reid and Gray did not compete, but sent their implements for exhibition only.

Ploughs.—The double-furrow plough class was particularly well represented by implements of the pattern now so extensively used throughout the colony from the works of Reid and Gray and Duncan and Co. There is little or no practical difference in the ploughs made by these two firms, both patterns making excellent work in practice; but possibly the Reid and Gray may make better work on downs or hilly ground. Messrs. Duncan show a plough with a slight improvement on the old plan of clamp and set-screw for raising or lowering the front wheel, otherwise they are the same as have been in use for the last few years. Both makers show a double-furrow plough convertible to a subsoiler, by removing the front plough and substituting a share for breaking up and loosening the sub-soil; a very useful implement, and one too seldom used by farmers. The slight extra cost in working would be repaid very quickly over and over again by the improved condition of the land. The same makers show single ploughs; a very good-looking but slightly heavy one by Messrs. Duncan, and one made on the same lines as a double-furrow by Messrs. Reid and Gray for ploughing extra deep. The latter would be very useful in plantations or orchards. A hill-side or turn-wrist plough, made by Messrs. Duncan, should be a very useful one for its purpose, as it is simple in construction and very much handier than most others; the mould-board is double-ended, and the beam turns on a pivot immediately above a small wheel that runs in the furrow whichever way the plough is going, and is held in place by a catch, which is worked by a lever; the act of turning the horses carries the beam round, the lever is let down, and the plough is ready to go back the way it came. The whole proceeding can be done just as fast as the horses can be turned round.

Disc-harrows.—Disc-harrows are now generally recognized as one of the most valuable implements a farmer can have for the efficient preparation of land, especially if it be caked at all by dry weather, or of a stiff nature; but on most classes of land one stroke of the disc is worth many of the ordinary tine-harrow. The most useful disc-harrow in the exhibition was one of Messrs. Duncan's, with discs of 18in. diameter and front wheels to carry the weight, instead of the old pattern with a pole to yoke the horses to; the two wings carrying the discs may be set at any required angle by means of a cog working in a toothed segment on the main beam, and an extra disc runs between the two wings, thus insuring that all the ground is worked, and avoiding that unsightly ridge which used to be left by the old machines. Wheels which can be quickly put in position, are provided for use on roads, and the wings, with the discs attached, can be lifted up on the beam and secured by a chain. The same makers show a combination seed-sower and disc-harrow, rather a heavy implement, which will materially militate against its coming into general use, as sowing is an operation that, under most circumstances, requires to be done as quickly as possible. To a man cultivating a small area of land it would no doubt be a useful implement, as either part can be used separately, double gearing being provided for this purpose. When used in combination, the sower is driven by means of a chain connected with the axle of the discs; but, if the discs are detached and the sower used alone, the wheels which are used on the road must be fixed to the sides of the frame, and the sower is then driven from one of them. The only other

disc-harrow is one of Messrs. Reid and Gray's; the discs themselves are very much smaller, consequently not so effective, and no provision is made for road-travelling. It is fitted with a screw to equalize the pressure of each wing and a lever to regulate the angle, and is decidedly inferior to the first-mentioned machine.

Drills.—The sowing of grain by means of drills has become much more general in the last few seasons, partly because this system provides a much better protection against the depredations of the small birds and partly, no doubt, a better style of farming is gradually being practised, and the more extended use of the drill marks a distinct advance in our method of cultivation. Messrs. Duncan show a grain-drill with a broadcast sower for grass-seed placed in front. The grain is taken up in small cups fixed in revolving discs, after the English pattern, delivered into the hopper, and so down the tube to the ground. The coulters are fifteen in number and can be regulated to deposit the seed at a depth of from 1in. to 4in. The same makers show their patent screw manure-drill, which will sow rape or turnips as well as such seeds as peas. The box to hold the artificial manure is placed in front, and has a spindle set with a series of screw-propellers; smaller screws are placed underneath and at right angles to the large one, over the mouth of each tube, so that the manure is kept in a constant stream flowing steadily down the tubes, where it mixes with the seed, and both are drilled in together; the seed itself is delivered by the revolving cups in the same manner as in the first machine. This style of drill is most exact in sowing the required quantity of seed, as the cups will only hold a few grains at a time, but it is only on fairly level ground that it will work to the best advantage. Separate spindles with cups of different sizes are used according to the nature of the seed to be sown, and also the cog-wheels have to be changed for the same purpose. A drill on quite a different principle, and of a smaller size than those of Duncan's, is exhibited by Messrs. Reid and Gray. The manure is driven out of the holes, the size of which can be regulated by a slide, by cogs of much the same pattern as those in an ordinary broadcast sower. This arrangement is certainly lighter but hardly so effective as the patent screw; the grain is sown by this firm's force-feeder, and the turnips by the ordinary turnip tins placed in the grain-box. When sowing the last-named seed, hoppers are placed under the tins and the seed carried down every alternate tube. The machine can sow grain or turnips with or without manure, and either box can be thrown out of gear if necessary, and has a register to measure the area sown, which only works when the machine is actually sowing. This drill will sow as evenly on hilly ground as on the flat, and thus has a decided advantage in this respect, but is inferior in the method used to force out the manure to the patent screw. Messrs. Reid and Gray exhibit a broadcast sower fitted with the force-feeders, the same as on their drill. This should be a useful machine, as the boxes have a strong grip at their inner ends, and the frame is broad, so that the boxes should bear the strain at their outer ends better than some of the other makes. The seed-boxes can be removed and two spindles with tins for sowing turnips fixed on the frame, making a light and really useful machine. The other broadcast is or a very different style, made by the New Zealand Implement Company. The seed-box is nearly square, and placed between the wheels and rather high, from which the seed runs into a 4in. iron pipe 16ft. or 18ft. long, with holes punched in it at equal distances. Inside this pipe is a slide worked by a nut at each end of the pipe to alter the size of the holes, and inside the slide is an archimedean screw the length of the pipe, which forces the seed out of each hole evenly as the pipe itself revolves. This arrangement of placing the seed in the centre makes the draught very much lighter than in others where the seed is distributed the whole length of the machine, and the strain on the machine itself is reduced to a minimum. If the seed is sown as well by this as by the more common machines it must be a very valuable implement, and should come into extensive use.

Reaper-and-Binder.—The only reaping-and-binding machine in the Exhibition was made by Messrs. Reid and Gray, of the pattern they have been turning out of their factories for the last two or three years, and which have proved themselves to be capable of making just as good work in the harvest-field as any of the imported machines. It is a string-binder, fitted with all the latest improvements, including a sway-bar of steel plate, instead of wood, usually found in other machines; a new segment on the main frame, in which a cog-wheel, worked from the rear of the machine, raises or lowers the height of the machine from the ground, either for the purpose of cutting long or short crops, or travelling on the roads, for which latter purpose two travelling-wheels are fixed on the frame under the elevator, and another takes the place of the grain-wheel. This latter is fastened on by a bolt placed in a very awkward position, and ought to be easily improved on; while the grain-wheel itself can be put in position with very little trouble. The machine is well built and braced together, as light as is consistent with strength, the oil-holes are easily got at—a very important thing in the field—and, taken altogether, does great credit to the makers, and as long as they can turn out such machines as these, imported ones ought to find a limited market.

Chaff-cutters.—That chaff-cutters are becoming a very important machine in the economy of the farm is fast becoming recognized both by the farmers themselves and the manufacturers. They are proving year by year a great aid to the efficient management of sheep during the winter months in the Middle Island, and in several instances it has been proved a more payable manner of disposing of a crop of oats to cut it in chaff and feed to sheep than to thresh out the grain and sell in the market. There were more chaff-cutters shown than any other kind of machine or implement except ploughs, showing that the manufacturers are quite alive to the value of this class of machine. Messrs. Andrews and Beaven show a duplex screw pressing machine, capable of cutting from sixty to a hundred bags per hour, and pressing the bags up to a weight of 75lb. each. The machine is mounted on wheels for road-travelling, and has a lock on the fore-carriage, for convenience in setting it exactly; it has improved feed-rollers compressed by powerful springs, instead of the old lever and weight, which would be cumbersome and in the way on a machine of this kind; the mouth-plate is corrugated, which prevents the straw from slipping away, and enables the knives to make a clean cut without leaving any long straws; and all the gearing is covered. The chaff falls from the

knives on to riddles, which remove the long straws and dust; is then elevated to the screw-presses. These presses are large cylinders of sheet-iron, with an archimedean screw working inside. The bags are hung on rings, which work up and down these cylinders, and the chaff is delivered into the bags down the screw. As the bags fill, the screw, working on the chaff in the bag, gradually presses it tight, and at the same time forces the bag downwards till it is full. When one bag is filled, the chaff descends the other press at once; so all that has to be done is to put on the empty bag and remove the full bag alternately. A machine of this kind would be valuable not only to a large landowner, who requires large supplies of chaff for horses and sheep, but also to threshing-machine owners, as they could utilize their engines in the off-season, when threshing is finished; and, making such good samples of chaff as these machines do, would no doubt obtain plenty of employment. The same makers show four smaller chaff-cutters, one of much the same pattern as just described, but without the screw-presses. The chaff is elevated in precisely the same manner, and merely drops into the bags, which have to be pressed by manual labour. The other machines have no travelling-wheels, are fitted with elevators, but no riddles, and can be worked by horse-power. Messrs. Reid and Gray exhibit four chaff-cutters. The largest is very similar to the duplex, but has only one screw-press, so that it could not get through so much work in a given time, as the press would have to be stopped to fix on an empty bag. In other respects the two machines are practically the same. The three smaller ones, of the kind in most general use, have riddles, but no elevators, and can be worked with any kind of power.

Horse-powers.—Horse-powers of different sizes, one- and two-horse, both direct-acting and on the intermediate principle, are shown by the same two firms. One only, made by Messrs. Andrews and Beaven, calls for any special remark. It has two pinions acting on the shaft, which lessens the risk of a break if the horses are started with a jerk, and also keep the motion continuous.

Among the less important implements are two corn-crushers of a handy size. Both are placed on iron stands, and are of much the same pattern, except that Messrs. Andrews and Beaven's machine has an automatic feeder to control the supply of grain to the crusher, and that their machine is of lighter construction than Messrs. Duncan's. The horse-hoes were both rather light, and looked more like market-garden than the heavier farm work. The "Triumph," made by Messrs. Wallace and Stotham, of Auckland, has two revolving discs in front to cut the weeds growing close to a crop, the usual teeth to stir the ground, and double mould-boards to ridge the soil up, and would do very well for cultivating root crops or maize. Messrs. Duncan's hoe is of the ordinary kind, with teeth adjustable to different widths, which can be taken off and replaced with mould-boards, and used as a ridging-plough. A machine, which has the appearance of a huge grass-mower, shown by Mr. G. Fraser, of Auckland, is intended to cut ti-tree and small scrub up to 1½ in. in diameter. It is made exactly on the lines of a grass-mower, and, well horsed, would no doubt cut small scrub; but the driving-power is rather far from the knife, and a slightly larger piece of scrub than usual would be very likely to cause a break, or, at least, a bend in the connecting-rod. A hand-power grass-seed thresher by Messrs. Andrews and Beaven should be very useful to small farmers who save a little grass-seed, especially cocksfoot, for which the machine is particularly intended. It is very light and simple in construction, and could easily be worked by a boy.

Cream-separator.—The machine that created the most interest was the De Laval Cream-separator shown by Messrs. Mason and Struthers, as, during the latter part of the time the Exhibition was open, the separator was to be seen in action every day. The separator exhibited was of the smallest size, and presents the appearance of an iron bowl with a tin cover, supported on an iron pillar. Within this bowl is a heavy cylinder made of the best Swedish steel, prolonged into a spindle which passes through the pillar, with a pulley at its lower end. Taking off the tin covers, a small cone is seen at the bottom of the cylinder, on the apex of which the milk descends in a continuous stream, and, as the cylinder rotates at the rate of six thousand revolutions per minute, a complete and instantaneous separation of the cream and skim-milk takes place by the action of centrifugal force. A flange is placed inside the cylinder to give the milk the same speed as the cylinder itself, and the cream, being the lighter, is whirled to the centre and rises up to the top, where it escapes through a small slot into the upper tin cover, and is discharged through the spout. The heavier portion, or skim-milk, hangs to the sides of the rotating vessel, and is forced up a small tube to the lower tin cover, and finds its way out by another spout. The milk to be operated on must be either fresh from the cow, or, if not, warmed up to 90° Fahr., and runs from a large vat with an automatic valve on the spout, which effectually prevents any overflow, down a funnel on to the apex of the cone in the cylinder; and, as long as the supply of milk lasts, all that is necessary is to provide receptacles for the cream and the skim-milk. The spindle below the cylinder is fitted with a speed-indicator, so that the attendant can make sure of the requisite speed before starting work. The management of the machine is easily learnt: in fact, the one at the Exhibition was worked by the man in charge, who had no previous experience, without a hitch from the first. The advantages of this method over the old one of setting the milk for so many hours and skimming the cream are obvious, as, besides the actual gain of from 15 to 20 per cent. more cream, it can be separated as fast as it comes from the cow, and a great deal less space is required for storage purposes; and, finally, the labour of cleaning a number of milk-dishes—really a most important operation in a dairy—is done away with. There is no doubt as to the complete separation of the cream and milk, for, if the skim-milk be put through the machine a second time, not a drop of cream will be obtained. This machine—the smallest size—is capable of separating as much as sixty gallons of milk per hour—large enough, in fact, for a dairy of a hundred cows. The operation is cleanly, and waste is reduced to a minimum—the only waste at all is a thin coating of cream left inside the upper part of the cylinder, which never increases, whatever quantity be put through, and is inappreciable compared to the waste that was unavoidable in the old method. The machine can be driven by steam-, horse-, or water-power, and requires less than one horse-power to work it at the proper speed. The power is conveyed to an intermediate by a belt, and from thence to

the separator. So much support is given by farmers to dairy factories at present as a means of increasing their incomes, that this machine should command great attention from all interested in the future of farming; and a great benefit would be conferred if some well-known society, such as the Canterbury Agricultural and Pastoral Association, would undertake a series of experiments to test the actual gain and advantages generally by the use of this machine. The experience of a practical dairyman, who showed one of these separators, which he had worked for the previous eighteen months, at a show held at Talbot, Victoria, recently, proved that, even in a comparatively small dairy of fifteen or twenty cows, the separator would pay for itself in six months in economizing labour, the gain in quantity of cream, and the superior quality of butter made. If this is found to be the case in a small dairy, what an immense difference it means to a large one!

Churns.—The improvements in the articles for making the butter have not advanced as fast as those for obtaining the cream to make the butter from. Only four patterns were exhibited: the common American cylinder churn, with four beaters; a modification of the cylinder, with straight sides instead of barrel-shaped, were shown by the Dunedin Woodware Company: they are made all sizes, are cheap, handy, and useful pattern; but the beaters are rather weak, and the spindle of the largest size looks too small. For use in a dairy where a large quantity of butter is made the barrel-churn shown by T. Dow, of Christchurch, would be very suitable: it is made of oak, and has three flights, placed at equal distances inside, a patent vent-hole, and very tight-fitting lid; the crank to turn the churn runs on wheel-bearings, the churn itself is placed on a convenient stand, and would outlast several of most other patterns. The third exhibitor, T. Ellis, Wanganui, shows a patent of his own, and claims that his churn will produce six per cent. more butter than any other, and that it is self-cleaning by cross-action. The churn is rectangular in shape, with thirty-two spoon-shaped beaters fixed on to a large wooden spindle, and is made of native woods. It is very certain that, unless the cross-action is as effectual as the inventor claims in cleaning the churn, it would be a very long operation to do so by other means.

Taken as a whole the implements exhibited are of a high class, both as regards workmanship and their distinctly practical nature; so much so, indeed, that the demand for imported implements is steadily decreasing, and as they become worn out they are being replaced by colonially-made machines. As an instance, in the manufacture of that essentially American machine, the reaper-and-binder, a colonial firm is turning out of their yards a machine equally as good as the American make in all parts, and can also sell it at a price which will compare favourably with that asked for the imported article; and the same remarks apply with more force to the less elaborate machines. When it is remembered that there was only one colonial-made implement in the Exhibition held at Dunedin twenty years ago, and that a single-furrow plough—an implement that may be said to be obsolete, at any rate as far as grain-growing is concerned—and now to examine the machines at this present Exhibition, some slight idea of the wonderful progress made during that time may be obtained; but no surprise will be felt that now we want more than one kind of implement made in the colony, because last year there was an area of more than ten times as large under crop than in 1864; and in that year the colony sent away more than half a million of money to buy cereals, whereas last year, besides providing for all our own wants in flour, malt, horse-feed, and seed for the ensuing season, we received in cash nearly three-quarters of a million for our produce.

Fencing Material.—A great variety of iron fencing standards, straining-posts, and tools for straining wire fencing are shown by the New Zealand Implement Company and J. Mackay, of Nelson, all of more or less practical utility. The standard which appears to be the simplest and cheapest in the end was one made by the Implement Company out of Y iron, which form gives it extra strength and rigidity. The holes are punched in the ordinary way in the tail of the Y part of the standard, and then the space between the hole and the edge is cut through diagonally, and the corner so left is bent outwards. The wire is then easily slipped into the slot while it is slack; but when strained even moderately tight it is absolutely impossible to get it out without something breaks. This is the kind of standard that would be most suitable for fencing off breaks of turnips or for any temporary purpose, as no staples or fastenings of any kind are required, and the fence could be put up as quick or even quicker than with any other standards; besides, being of more durable materials, there is no risk of the standards getting bent. J. Mackay shows a large assortment, but nothing that can equal the Y standard for simplicity or lightness. All his standards require bent wire, or staples, or a cast-iron catch to hold the wire on. His standards, too, are made of heavy iron, which would make them expensive as well as cumbrous. He also shows several appliances for straining wire, either from the straining-posts or for repairing a broken wire between the strainers, which are of useful types. The Acme Barb-wire Company, Timaru, show specimens of their manufacture, both black, annealed and galvanized, with two or four barbs, placed at different distances apart to suit all classes of stock, from the pig-wire, with barbs three inches apart, to the ordinary wire, with five or six inches between the barbs. The wire is two-ply, and the barbs are put on with an extra twist, making them firm; and the fact of this company surviving while others have given up business is evidence of the excellence of their wares. The ingenious little tools for putting barbs on existing wire fences are also exhibited. These have been found very useful, and gaps in fences can easily be made impenetrable by their use at a very much less cost than the usual way, as it only requires to be done once.

Wellington, 2nd November, 1885.

WALTER DE G. REEVES,
Officer in Charge, Agricultural Department.

REPORT ON THE CANTERBURY AGRICULTURAL AND PASTORAL SHOW, 1885.

THE Metropolitan Show held in Christchurch this year was a fairly successful one, but, owing to certain regrettable causes, was not quite of such a representative character as might reasonably have been expected. The entries of sheep show a slight decrease on those of last year, but the general quality of the animals shown was of a high class; and this was specially to be remarked in the merino class. Both sections—the fine and strong combing—were well represented by sheep from the flocks of Messrs. R. Campbell and Sons, W. H. Teschemaker, R. H. Rhodes, and W. Lyttelton, in the former section, and of the executors of the late A. McMaster in the latter section. The champion ram, bred by J. Gibson and shown by Messrs. Campbell and Sons, was a grand sheep of perfect symmetry, with good bone, and a fleece showing all the requisite points of density, evenness, and length of staple in a high degree—in short, a ram that would be a credit to any show. The difference between sheep that had been housed and fed and those fed only on grass was naturally very marked, and it is greatly to be regretted that breeders are more or less compelled to pamper their animals, and consequently to increase their risks, if they wish to stand a chance of winning honours at the important shows. The long-continued practice of highly-stimulating food and the hothouse forcing system must tell on the constitutions of the descendants of these indoor animals, and cause loss and disappointment to men who use the progeny for ordinary breeding purposes. The strong combing section was remarkable for the success of the sheep bred by the late Mr. McMaster, whose flock must be of a nice level character. The English Leicesters are always a favourite breed in Canterbury, and were fairly well represented, Mr. Threkeld, as usual, carrying off the majority of the prizes. This breeder's ram and ewe hoggets were very nice sheep, level, and showing quality; in another year they should be seen to advantage. The Border Leicesters, which appear to have decreased in popular favour, judging from the poor entry, were of rather uneven character, and a few were scarcely up to show condition; but the competition was close in some of the classes. A few years ago the Lincolns were a very important feature of the show, but the demand for them has steadily decreased in favour of finer-woolled breeds; but in spite of this neglect the breeders of pure stock have not relaxed their efforts to keep their flocks up to a high standard, and the sheep exhibited this year showed a decided improvement on last year's show. Mr. Withell was the most successful breeder, his sheep being in good condition, of great substance, and carrying very heavy fleeces. The Romney Marsh were represented by one pen only, and the Cotswolds exhibited were the property of one owner, and call for no special notice.

Undoubtedly the feature in the show of sheep was the wonderful increase in the entries of Southdowns. This year a separate class was provided for them, and the number of entries was only exceeded by those in the merino class. The reason this breed has so suddenly come into favour is due to the development of the frozen meat trade, as Southdown rams have been in great demand for the last two seasons for crossing purposes, as the meat of this cross is finer in the grain, the fat and lean in better proportion, and generally of a better quality than in the ordinary three-quarter bred sheep. The sheep shown were of a high class; most of them were good conditioned, symmetrical, and very healthy looking. It was very pleasing to see that in the class for three hogget ewes the judges highly commended all the entries after awarding three prizes, showing that with the blood we have at present in the colony the excellence of the breed is likely to be sustained.

The Shropshire Downs were represented by only one ram hogget. This is much to be regretted, as the breed is a valuable one to small flock-owners, being very prolific and yielding a meat little inferior to Southdown. The Hampshire Downs were, with one exception, exhibited by Messrs. Dudley and Northey, and some of them were very fine sheep, carrying more wool and averaging a heavier weight than the Southdowns, and but slightly inferior to them in quality of mutton; they should prove a useful sort to cross with half- or three-quarter-bred ewes to get sheep for freezing purposes. In England this breed came into great favour a year or two ago, and was looked on as one of the most profitable kind for crossing with the coarser sheep, and no doubt farmers out here would have reason to value them if they gave them a fair trial. The fat sheep would have been a credit to any grazing country, all well fattened and ripe without being overloaded with fat. The merino wethers bred by Mr. L. White were a grand lot of sheep, heavy weights and unexceptional quality. The fat lambs were certainly not as good as they might have been.

Amongst the extra exhibits were three pens of hoggets bred by Mr. Little from half-bred ewes by half-bred rams, which created a great deal of interest. A breed of this kind has long been talked about, and in a few instances attempted, but either the breeders have not had the requisite patience to carry their experiments far enough or have not made the best use of their sheep; at all events the type has not yet been fixed or the breed established. The hoggets were large boned, rather leggy, but carried a good fleece of long-stapled fine wool, and of an even quality; those that were shown appeared to better advantage, as they were well fattened, good quality, and quite heavy enough for ordinary use. It is to be hoped Mr. Little will continue his experiments, and that he will succeed in fixing the type of this class of sheep, which cannot fail to be a valuable one if it is possible to get them up to good weights, like those exhibited, when only thirteen months old.

Among the cattle the Shorthorns continue to hold their popularity, no other breed coming near them in the number of entries; the total entries show a slight falling off compared with the last two years, but the character and quality are still of a high class. In the any age class Mr. Dean's imported bull Duke of Gunterstone carried off the champion medal; and, with so many of his stock on the ground, nine of which won prizes, it was easy to see he deserved it. A handsome bull of Mr. Boag's was placed second, and if he does not grow too coarse should be a valuable animal to his owner. In the two- and three-year-old classes the Gunterstone family came prominently to the fore with two bulls, which promise to grow very handsome. The cows and heifers were as good as

could be imagined from the show of bulls, there being several beautiful cows in first-class condition and showing a great deal of quality. The Herefords were represented by two fine cows bred by Mr. Cox.

The show of Jersey and Alderney cattle was very creditable, but the cows showed more quality than the bulls. These cattle should come into greater favour, owing to the extreme richness of their milk, for crossing with other breeds, if dairying is to play an important part in the farmer's future. The Ayrshires comprised a good lot of cattle, the majority of which were exhibited by Mr. Little, who took nearly all the prizes. The same exhibitor was also successful in the milking-cattle class, a fine Ayrshire cow of his beating a Devon.

The fat cattle were a very superior lot, and would have held their own in any show. The best bullock was bred and fed by Mr. Garforth, and was well fed and fattened, the meat being laid on evenly and well, and the weight of the carcass must be something out of the common. There were some remarkably good cattle in the pens of three-year-old bullocks, and the competition was close in the other classes.

The number of draught horses entered was very disappointing, and, though the quality was fairly good, this was the weakest part of the show; and, bearing in mind the large export trade that has been carried on for some time past, it might have been supposed that the breeders would have taken this opportunity of exhibiting as many of their stud stock as possible. The stallions were a well-bred lot, showing plenty of bone, but collectively were not of the high class that ought to be seen at a Metropolitan Show; but the mares, though few in number, were very good, and of a more even character than the stallions.

The pigs, all in the highest condition, showed an improvement on the exhibits of last year, and were of a superior class. The Berkshires were the most numerous, and a really excellent collection, making the competition very close in many instances. The Yorkshire, though not such a favourite as the Berkshire, was well represented by some fine pigs of the large and middle breed.

The collection of implements at the Canterbury show is always the finest and most complete to be seen in the colony, and this year was no exception; in fact, there was a substantial increase in the number of entries.

Ploughs and other cultivating implements were shown in great numbers and variety by the colonial makers, whose patterns and good workmanship are so well and favourably known. Messrs. Booth and McDonald showed a cultivator on Parkerson's patent, which should prove of great use on lea land. It consists of four skeiths, set diagonally across the frame, and four grubbing-tines behind, but running between the skeiths. The skeiths can be set to slice the land to a depth of 6in., when the tines could effectually tear it up. A great many strong and useful harrows were shown, and, with the exception of the "Rainsforth," at Messrs. Morrow, Bassett, and Co.'s stand, made on the same principle as a grubber but with many more teeth, and the patent tine harrows shown by the Messrs. Booth and McDonald, call for no special notice. The tines in the latter fit into grooved bars, kept in their proper positions by hollow tubes, with bolts inside these tubes the width of the leaf, which hold the whole leaf rigid when screwed up; the loss of the tines is prevented by this arrangement, and the harrow can be taken to pieces much more easily.

Drills for sowing two rows of mangolds or turnips and manure were exhibited by Messrs. Reid and Gray, and Duncan. That made by the former firm had separate tubes for the manure and seed, so that guano or any other strong artificial manure, which is not desirable to mix with the seed, can be used. Messrs. Duncan's drill was fitted with their patent screw to force the manure out, which is delivered down the same tube as the seed. Both machines have two rollers, one in front and one behind the seed-tube. A broadcast seed-sower, of a new pattern, made by Messrs. Booth and McDonald, has some useful improvements. The seed-boxes, instead of being in a line, are placed one in front and one behind the axle, in this way balancing the machine. The boxes slide on a fixed iron bar, and are held in position by grip-screws, and can be run inwards so that neither overlaps the wheels, a great convenience in going through gateways, and very much easier on the horses than the old way of resting the boxes on the shafts. Both wheels are geared to drive the machine, and one chain is used to work both boxes, doing away with all cogged wheels and making the machine a very simple one.

Messrs. Kelsey Brothers show a large drill to sow any soft stable-manure or guano. The manure falls from the hopper on to rollers, to which it adheres; these as they revolve are scraped clean by a series of knives, and the manure falls down the cups and is drilled in. It is rather a heavy machine, and the manure would have to be well rotted and free from long straws; but it is certainly a better way of using up the farm-yard manure than the prevailing method.

Some useful winnowing machines were exhibited, among them one of Rosier's patent machines, at Messrs. Andrews and Beaven's stand, which has a very large sieve-area, and will clean and dress all kinds of grass-seed and grain; it can be worked by steam or manual power, and is so easy that one man can dress over two hundred bushels of grass-seed per diem. A uniform supply of seed to the riddles is insured by the working of agitators in the hopper; and another advantage is that the riddles can be adjusted and altered while the machine is in motion. Messrs. Booth and McDonald exhibited a smaller machine, also Rosier's patent, capable of cleaning a large quantity of seed, as the riddles work the whole width of the machine instead of inside it, as most others do, thus gaining a greater sieve-area. The riddles are fixed in gangs, and each gang is suited for one class of seed; scrapers to prevent the seed lodging are placed on the riddles and on the lower screen. Single and double-cellular corn-separators were shown by Messrs. Moor and Co.; instead of being made of wire like the ordinary rotary screen, which they resemble in shape, the separators are made of sheet metal with small cups or depressions stamped all over them, which carry the small seeds and light grain as the cylinder revolves far enough round for them to drop into a small trough placed inside, whence they flow down a spout clear of the machine. The good and heavy grain is delivered at the end of the cylinder. The machine is easily worked by a lad, and is said to have given great satisfaction.

Grass-seed strippers were exhibited by Messrs. Duncan and Booth and McDonald; the former firm have improved on their old pattern by providing an elevator and a riddle to take out all weeds or long stalks and retaining the seeds only, so saving the clearing out of the boxes so frequently. The improvement in Messrs. Booth and McDonald's machine consists principally in the horse walking clear of the grass to be stripped.

Reapers-and-binders were very well represented by machines from the yards of eight different makers, including five American, two English, and one New Zealand. They all showed more or less improvement, though chiefly of a minor character. In all the machines malleable iron is used for the castings, and, where a sway-bar is used, it is made of steel plate instead of wood. The knotter in most of the machines has been improved, so that there is less chance of the twine slipping before the knot is tied.

A great variety of grass-mowers were exhibited, the most interesting being the Champion, shown by Mr. Reece. The mechanical movement is of a novel description, and most of the machinery used by other makers is dispensed with. The knife is driven by an arm from an eccentric vibrating wheel, which is set in motion by a cog-wheel on the axle. The knife-bar can be raised at either end to avoid obstructions without throwing the machine out of gear or stopping cutting.

An ingenious and very useful machine for driving artesian wells by horse-power, patented by Mr. Osborne, was exhibited by Messrs. Andrews and Beaven. It stands on an iron frame, and has only two wheels, the larger of which is counterbalanced, and has two projections on the spokes which alternately force down a movable arm fitted on the spindle, which acts as a lever. A rope is attached to this lever-arm, and runs through a pulley to the monkey which drives the pipe down. As the wheel revolves, the arm is caught by one of the projections and carried downwards. This action raises the monkey, and immediately the arm begins its upward movement it disengages, and the monkey falls till the arm is again caught, and the lifting and falling of the monkey go on at each revolution. The lever can be set to raise the monkey from 1ft. to 5ft. The machine has been used with great success in the Leeston district, and a saving of 40 to 60 per cent. effected on the old style of well-driving.

Several wool-presses were exhibited, only one calling for special notice, the rest being so well known. The differential wool-press made by Messrs. Booth and McDonald takes two men to work it, who have to exert the same power on the handle throughout the whole operation, unlike other presses where the first part is easily performed by one man, while the last is very hard work for two. The upper box is tipped right over to be filled, and brought back into position by a crank-handle working a pinion in a large cog-wheel. On the spindle of this wheel are two worms with a differential radius on each side of the press, and the steel wire rope attached to the monkey is wound round these worms as the crank-handle is turned. As it only takes about one revolution and a half of the big wheel to press a bale, it will be seen that the operation is a quick one; and, as the same gear is used to press and tip back the top box, space is thereby economized.

A trial of gorse-cutting machines took place in connection with the show, at which three machines appeared; but, owing to accidents, two of them could not complete their work, and the other made very bad work. A gorse-cutter is required to cut overgrown hedges four or five years old, a feat no machine can be expected to survive long, as, if nothing broke, the whole machine would be strained and soon become useless. For general use all that can be expected reasonably is that a machine may be put on the market that will trim hedges of one or two years' growth at a substantial reduction on the cost of doing the work by manual labour. Taking this as the standard, Keir's machine seems to come nearest, as, although it broke down at the trial, it was not from any weakness in the machine itself. The two-bladed knife is driven at the rate of eight hundred revolutions per minute by a chain from a spindle, which is turned by a pinion working in the cogs of the main wheel. The machine can be raised or lowered in the same way as a reaper-and-binder, and is drawn by two horses. Oliver's machine is slightly heavier, and requires three horses. It has two driving-wheels, like a mower, and a long beam sliding on two uprights carries the knives, which can be set to cut at any angle. The upward cut of the knives scattered the gorse too freely, and they did not seem to have sufficient speed to do the work, as they stuck in a piece of rather heavy gorse, and the frame of the machine gave way. The third machine—Simpson's—was of a very rough description, and made very poor work. The knives are driven by a belt from an intermediate, and, like Oliver's, lacked speed. It is provided with a steering-wheel in front, and requires three horses.

A handy contrivance, which should prove useful to all sheep-owners who grow turnips, was exhibited by Messrs. Duncan and Booth and McDonald. It consists of a small iron turnip slicer of a barrel shape fixed below the floor of an ordinary dray, and driven by cogs bolted on to the spokes of the wheel. The turnips fall through a hopper in the floor of the dray into the cutter, and are sliced into nice-sized pieces as it revolves, and fall to the ground. The slicer was practically tried last winter, and gave great satisfaction; and, as it can be fitted to any dray, owners of small lots of roots would find them last very much longer by using one of these machines than by feeding them off in the usual style.

There was a grand display of traction engines and threshing machines; and the manner in which the engines turned in almost their own length showed the excellence of the steering gear. Two engines were fitted with patent spring wheels to reduce the chance of accidents when working on hard or uneven ground.

W. DE G. REEVES,

Wellington, 13th December, 1885.

Officer in Charge, Agricultural Department.

THE NORTH OTAGO AGRICULTURAL AND PASTORAL ASSOCIATION'S
SHOW, 1885.

THIS show, held at Oamaru, was noticeable for the superior character of the long-woolled sheep, cattle, and draught horses; and, with so many successful breeders in the immediate neighbourhood, it would be rather surprising if the show was not a success. The merinos were all of the strong combing class, bred by the late Mr. McMaster, and met with no opposition. An improvement in the Border Leicester class at the Metropolitan Show was manifest here, as the entries were numerous and the quality very good, including sheep from the flocks of the Hon. M. Holmes, Messrs. Little, Reid, Murdock, and the New Zealand and Australian Land Company. The two first-named were the most successful exhibitors. In Lincolns the Hon. M. Holmes had it all his own way, taking every first prize but one; the sheep were a large-boned robust type, carrying fleeces of wonderful weight and length, and a little strong and coarse. The only exhibitor in the Romney Marsh class was Mr. J. Reid, whose sheep were in the best condition, and showed the best characteristics of this useful and rather neglected breed.

The shorthorn class was a competition between Messrs. Menlove and J. Reid. The quality of the animals was of such a high-class that some difficulty must have been felt in awarding the prizes; the cows were a beautiful lot of high-bred animals that would be difficult to beat at any of our shows. The favourite breed of cattle in North Otago is the Ayrshire, and more than a hundred animals were sent to compete by fourteen different owners, showing that the best-bred animals are better distributed than is the case in other breeds, insuring that spirit of emulation and deep interest among breeders that is so essential to the improvement of any breed. Out of so many entries the quality necessarily varied a little; but, on the whole, it was a good show throughout. The bulls were very even in quality. Some handsome well-bred polled-Angus cattle were exhibited by the New Zealand and Australian Land Company, but there was no competition. These cattle ought to come into more general favour, as they are very hardy; and, though small, carry a great deal of flesh and grow to big weights, besides being unable to damage fences, or each other, in the way other cattle delight to.

The draught horses, as is naturally to be expected at Oamaru, were of a very good stamp, and compared very favourably with those shown at the Metropolitan Show. The Clydesdale breed was a short time ago the favourite; but apparently the tide has turned in the direction of the English shire horse, and it is to be noticed that one stallion in the district is the sire of more than twelve prize-takers. The prize for the best stallion was given to Lord Haddo, a very good-bodied horse, with good bone, but rather lacking in quality; and for the best mare, a two-year-old filly, built on a beautiful model, was placed first.

There was a fairly good show of implements by the chief colonial makers, and the only ones to be specially noticed were some turnip-cultivating machines, imported from Scotland, and exhibited by the Hon. M. Holmes; they comprised a turnip-thinning machine worked by one horse, which has two discs set at the correct distance apart, for working on the top of drills, with eight arms, each provided with hoes at the end, which cut out the surplus turnips as the discs revolve, leaving plants untouched about six or nine inches apart; a drill scarifier with rollers in front of light adjustable mould-boards to work the land before drilling it up; a three-drill plough, to make three drills at once; a light drill-harrow, with two leaves, one to run on each side of the drill but without touching the roots on top; and, finally, a turnip-topper-and-tailer, which lifts the turnips out of the ground at the same time; it is made V shaped, of light bar iron, with the apex of the V upwards, and supported on runners which slide along the bottom of the furrows; between the runners are placed guides which gradually converge, and are knife-edged at their ends, behind these is a curved arm, and behind this again is a sickle-shaped steel share set at an angle downwards, with the convex edge to the front. As the implement is drawn along the drill the leaves of the turnips are gathered between the guides and sliced off by the knife edges, and thrown to the bottom of the furrow by the curved arm, and the share runs just deep enough in the ground to cut the root of the turnip and lift it out on top of the drill. All these implements are said to do their work remarkably well, and, as they are simple in construction, should be made at a moderate cost and come into use among farmers who cultivate their land well for the purpose of growing good crops of roots.

Among the extra exhibits were specimens of the different artificial manures manufactured by the New Zealand Drug Company and the Belfast Chemical Company, including bone-dust, both fine and coarse, superphosphates of lime and guano, and their specialities, blood-manure and Belfast guano.

Wellington, 13th December, 1885.

W. DE G. REEVES,
Officer in Charge, Agricultural Department.

THE OTAGO AGRICULTURAL AND PASTORAL ASSOCIATION'S EXHIBITION, 1885

THIS show, held on the new ground at Tahuna Park, was a very successful one, for, although the entries were not particularly numerous in any one class of stock, the general quality of the animals was very high. The draught horses were certainly the feature of the show, the entries being the largest and the animals of a superior stamp to most of the horses at any other show.

The Provincial District of Otago carries a very large number of merino sheep, but it only produces four breeders to compete at their principal show, though there must be many sheep in the district of sufficient merit to stand a chance of obtaining prizes. The fine combing merinos were said to be an improvement on the previous year's show, and were a nice lot of well-bred sheep. In the strong combing class the executors of the late Mr. McMaster again took nearly every prize.

The Leicesters comprised the pick of the sheep shown at Oamaru, supplemented with some good ones from the New Zealand and Agricultural Land Company and Mr. J. Allan's flocks, making up a very strong class of grand sheep. The Hon. M. Holmes, Mr. J. Reid, and the Land Company divided the prizes in the Lincoln class with sheep that they exhibited at Oamaru. The Romney Marsh sheep were also shown at Oamaru by Mr. J. Reid. The entries in the Southdown class were forty-seven this year, while two years ago there was not a single entry, showing how general the demand for this breed has become. The most successful exhibitors were Messrs. Deans and Garforth with sheep that were shown at Christchurch. Some very nice sheep were exhibited by Mr. G. G. Russell, but they were lacking a little in condition.

The shorthorns were a capital lot of first-class cattle. Those of Messrs. Menlove and Reid were exhibited at Oamaru, where the prizes were awarded differently in several cases from what they were at Dunedin. Mr. Deans showed three handsome heifers, and Mr. Clarke some very good stud cows and heifers as extra exhibits. The Polled Angus were represented by the same handsome cattle that the Land Company showed at Oamaru, and met with no opposition. The Ayrshire cattle were a good class, though not half as numerous as was the case at Oamaru; the quality was very good indeed, and Messrs. McFarlane were again the most successful exhibitors. The fat cattle were all that could be wished for in weight and quality.

The draught horses made a show themselves that was well worth seeing, as there was not a single bad horse on the ground. The best stallion, Lord Salisbury, is a magnificent stamp of a draught horse, showing enormous strength, but without heaviness or want of activity, on short legs, with plenty of good bone, very strong in the loin, and with every appearance of health, of soundness of constitution so necessary in a sire. The mares and youngsters were very good, the Hon. M. Holmes's grand two-year-old filly again taking first prize; and the collection of working horses was as good as is to be seen at any show in the colonies. A pair of grand geldings shown by Mollison and Co. would be worth a large sum as brewers' horses in England.

A large number of implements were shown, Messrs. Reid and Gray alone sending more than a hundred, including specimens of all the machines and implements manufactured at their works. Among these was an interesting exhibit of a lot of small malleable iron castings made by the firm and used in their reapers-and-binders. The castings appeared to be equally as good as any of the imported ones, and Messrs. Reid and Gray are to be congratulated on carrying to a successful issue an industry in the colony which resulted at first in great losses to iron founders at Home. A Buckeye low-level reaper-and-binder, shown by the local agent—Messrs. T. Robinson and Co.—created a great deal of interest, as a machine that is not liable to tip over is badly wanted for use on down-land. This machine is less than 10ft. wide, and would go through an 11ft. gate easily, a very great advantage. All the binding machinery and gear are placed inside the main wheel, and the elevators are done away with. The straw falls from the knives on to the ordinary travelling canvas, and is caught by six packing-forks, which have an action very like that of a man's arm and hand when engaged collecting straw preparatory to binding it into a sheaf. These forks gather the straw on to a sloping platform against the sheaf packers above the binding machinery, and when a sufficient quantity of straw to make a sheaf is collected the weight depresses a trip-lever, which sets the binding gear in motion. As the needle returns after binding the sheaf an arm under the sheaf is released, which throws the sheaf gently over the wheel and clear of the machine. A roller is placed between the canvas and the binding-table, which prevents any straw falling through, and gives the straw a slight lift within reach of the packing forks. The knife is driven by a counter-balanced connecting rod from the main-wheel, and both wheels can be raised or lowered at the same time by the lifting gear in front of the driver's seat; the usual levers to alter the rakes and the height are within easy reach of the driver. A patent bolt arrangement is a great improvement on the straps to regulate the butter canvas. An ingenious little labour-saving tool came out with the machine, about 9in. long, and shaped like a small letter h, with a hook on the bottom of the upright arm. It is used to tighten the straps of the canvas; the hook fits into a hole of the strap, and the tail of the h acts as the leverage point. An underground drain-plough, patented and exhibited by R. Cockerell, is said to have done good work in draining land at a very much cheaper rate than could be done by any other means. It is a huge single plough with a steel coulter 2ft. long, 18in. wide, and 1in. thick. The bottom of this coulter is pointed in front, and has a moveable plug of solid steel about 1ft. long, and of any diameter from 2in. to 4in., as may be required, behind, which makes the drain. The plough requires eight horses or sixteen bullocks to pull it; and the inventor claims it will cut through most land that is free from stones at the rate of one chain per minute, and leave a drain which will remain open, although the surface soil is cultivated, and do its work for some years. A set of cross-cut harrows for turnip-thinning, patented by the same maker, have the end of each alternate tine set in and out like the teeth of a saw. They can be used to thin turnips sown in drills or broadcast, and should prove very useful as ordinary harrows.

Wellington, 13th December, 1885.

W. DE G. REEVES,
Officer in charge, Agricultural Department.

REPORT ON IMPORTS AND EXPORTS IN 1884.

THE following statement in tabular form shows the value of articles imported in 1884 which the colony ought to produce in abundance, not only for its own consumption, but also for export; the articles and their value, together with the markets, are also given. It will be seen that, after the United Kingdom, our best customer is New South Wales, who took just half what the Mother Country did, and more than five times in value of our produce than any other country. She has proved a most valuable market for our draught horses, oats, bran, butter, cheese, and potatoes, and to a less extent wheat; these seven articles brought us £280,000 in that market alone.

The South Sea Islands, including Fiji and New Caledonia, took £35,000 worth of our produce, and it may reasonably be supposed that, now there is a regular mail service, these figures will be largely increased. One thing that cannot fail to strike even a casual observer is the large sum (£25,000) we paid to Tasmania for fresh fruit; our jams and jellies cost us £10,552; the greater portion of these two amounts should be kept in the country; we can grow nearly all the kinds of fruit we want, and ought to do so at a price to compete with the imported article; similarly we should not have to import marmalade, as oranges can be obtained very easily from Sydney, and it is to be hoped we shall supply ourselves with this fruit in a few years. No doubt our jam bill will be reduced considerably this year, as several factories are hard at work at the present time.

Wellington, 18th December, 1885.

W. DE G. REEVES,
Officer in charge, Agricultural Department.

VALUE of Alimentary Products, &c., Imported from, and Exported to, the undermentioned Countries, and the Principal Articles, 1884.

Countries.	Imports	Principal Articles.	Exports.	Principal Articles.
United Kingdom ..	£ 255,891	Seeds (grass and clover), candles, linseed and olive oil, preserved fish, preserved milk	£ 901,026	Wheat, meat (frozen and preserved), flour, grass seed, butter and cheese, beans and peas.
New South Wales ..	24,590	Fresh fruit, stud horses, cattle, sheep	455,123	Oats, potatoes, butter, bran and sharps, wheat, cheese, bacon and hams, malt.
Victoria	42,599	Flour, fresh fruit, stud sheep, confectionery, candles, chaff	82,187	Oats, seeds (grass and clover), butter and cheese, barley.
South Australia ..	4,257	Flour, jams	42,789	Oats, barley, malt.
Fiji, South Sea Islands, and Whale Fisheries	13,934	Fresh fruit	35,009	Bacon, biscuits, butter and cheese, preserved meat, potatoes, salt beef, cattle, horses, sheep.
Queensland .. ..	..	..	23,887	Oats, butter and cheese, bran and sharps, potatoes.
Cape Colony .. ..	..	..	12,669	Wheat, butter and cheese.
Tasmania	32,608	Fresh fruit, jams, stud sheep ..	12,250	Salt beef, wheat, sheep, oats, barley.
Bengal .. ..	..	..	4,163	Horses, oats, chaff.
Mauritius .. ..	..	..	3,424	Oats, flour, bran and sharps.
United States ..	34,127	Preserved fish, fruit, hops, grass and clover seeds	3,192	Horses, bacon and hams, grass seed.
Brazil .. ..	..	..	1,359	Potatoes, flour.
West Australia ..	12	..	225	Cheese.
Hongkong, China ..	1,051	Fruit, preserved fish .. ..	..
Germany, Holland, France, and Belgium	464	Seeds (grass and clover), preserved fruit, starch	..	
Totals ..	409,533	..	1,577,528	

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884.

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
BACON AND HAMS:		£		£
United Kingdom	25½ cwt. ..	153	4 cwt. ..	12
United States	12 " ..	43	205 " ..	868
Queensland .. .. .	.. ..	..	.. ..	..
New South Wales .. .. .	.. ..	..	2,466½ " ..	10,271
Victoria .. .. .	.. ..	..	6 " ..	24
Tasmania .. .. .	.. ..	..	8 " ..	28
South Australia .. .. .	.. ..	..	10 " ..	42
Fiji .. .. .	.. ..	..	216 " ..	951
Norfolk Island .. .. .	.. ..	..	1 " ..	2
South Sea Islands .. .. .	.. ..	..	45 " ..	207
Totals	37½ cwt. ..	196	2,967½ cwt. ..	12,438
BEESWAX:				
United Kingdom	27 cwt. ..	204	5 cwt. ..	16
New South Wales	41 " ..	226	4 " ..	18
Hongkong	1 " ..	5	.. ..	..
Victoria .. .. .	.. ..	..	7 " ..	55
South Australia .. .. .	.. ..	..	3 " ..	39
Totals	69 cwt. ..	435	19 cwt. ..	128
BISCUITS:				
United Kingdom	29,241 lb. ..	321	.. ..	..
New South Wales	5,951 " ..	219	1 cwt. ..	1
Victoria	23,023 " ..	731	.. ..	..
Germany	663 " ..	20	.. ..	..
United States	662 " ..	11	.. ..	..
China	4,859 " ..	130	.. ..	..
Queensland .. .. .	.. ..	..	69 " ..	122
Fiji .. .. .	.. ..	..	2,370 " ..	2,656
Norfolk Island .. .. .	.. ..	..	170 " ..	174
New Caledonia .. .. .	.. ..	..	373 " ..	386
South Sea Islands .. .. .	.. ..	..	1,451 " ..	1,638
Whale Fisheries .. .. .	.. ..	..	80 " ..	58
Totals	62,897 lb. ..	1,432	4,514 cwt. (505,568 lb.)	5,135
BRAN AND SHARPS:				
Queensland .. .. .	.. ..	..	882 tons ..	3,833
New South Wales .. .. .	.. ..	..	8,603 " ..	36,723
Victoria .. .. .	.. ..	..	97 " ..	415
Tasmania .. .. .	.. ..	..	5 " ..	28
Fiji .. .. .	.. ..	..	27 " ..	143
Bengal .. .. .	.. ..	..	40 " ..	170
Mauritius .. .. .	.. ..	..	50 " ..	175
New Caledonia .. .. .	.. ..	..	12 " ..	64
South Sea Islands .. .. .	.. ..	..	1 " ..	5
Totals .. .. .	.. ..	..	9,717 tons ..	41,556
BUTTER:				
United Kingdom	28 cwt. ..	87	2,613 cwt. ..	8,529
New South Wales	169 " ..	624	11,369 " ..	50,858
Queensland .. .. .	.. ..	..	605 " ..	2,698
Victoria	28 " ..	130	537 " ..	1,866
South Australia .. .. .	.. ..	..	184 " ..	771
Tasmania .. .. .	.. ..	..	43 " ..	157
Fiji .. .. .	.. ..	..	251 " ..	1,040
Cape Colony .. .. .	.. ..	..	97 " ..	316
New Caledonia .. .. .	.. ..	..	6 " ..	28
South Sea Islands .. .. .	.. ..	..	61 " ..	335
Totals	225 cwt. ..	1,631	15,766 cwt. ..	66,593
CANDLES:				
United Kingdom	21,140 cwt. ..	73,198	.. ..	..
New South Wales	13 " ..	47	.. ..	..
Victoria	461½ " ..	1,705	.. ..	..
United States	5 " ..	9	.. ..	..
Fiji .. .. .	.. ..	..	7 cwt. ..	25
Totals	21,619½ cwt. ..	74,959	7 cwt. ..	25
CHAFF:				
New South Wales	1 ton ..	8	82 tons ..	291
Victoria	340 " ..	2,591	.. ..	..
Queensland .. .. .	.. ..	..	60 " ..	243
Bengal .. .. .	.. ..	..	46 " ..	190
Brazil .. .. .	.. ..	..	1 " ..	4
Totals	341 tons ..	2,599	189 tons ..	728

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
CHEESE :		£		£
United Kingdom	158 cwt. ..	712	3,237 cwt. ..	7,792
Victoria	1 " ..	3	930 " ..	2,461
Holland	6 " ..	35	.. ..	..
Queensland .. .. .	.. ..	..	734 " ..	1,769
New South Wales .. .. .	.. ..	..	4,953 " ..	11,765
South Australia .. .. .	.. ..	..	189 " ..	460
West Australia .. .. .	.. ..	..	82 " ..	225
Fiji .. .. .	.. ..	..	119 " ..	356
Norfolk Island .. .. .	.. ..	..	1 " ..	5
Cape Colony .. .. .	.. ..	..	66 " ..	146
New Caledonia .. .. .	.. ..	..	15 " ..	41
South Sea Islands .. .. .	.. ..	..	17 " ..	54
Totals	165 cwt. ..	750	10,343 cwt. ..	25,074
CHICORY :				
United Kingdom	3,416 lb. ..	98	.. ..	..
New South Wales	1,120 " ..	15	.. ..	..
Victoria	252 " ..	18	.. ..	..
Germany	448 " ..	7	.. ..	..
Totals	4,236 lb. ..	138	.. ..	..
CIDER AND PERRY :				
United Kingdom	657 gallons ..	104	.. ..	..
New South Wales	57 " ..	8	.. ..	..
Totals	714 gallons ..	112	.. ..	..
CONFECTIONERY :				
United Kingdom	1,575 packages ..	8,553	.. ..	..
New South Wales	110 " ..	154	1 package ..	5
Victoria	431 " ..	952	.. ..	..
United States	105 " ..	142	.. ..	..
China	51 " ..	44	.. ..	..
South Sea Islands .. .. .	.. ..	..	17 " ..	21
Totals	2,272 packages ..	9,845	18 packages ..	26
Boiled Sugar :				
United Kingdom	199,989 lb. ..	5,628	.. ..	..
New South Wales	460 " ..	16	.. ..	..
Victoria	7,690 " ..	327	.. ..	..
Germany	24 " ..	2	.. ..	..
Fiji .. .. .	.. ..	..	60 lb. ..	3
South Sea Islands .. .. .	.. ..	..	2,517 " ..	63
Totals	208,163 lb. ..	5,973	2,577 lb. ..	69
Eggs :				
Queensland .. .. .	.. ..	..	4 packages ..	5
New South Wales .. .. .	.. ..	..	5 " ..	5
Fiji .. .. .	.. ..	..	10 " ..	19
Totals .. .. .	.. ..	..	19 packages ..	29
FISH :				
<i>Dried and Salted :</i>				
United Kingdom	3,344 cwt. ..	7,170	.. ..	..
New South Wales	170 " ..	189	23 cwt. ..	29
Victoria	61 " ..	157	41 " ..	54
Hongkong	237 " ..	316	.. ..	..
United States	621 " ..	711	.. ..	..
South Sea Islands	100 " ..	70	.. ..	..
Queensland .. .. .	.. ..	..	2 " ..	7
Fiji .. .. .	.. ..	..	28 " ..	48
Totals	4,533 cwt. ..	8,613	94 cwt. ..	138
<i>Potted and Preserved :</i>				
United Kingdom	787,746 lb. ..	22,987	.. ..	..
New South Wales	132 " ..	7	1,120 lb. ..	28
Victoria	27,855 " ..	904	5,264 " ..	58
West Australia	240 " ..	12	.. ..	..
China	6,220 " ..	224	.. ..	..
United States	689,069 " ..	18,339	.. ..	..
Fiji .. .. .	.. ..	..	1,008 " ..	25
Total	1,511,262 lb. ..	42,473	7,392 lb. ..	111

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
FLOUR:	Tons cwt. qr. lb.	£		£
United Kingdom	32 0 2 4 ..	321	2,788 tons ..	24,402
New South Wales	10 0 0 16 ..	143	77 " ..	735
Victoria	1,290 0 0 18 ..	13,643	1 " ..	10
South Australia	388 0 0 0 ..	3,826	.. ..	..
Hongkong	1 0 0 8 ..	25	.. ..	..
United States	11 0 1 24 ..	132	.. ..	..
New Caledonia	285 0 0 12 ..	1,530*	470 " ..	4,908
Fiji	10 0 0 0 ..	90*	39 " ..	424
Queensland .. .. .	.. ..	..	73 " ..	727
Norfolk Island .. .. .	.. ..	..	12 " ..	132
Mauritius .. .. .	.. ..	..	100 " ..	700
South Sea Islands .. .. .	.. ..	..	52 " ..	736
Whale Fisheries .. .. .	.. ..	..	2 " ..	28
Brazil .. .. .	.. ..	..	52 " ..	522
Totals	2,030 0 0 25 ..	19,710	3,666 tons ..	33,324
FRUITS:				
<i>Bottled and Preserved:</i>				
United Kingdom	1,299 dozen ..	600	21 dozen ..	12
New South Wales	4 " ..	2	52 " ..	24
Victoria	38 " ..	19	.. ..	..
United States	68 " ..	36	.. ..	..
Totals	1,409 dozen ..	657	73 dozen ..	36
<i>Unenumerated:</i>				
United Kingdom	2,839 cwt. ..	5,810	.. ..	..
New South Wales	112 " ..	240	.. ..	..
Victoria	115 " ..	345	.. ..	..
Hongkong	49 " ..	101	.. ..	..
United States	782 " ..	1,689	.. ..	..
France	2 " ..	12	.. ..	..
South Sea Islands	46 " ..	142	.. ..	..
Totals	3,945 cwt. ..	8,339	.. ..	..
<i>Fresh:</i>				
New South Wales	33,893 packages ..	17,783	.. ..	..
Victoria	20,668 " ..	10,652	.. ..	..
Tasmania	45,845 " ..	25,080	.. ..	..
Fiji	27,593 " ..	5,814	59 packages ..	43
Norfolk Island	435 " ..	77	.. ..	..
South Sea Islands	9,304 " ..	6,200	6 " ..	5
United States	20,498 " ..	2,583	.. ..	..
United Kingdom .. .. .	.. ..	..	11 packages ..	63
Totals	158,236 packages ..	68,189	76 packages ..	111
GRAIN:				
<i>Barley:</i>				
United Kingdom	19 bushels ..	16	15,956 bushels ..	3,486
Victoria	8 " ..	3	36,883 " ..	6,666
Queensland .. .. .	.. ..	..	555 " ..	88
New South Wales .. .. .	.. ..	..	23,623 " ..	3,782
South Australia .. .. .	.. ..	..	48,495 " ..	10,585
Tasmania .. .. .	.. ..	..	2,500 " ..	500
Cape Colony .. .. .	.. ..	..	438 " ..	81
Totals	27 bushels ..	19	128,450 bushels ..	25,138
<i>Pearl Barley:</i>				
United Kingdom	32½ cwt. ..	87	.. ..	..
United States	60 " ..	55	.. ..	..
Queensland .. .. .	.. ..	..	240 cwt. ..	235
New South Wales .. .. .	.. ..	..	560 " ..	531
Victoria .. .. .	.. ..	..	120 " ..	108
Totals	92½ cwt. ..	142	920 cwt ..	874
<i>Beans and Peas:</i>				
United Kingdom	138 bushels ..	90	70,105 bushels ..	11,569
New South Wales	42 " ..	26	22,732 " ..	4,036
Victoria	1,039 " ..	623	80 " ..	16
Hongkong	110 " ..	56	.. ..	..
United States	270 " ..	149	.. ..	..
Queensland .. .. .	.. ..	..	1,026 " ..	155
South Australia .. .. .	.. ..	..	92 " ..	19
Cape Colony .. .. .	.. ..	..	464 " ..	64
South Sea Islands .. .. .	.. ..	..	21 " ..	17
Totals	1,599 bushels ..	944	94,520 bushels ..	15,876

* Returned New Zealand produce.

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
GRAIN—continued.		£		£
<i>Linseed :</i>				
United Kingdom	112 bushels ..	41	370 cwt. ..	78
Victoria	16 " ..	10	10 " ..	4
Queensland .. .. .	.. ..	..	343 " ..	129
New South Wales .. .. .	.. ..	..
Totals	128 bushels ..	51	723 cwt. ..	211
<i>Maize :</i>				
New South Wales	40 bushels ..	11	33,900 bushels ..	7,129
Fiji	34 " ..	5	.. ..	..
United States	20 " ..	5	.. ..	..
South Sea Islands	24 " ..	6	48 " ..	12
Totals	118 bushels ..	27	33,948 bushels ..	7,141
<i>Malt :</i>				
United Kingdom	331 bushels ..	110	.. ..	..
Victoria	694 " ..	357	.. ..	..
Queensland .. .. .	.. ..	..	3,325 bushels ..	985
New South Wales .. .. .	.. ..	..	35,622 " ..	9,962
South Australia .. .. .	.. ..	..	12,364 " ..	3,708
Totals	1,025 bushels ..	467	51,311 bushels ..	14,655
<i>Oats :</i>				
United Kingdom	266 bushels ..	74	65,743 bushels ..	7,209
Queensland .. .. .	.. ..	..	80,073 " ..	8,971
New South Wales .. .. .	.. ..	..	1,505,988 " ..	164,677
Victoria .. .. .	.. ..	..	540,051 " ..	56,572
South Australia .. .. .	.. ..	..	242,559 " ..	25,564
Tasmania .. .. .	.. ..	..	9,092 " ..	957
Fiji .. .. .	.. ..	..	2,735 " ..	440
Bengal .. .. .	.. ..	..	810 " ..	81
Mauritius .. .. .	.. ..	..	25,488 " ..	2,549
Cape Colony .. .. .	.. ..	..	483 " ..	53
South Sea Islands .. .. .	.. ..	..	1,489 " ..	200
Brazil .. .. .	.. ..	..	120 " ..	13
Totals	266 bushels ..	74	2,474,631 bushels ..	267,286
<i>Split Peas :</i>				
United Kingdom	1,166 cwt. ..	826	.. ..	..
Victoria	23 " ..	24	.. ..	..
Totals	1,189 cwt. ..	850	.. ..	..
<i>Wheat :</i>				
United Kingdom	299 bushels ..	125	2,473,380 bushels ..	401,872
New South Wales	57 " ..	24	140,570 " ..	19,634
Victoria	4,723 " ..	950	4,623 " ..	678
South Australia	41 " ..	11	1,944 " ..	292
Queensland .. .. .	.. ..	..	2,157 " ..	319
Tasmania .. .. .	.. ..	..	12,856 " ..	1,885
Fiji .. .. .	.. ..	..	266 " ..	53
Norfolk Island .. .. .	.. ..	..	9 " ..	2
Cape Colony .. .. .	.. ..	..	70,942 " ..	11,986
South Sea Islands .. .. .	.. ..	..	28 " ..	7
Totals	5,120 bushels ..	1,110	2,706,775 bushels ..	436,728
HONEY:		£		£
United Kingdom	448 lb. ..	20	160 cwt. ..	335
Victoria	804 " ..	30	.. ..	..
United States	8,584 " ..	284	5 " ..	12
Queensland .. .. .	.. ..	..	211½ " ..	433
New South Wales .. .. .	.. ..	..	1½ " ..	6
Fiji .. .. .	.. ..	..
Totals	9,836 lb. ..	334	378 cwt. ..	786
HAY:				
Queensland .. .. .	.. ..	..	65 tons ..	304
New South Wales .. .. .	.. ..	..	14 " ..	70
Fiji .. .. .	.. ..	..	15 " ..	64
South Sea Islands .. .. .	.. ..	..	3 " ..	19
Totals .. .. .	.. ..	..	97 tons ..	457
HOPS:				
United Kingdom	327 cwt. ..	2,838	1,851 cwt. ..	11,153
Victoria	63 " ..	113	133 " ..	1,118
Tasmania	48 " ..	311	.. ..	..

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
HOPS—continued.		£		£
United States	127 cwt. ..	923	57 cwt. ..	283
Queensland	189 " ..	796	775 " ..	6,252
New South Wales .. .. .	.. ..	..	$\frac{1}{2}$ " ..	4
New Caledonia .. .. .	.. ..	..	.. ..	..
Totals	754 cwt. ..	5,079	2,816 $\frac{1}{2}$ cwt. ..	18,810
JAMS, JELLIES, ETC.:				
United Kingdom	235,847 lb. ..	6,094	.. ..	..
Victoria	19,664 " ..	457	.. ..	..
Tasmania	159,689 " ..	3,409	.. ..	..
South Australia	19,600 " ..	420	.. ..	..
United States	5,724 " ..	155	.. ..	..
China	398 " ..	17	.. ..	..
New South Wales .. .. .	.. ..	..	20 lb. ..	1
South Sea Islands .. .. .	.. ..	..	2,640 " ..	71
Totals	440,922 lb. ..	10,552	2,660 lb. ..	72
MEAL:				
<i>Linseed:</i>				
United Kingdom	139 $\frac{1}{2}$ cwt. ..	122	.. ..	..
New South Wales	14 $\frac{1}{2}$ " ..	21	40 cwt. ..	28
Totals	154 cwt. ..	143	40 cwt. ..	28
<i>Oaten:</i>				
United Kingdom	288 cwt. ..	160	405 cwt. ..	252
Queensland .. .. .	.. ..	..	650 " ..	407
New South Wales .. .. .	.. ..	..	11,027 " ..	7,551
Victoria .. .. .	.. ..	..	1,896 " ..	1,231
South Australia .. .. .	.. ..	..	2,201 " ..	1,506
Tasmania .. .. .	.. ..	..	4 " ..	2
Fiji .. .. .	.. ..	..	6 " ..	8
Norfolk Island .. .. .	.. ..	..	2 " ..	2
South Sea Islands .. .. .	.. ..	..	7 " ..	6
Totals	288 cwt. ..	160	16,198 cwt. ..	10,965
MEATS, FROZEN:				
<i>Beef:</i>			Cwt. Number	
United Kingdom .. .. .	.. ..	..	1,644 ..	2,605
<i>Game:</i>				
United Kingdom .. .. .	.. ..	..	.. 1,357	39
<i>Mutton:</i>				
United Kingdom .. .. .	.. ..	..	252,422 ..	342,476
Totals .. .. .	.. ..	..	254,066 1,357	345,120
MEATS, POTTED AND PRESERVED:				
United Kingdom	346 packages ..	778	23,121 cwt. ..	46,163
New South Wales	4 " ..	4	2,358 $\frac{1}{2}$ " ..	6,818
Victoria	18 " ..	77	77 $\frac{1}{2}$ " ..	241
Tasmania	10 " ..	28	92 $\frac{1}{2}$ " ..	305
China	79 " ..	94	85 $\frac{1}{2}$ " ..	200
United States	123 " ..	148	3 " ..	8
Queensland .. .. .	.. ..	..	10 " ..	20
Fiji .. .. .	.. ..	..	1,157 " ..	3,164
Norfolk Island .. .. .	.. ..	..	1 " ..	2
Cape Colony .. .. .	.. ..	..	7 " ..	13
South Sea Islands .. .. .	.. ..	..	703 $\frac{1}{2}$ " ..	2,001
New Caledonia .. .. .	.. ..	..	95 " ..	289
Totals	580 packages ..	1,129	27,711 $\frac{1}{2}$ cwt. ..	59,224
MILK:				
<i>Preserved:</i>				
United Kingdom	9,585 packages ..	12,795	.. ..	..
Victoria	18 " ..	28	.. ..	..
Totals	9,603 packages ..	12,823	.. ..	..
OIL:				
<i>Linseed:</i>				
United Kingdom	145,009 gallons ..	16,874	.. ..	..
New South Wales	2,104 " ..	290	.. ..	..
Victoria	1,289 " ..	182	.. ..	..
United States	37 " ..	4	.. ..	..
Totals	148,439 gallons ..	17,350	.. ..	..

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
OIL—continued.		£		£
<i>Olive :</i>				
United Kingdom	25,130 gallons ..	4,685	..	..
New South Wales	446 " ..	91	..	..
Victoria	2,377 " ..	525	..	..
United States	1,124 " ..	166	..	..
Totals	29,077 gallons ..	5,467	..	..
ONIONS :				
New South Wales .. .. .	..	..	70 cwt. ..	29
Fiji .. .. .	..	..	223 " ..	178
South Sea Islands .. .. .	..	..	145 " ..	125
New Caledonia .. .. .	..	..	4 " ..	6
Whale Fisheries .. .. .	..	..	22 " ..	11
Brazil .. .. .	..	..	160 " ..	76
Totals .. .. .	..	..	624 cwt. ..	425
OYSTERS :				
New South Wales .. .. .	..	..	372,070 dozen ..	1,782
Victoria .. .. .	..	..	41,941 " ..	763
Tasmania .. .. .	..	..	25,660 " ..	607
Fiji .. .. .	..	..	5,804 " ..	38
Totals .. .. .	..	..	445,475 dozen ..	3,190
PICKLES :				
United Kingdom	17,230 dozen ..	5,865	..	..
New South Wales	641 " ..	215	..	..
Victoria	147 " ..	62	..	..
Hongkong	125 " ..	39	..	..
Fiji .. .. .	..	..	16 dozen ..	22
South Sea Islands .. .. .	..	..	15 " ..	11
Totals	18,143 dozen ..	6,181	31 dozen ..	33
POTATOES :				
United Kingdom .. .. .	..	..	6 tons ..	18
Queensland .. .. .	..	..	1,005 " ..	2,487
New South Wales	11 tons ..	59	17,437 " ..	48,111
Victoria	108 " ..	694	1 " ..	3
Tasmania	3 " ..	17	..	..
United States	1 " ..	50	..	..
Fiji .. .. .	..	..	212 " ..	1,038
Norfolk Island .. .. .	..	..	6 " ..	28
South Sea Islands .. .. .	..	..	187½ " ..	873
New Caledonia .. .. .	..	..	43 " ..	171
Whale Fisheries .. .. .	..	..	15 " ..	76
Brazil .. .. .	..	..	313 " ..	731
Totals	123 tons ..	820	19,225½ tons ..	53,536
PROVISIONS :				
<i>Salt Beef :</i>				
United Kingdom .. .. .	..	..	1,801 cwt. ..	2,789
Queensland .. .. .	..	..	66 " ..	123
New South Wales .. .. .	..	..	3,231 " ..	4,484
Victoria .. .. .	..	..	187 " ..	273
Tasmania .. .. .	..	..	3,761 " ..	5,548
Fiji .. .. .	..	..	2,307 " ..	2,961
South Sea Islands .. .. .	..	..	1,334 " ..	1,920
New Caledonia .. .. .	..	..	558 " ..	713
Whale Fisheries .. .. .	..	..	30 " ..	55
Brazil .. .. .	..	..	3 " ..	3
Totals .. .. .	..	..	13,278 cwt. ..	18,869
<i>Salt Pork :</i>				
United Kingdom .. .. .	..	..	38 cwt. ..	105
Queensland .. .. .	..	..	10 " ..	36
New South Wales .. .. .	..	..	160 " ..	360
Fiji .. .. .	..	..	51 " ..	99
South Sea Islands .. .. .	..	..	22 " ..	58
Totals .. .. .	..	..	281 cwt. ..	658
<i>Preserved :</i>				
Fiji .. .. .	..	..	12 packages ..	27
South Sea Islands .. .. .	..	..	2 " ..	3
New Caledonia .. .. .	..	..	31 " ..	41
Totals .. .. .	..	..	45 packages ..	71

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
PROVISIONS—continued.		£		£
<i>Fresh Meat:</i>				
New South Wales .. .. .	..	..	181 cwt. ..	221
Whale Fisheries .. .. .	..	..	13 " ..	21
Totals .. .. .	..	..	194 cwt. ..	242
<i>Other Kinds:</i>				
United Kingdom .. .. .	..	..	32 packages ..	41
New South Wales .. .. .	..	..	85 " ..	162
Victoria .. .. .	..	..	12 " ..	12
Fiji .. .. .	..	..	109 " ..	194
South Sea Islands .. .. .	..	..	11 " ..	28
New Caledonia .. .. .	..	..	11 " ..	11
Totals .. .. .	..	..	260 packages ..	448
SEEDS:				
<i>Grass and Clover:</i>				
United Kingdom	44,722 bushels ..	68,145	143,964 bushels ..	29,795
New South Wales	58 " ..	37	6,079 " ..	1,205
Victoria	43 " ..	22	37,932 " ..	7,815
United States	2,534 " ..	2,497	2,143 " ..	736
Germany	93 " ..	292	.. ..	..
Queensland .. .. .	.. ..	..	239 " ..	48
South Australia .. .. .	.. ..	..	441 " ..	114
Tasmania .. .. .	.. ..	..	717 " ..	144
South Sea Islands .. .. .	.. ..	..	25 " ..	14
Totals	47,450 bushels ..	70,993	191,540 bushels ..	39,871
SOAP:				
<i>Common:</i>				
United Kingdom	942 cwt. ..	1,359	.. ..	..
New South Wales	64 " ..	63	.. ..	..
Victoria	249 " ..	378	.. ..	..
United States	34 " ..	36	.. ..	..
Totals	1,289 cwt. ..	1,836	.. ..	..
<i>Fancy:</i>				
United Kingdom	534 packages ..	3,410	.. ..	..
New South Wales	19 " ..	49	.. ..	..
Victoria	60 " ..	142	.. ..	..
United States	50 " ..	95	.. ..	..
Totals	663 packages ..	3,696	.. ..	..
STARCH:				
United Kingdom	4,596 cwt. ..	6,296	.. ..	..
New South Wales	120 " ..	168	.. ..	..
Victoria	100 " ..	157	.. ..	..
Belgium	75 " ..	96	.. ..	..
Totals	4,891 cwt. ..	6,717	.. ..	..
VEGETABLES, FRESH:				
Queensland .. .. .	.. ..	..	107 packages ..	11
New South Wales .. .. .	.. ..	..	4,609 " ..	766
Fiji .. .. .	.. ..	..	347 " ..	149
South Sea Islands .. .. .	.. ..	..	4 " ..	3
New Caledonia .. .. .	.. ..	..	12 " ..	7
Totals .. .. .	.. ..	..	5,079 packages ..	936
ANIMALS:				
<i>Cattle:</i>				
United Kingdom	10 number ..	1,390	.. ..	..
New South Wales	3 " ..	600	265 number ..	6,123
Victoria	3 " ..	370	5 " ..	115
Tasmania .. .. .	.. ..	..	20 " ..	280
Fiji .. .. .	.. ..	..	169 " ..	736
South Sea Islands .. .. .	.. ..	..	3 " ..	110
United States .. .. .	.. ..	..	30 " ..	1,500
Totals	16 number ..	2,360	492 number ..	8,864
<i>Horses:</i>				
United Kingdom	4 number ..	600	3 number ..	215
New South Wales	12 " ..	1,135	2,095 " ..	49,819
Victoria	6 " ..	460	57 " ..	1,242
Tasmania .. .. .	.. ..	..	1 " ..	35
Fiji .. .. .	.. ..	..	54 " ..	1,560

STATEMENT showing Values of Alimentary Substances, &c., Imported and Exported in 1884—*ctd.*

Articles and Countries whence Imported.	IMPORTS.		EXPORTS.	
	Quantities.	Value.	Quantities.	Value.
		£		£
ANIMALS— <i>continued</i> —				
Horses— <i>continued</i> .				
Bengal .. ..	..	..	124 number ..	3,720
New Caledonia .. ..	..	..	10 " ..	100
South Sea Islands .. ..	..	..	2 " ..	18
United States .. ..	..	..	1 " ..	80
Totals	22 number ..	2,195	2,347 number ..	56,789
Pigs:				
New South Wales	27 number ..	32	.. ..	..
Victoria .. ..	..	..	6 number ..	57
Fiji .. ..	..	..	100 " ..	96
Totals	27 number ..	32	106 number ..	153
Sheep:				
United Kingdom	188 number ..	3,010	.. ..	..
New South Wales	59 " ..	1,288	364 number ..	265
Victoria	630 " ..	4,817	365 " ..	334
Tasmania	273 " ..	3,763	1,793 " ..	1,774
Fiji .. ..	..	..	2,950 " ..	2,352
New Caledonia .. ..	..	..	60 " ..	60
South Sea Islands .. ..	..	..	200 " ..	100
Brazil .. ..	..	..	10 " ..	10
Totals	1,150 number ..	12,878	5,742 number ..	4,895

[Approximate Cost of Paper.—Preparation, nil; Printing (1,350 copies), £17 4s. 2d.]

By Authority: GEORGE DINSBURY, Government Printer, Wellington.—1886.