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CHAPTER XXI

BEEF AND WOOL

Quantity, Quality and Versatility in Cattle and Sheep

The pastoral tide had crept to the economic boundaries of expansion: progress and success depended henceforth on quality, and to some degree on versatility. So far as wool was concerned, the issue appeared safe—until the appearance of the better-class synthetic fabrics. So far as meat was concerned there were problems of fattening, of local and overseas transport, of salesmanship, and of preservation. All these have provided a many-angled story. There was also the question of dairying and perhaps that late development—the record of Queensland’s dairy breeds—may introduce this complex and incomplete outline.

THE DAIRY HERDS

From data courteously supplied by E. B. Rice, Esq., Director of Dairying.

There were reported to be not more than twelve dairy cows in Queensland in 1859. These first dairy cattle were obtained from the Illawarra district in New South Wales and depastured near Ipswich.

In 1957 there were 1,375,000 dairy cattle in Queensland. Highest average yield per cow was 361 gallons in 1938-39, during which seasonal conditions were probably as good as have ever occurred in the State. Queensland is now third of the Australian States in dairying production.

In Queensland the Australian Illawarra Shorthorn predominates in the sub-coastal dairying districts, and the Jersey in the coastal districts. Cattle of these two breeds make up 90 per cent. of the total dairy population of the State.

Queensland is now the premier State for the Australian Illawarra Shorthorn, which is the second most numerous breed in Australia (between 30 and 35 per cent. of Australia’s dairy cattle). Sunny View, Blacklands, and Alpha Vale are leading Queensland studs.

At the Show of the National Agricultural and Industrial Association of Bowen Park in 1880, there was a solitary exhibit of an Ayrshire cow from Victoria, consigned to Fenwick and Co. and sold by that firm to A. A. Brown of Barolin. The little cow afforded some amusement to country visitors who generally voted her a “scrubber.” Ten years later the Ayrshires formed the principal feature at the Show. Ayrshires became very popular in Queensland in succeeding years, and fine herds were established at the Agricultural College, Gatton, and other places. The Ayrshire was gradually superseded in numbers by the Australian Illawarra Shorthorn breed which was developed as a distinct Australian breed by the early farmers of the Illawarra district of New South Wales from the English Shorthorn breed. In spite of their excellent qualities, to-day’s Ayrshires form only about 10 per cent. of Australia’s dairy cattle.

Jerseys, which to-day are the most numerous breed in Australia, constituting from 40 to 45 per cent. of Australia’s dairy cattle population, came rapidly into prominence in Queensland in the Nineties and have maintained their popularity, their numbers being second only to the A.I.S. breed.

J. Sinnamon and Sons and E. Burton are prominent Jersey breeders who have built up the breed in Queensland; J. Sinnamon acquired Conqueror, a famous Jersey bull, believed to have been imported from New Zealand in 1888. Although not such heavy milkers as the Ayrshire or A.I.S., the richness of their milk in butterfat compensates for their smaller milk yield. The breed has become acclimatised to Australian conditions particularly well, and compares favourably with the best in other countries where Jerseys are favoured—the Channel Islands, the United States, Great Britain and Canada.

Friesians have increased considerably in recent years, and some excellent stock has been imported, but they represent little more than 5 per cent. of Australia’s dairy herds.

The two main pastures in Queensland’s dairying districts are paspalum and Rhodes grass. Generally clovers have a limited growth, but investigations are being carried out to find a satisfactory group of legumes for Queensland. Many farms rely for their feed on crops, such as sorghums and maize, to an even greater extent than on pastures. Oats and lucerne also are grown successfully, in some places, but Queensland has not yet solved satisfactorily the problem of a suitable winter feed for dairy cattle.

The first great impetus to the dairying industry was in 1888 when the Government began to give encouragement to the dairymen following the introduction of the cream separator and the success of the co-operative factory system which had begun to operate in New South Wales in 1884.

The first cheese factory of any pretensions was built at Yangan in 1893; and the first important butter factory at Allora in 1895.

Exports of butter exceeded imports for the first time in 1897, but an excess was not firmly established until the early years of the present century.

(125) An outstanding example of this breed was Alpha Vale Model 2nd, bred by W. H. Thompson of Nanango in the South Burnett. This cow produced 9,760 lb. of butterfat and 170,087 lb. of milk in 12 test periods of 273 days each (the Australian standard period) and went on to milk well in additional lactations without test.
The number of dairy cattle in Queensland was estimated at 120,000 in 1891; it was still less than 130,000 in 1904, but jumped to an estimated 262,000 in 1909 and by 1914 was over half a million.

Before 1900 the dairying industry was confined to the Darling Downs, Moreton and Central Coast portion of Wide Bay. Since 1900 the Burnett and Atherton districts have been developed.

Dairying was unimportant in the Burnett until the railways were built in 1905-8 (South Burnett) and 1910 (Central and Upper Burnett).

Active development on Atherton Tableland dates from 1902, but was retarded until rail completion.

As late as 1885 a considerable quantity of the butter consumed in Queensland came from the Southern States. It was imported in kegs.

In 1956-57 the Queensland dairying industry (butter, cheese, and milk production) was worth more than £28 million to the State's economy, while the value of pig products produced in the related industry of pig-raising was approx. £9 1/2 million. Dairying is conducted from the southern border at the Tweed to the Daintree River, north of latitude 17 degrees south, but only in Southern Queensland does the industry extend beyond 100 miles from the coast. Queensland is the only country in the world with a considerable dairying industry in the tropical region.

Although tropical conditions pose their own problems, milk and cream production is just as firmly established north of the Burdekin as it is in the southern regions of the State. Most of the butter production is from the southern portion of the coastal strip. In 1956-57 the output of butter was 92,785,000 and of cheese 15,987,000 lb.

Poultry raising was at first carried on as an adjunct to dairying, but in recent years it has been developed into an important commercial industry in its own right, and many holdings have been devoted entirely to the production of poultry and eggs. As a result, production of fodder suitable for poultry feed has shown a material increase.

BEEF CATTLE IN QUEENSLAND

Queensland's vast cattle lands are largely inferior, low rainfall areas with light carrying capacity ranging in a great part from three to ten head to the square mile. The lightly carrying country is in the low rainfall zones of the far south-west and west, excluding the Channel area; the poor forest country to the north of the Great Northern Railway; and the high rainfall zone of the Cape York Peninsula.

J. H. Kelly, in Beef Cattle in Australia 1956 (Johnston), regards 100,000 square miles within the areas drained by the Fitzroy and lower Burdekin Rivers as the most densely populated cattle country. In this area, about one-quarter of Australia's long-term average of nine million head is carried on about 14 1/2 per cent. of the area of Queensland or 3 per cent. of Australia's total area. He concluded from an exhaustive survey of the North Australian cattle industry that if the southern border of the area he defined were moved further south to the Mungindi-Tweed Heads line, the enlarged area would carry one-third or more of Australia's beef cattle.

Within the coastal region of the Fitzroy basin there is a belt of 10 to 15 million acres of under-developed but highly fertile brigalow scrub. Experts have rated brigalow lands as the most promising for scientific development (even to the extent of grain production). Aerial poisoning has proved reasonably effective in the clearing of brigalow scrub, and land thus cleared has responded quickly to the sowing of artificial pastures.

That is the prospect awaiting exploitation by a now reasonably secure, but not always predictable, beef industry. It would indicate that the pioneers were experts in their selection of grazing lands, if a little premature in their hopes of realisation. It is now possible to correct low soil-fertility by the use of trace elements and subsequently to provide the herbage and legumes which are deficient in a large portion of the cattle areas.

The drought problem is gradually being combated by pasture improvement, provision of adequate watering facilities, general property improvements tending towards greater safety, and the introduction of new breeding strains to produce beasts having greater immunity to dry conditions.

Next to drought, and much more persistent, is the cattle tick menace.

The tick pest reached Queensland in 1891 and caused serious losses north of the Townsville-Cloncurry line. By 1895 the tick had reached the eastern coast; it was recorded at Rockhampton in 1896; and, in 1900, was firmly established in southern Queensland.

In attempts to halt the tick's advance buffer lines were established around the Gulf and Peninsula in 1894, along the Townsville-Cloncurry line in 1895, and in Central Queensland in 1896. As these were not fenced lines, the tick could not be held behind them. Cleansing areas were established in southern Queensland in 1917, but were subsequently abandoned; or, reverted to buffer areas. The tick is now permanently established over hundreds of thousands of square miles of the State, and it breaks into new country temporarily during seasons of above average summer rainfall.

Control of the tick on grazing properties is attempted by dipping or spraying, and by paddock management. Stock movements are controlled by the Department of Agriculture and Stock. Current research on breed improvement has as one objective an increase in tick resistance.

Another major disability is the permanent incidence of contagious pleuro pneumonia in the north-western part of the State, and in the south-western Channel country. The disease reached Queensland by
way of New South Wales in 1862 and extended to the far north by 1864. The movement of large numbers of cattle from affected areas to fattening country exposes millions of stock to infection. In recent years a campaign to encourage inoculation of cattle before leaving affected areas has been in progress.

Tuberculosis in beef cattle is more common than might be expected in a tropical and sub-tropical climate, but eradication measures are being extended.

The latest hazard, the buffalo fly, arrived on the mainland in 1838 at Port Essington, in the Northern Territory. It had spread from water buffalo and cattle brought from Timor to Melville Island ten years before.

The fly appeared in North-west Queensland in 1928. Until 1939 its distribution in Queensland did not extend more than 130 miles east of the border. It moved eastward to Cairns in the wet years of 1939-41, then spread south along the coast, reaching as far as Gympie in 1950. Control measures, the spraying of southbound cattle, by the Department of Agriculture and Stock, have kept it at its present southern limit near Maryborough.

In very wet seasons the fly extends as far west as Blackall and Charleville, but for the most part has not penetrated more than 200 miles inland.

The buffalo fly's constant irritation of beef and dairy cattle affects growth rate and milk yield.

BEEF BREEDS

As with sheep, the nuclei of Queensland's herds were derived from New South Wales. The first English cattle introduced into the parent State—individually from what is now the Durham breed—a name still largely applied in many parts of Australia to the improved breed now universally known as Shorthorns.

David C. McConnel, of Cressbrook, was justly regarded as the first improver of the shorthorn in Queensland. For many years he imported, at short intervals, shorthorn cattle from the best herds in Great Britain. He established an extensive herd.

One of the principal shorthorn herds in Queensland was that of Glengallan, near Warwick, the property of Marshall and Slade. The herd was established by John Deuchar, on importations from English and Scottish studs. Messrs. Bracker, of Warroo, on the Darling Downs, were also extensive breeders of shorthorn stock. T. de M. Murray, Prior had a pure-bred stud shorthorn herd on Maroon, in the Moreton district.

The Shorthorn breed is by far the most numerous in Queensland and predominates in far west and northern areas.

Herefords are on the increase in Queensland and are the most common breed in the coastal and central western areas with a fair representation in all parts of the State.

They were first introduced to Australia as early as 1825, and the first breeder of pure Herefords in Queensland was the late Hon. John Frederick MacDougall, of Rosalie Plains and Cooyar, who purchased ten heifers from the herd of Charles Reynolds, of Tocal, in 1864. The Archers of Gracemere made importations of 1870 and 1871, and further introductions were made by the late H. Mort, of Franklyn Vale.

A great deal has been achieved in Queensland with the Hereford because of its adaptability to varying conditions, quiet temperament, its capacity for quick recovery after setback, and its ability to produce economically a high-quality carcase.

The breed has received tremendous backing from W. J. B. Sparkes, M.L.A., of Lyndley Hereford Stud, Jandowae, who, in addition to keen breeding of pure Hereford stock for forty years, has topped Cannon Hill and other sales consistently, and has turned off thousands of prime bullocks and steers. Lyndley has taken a large share of Royal National Show prizes, both on the hoof and on the hook. Sparkes believes that market-topping is the best advertisement for his bulls, and has come to regard the butcher's block as the ultimate aim of all breeding.

Even a cursory summary of beef breeds in Queensland would be incomplete without mention of the Devon, whose influence is still strong in many parts of the State, particularly in the tropical north.

The Devon dates back to 1793, and its most distinguished sponsors were the Quartly Brothers of Devonshire. Its hardness and great reputation as a forager earned it much popularity in Queensland. Official records of its early introduction to this State mention importations by N. Brown (Maryborough) and Archer and Co., of Gracemere, but pure-bred Devons have for years been represented at Strathmore, on the Central Coast; and the late E. E. D. White used good quality bulls on Bluff Downs, on the Burdekin Tableland, north of Charters Towers, until he disposed of the property some twenty years ago.

To-day Devon-Shorthorn-cross cattle graze in large numbers in the commercial herds of the Gulf and Peninsular regions and are highly regarded for their resistance to the torrid, humid conditions of the tropical regions.

First importation of the Aberdeen-Angus breed direct from Scotland was made by Kayne and Bouchard, of Melbourne, in 1870, from the Tillyfour Stud. William Hogarth, of Balgownie, was the first to introduce the Aberdeen-Angus into Queensland, and the herd was improved by importations from Scotland and New Zealand.

It is on record that an earlier introduction of the breed was made by E. E. Dalrymple, whose father presented to him ten head from a draft brought from Britain. These were taken to Goomburra, on the Darling Downs, but were not popular when the property was bought by the Aberdeen Pastoral Company. The cattle were sold or allowed to wander away. According to one account stray "blacks" in different parts of the Downs could for many years be traced to the pure-bred Aberdeen-Angus taken to Goomburra.

The breed did not get a fair trial until after World War I. Two men who played a leading part in its long-overdue popularity were J. B. Cramsie and A. J. Tanner. Through their influence the New South Wales Department of Agriculture founded the departmental stud at Trangie, which has been an outstanding success.

Pure-bred Aberdeen-Angus are bred in large herds to-day in
Queensland and New South Wales, and of late years they have become highly popular in Victoria and South Australia as good beef producers.

The greatest event in beef cattle breeding in the last twenty years has been the increase in polled herds. This stemmed originally from the clamour by shippers and the tanning sections for dehorning to reduce bruising of carcases and the damage caused to hides by horns. There was some attempt at dehorning and tipping, but cattlemen did not like the operation and the margin in favour of hornless beasts at that time was not considered attractive.

The real impetus came in the immediate pre-war years when pastoralists began using better bulls to breed more suitable and early maturing stock for the chilled beef trade.

The Poll Shorthorn has been the subject of much controversy because of the occurrence in its early history of "sports". In the remarkable advance of the breed in Australia, however, it has been generally agreed that the risk of horned progeny is practically negligible if pure-bred bulls are introduced to Shorthorn herds.

The first recorded herd of Poll Shorthorns was bred in the U.S.A. by Captain Miller, who purchased the bull King of Kine and two other polled heifers out of a registered Shorthorn cow. The heifers were mated with a registered Shorthorn bull and the progeny were hornless.

King of Kine was mated with his half sister, Nellie Gwynne, in 1890, and the result was Ottawa Duke, a bull that lived for ten years and was never known to sire a horned animal.

Sports, or mutations, have been reported in several countries. In England it has been contended for many years that sports have been the result of the introduction of Galloways into Shorthorn herds.

The impetus to Queensland development of the breed was enhanced by importations of U.S.A. bulls in 1935 by F.F.A. Co., of Queensland.

The establishment of a stud at Risdon, near Warwick, believing that the Santa Gertrudis possesses a high degree of uniformity, while still retaining the advantages of the Brahman-Shorthorn cross. They are said to forage well under adverse conditions; to have considerable resistance to insect pests, and to grow at a fast rate.

There is little doubt that some strains of British cattle are affected by the high temperature of North Queensland, particularly on the coast. Beasts which are not affected by high temperatures will graze for longer periods during the day and will not suffer the depression in appetite noted in some strains of British cattle. This will be reflected in their ability to fatten at an early age during the hot period of the year. Calves and growing cattle are most adversely affected by heat. Inability of the heat-regulating mechanism of young animals to accommodate themselves to high temperatures is
undoubtedly one of the reasons why it is more difficult to fatten cattle at an early age in North Queensland than in Southern Queensland.

The loose hide and short, smooth hair of the Santa Gertrudis are considered to be responsible for its heat tolerance, so retention of these characteristics is of paramount importance.

Another advantage claimed for the Santa Gertrudis — and an important one if confirmed — is its resistance to ticks. (The tick was eliminated from Texas prior to the evolution of the breed.) Undoubtedly the pure Brahman and its first cross have superior resistance to ticks compared with British breeds, but the degree of resistance retained by the Santa Gertrudis is still unknown.

The real test of the usefulness of the Santa Gertrudis will be its ability to grow and fatten at a faster rate.

CATTLE PASTURES

The results of long-term grazing trials in Queensland have indicated quite clearly that sown pastures under normal season conditions can prevent disastrous weight loss during winter and early spring which is the main obstacle to continuity in beef supply.

Tests at Gayndah were carried out on the pasture research station of the Australian Meat Board, controlled by the Australian Beef Council's research committee. Climatic conditions are similar to those in the sub-coastal country in sub-tropical Queensland. Annual rainfall is twenty-eight inches, falling mainly in the summer. Native grasses, originally dominated by blue varieties and kangaroo grass, but lately invaded by black spear, provide excellent feed during the short summer growing season. Rapid gains are quickly turned into losses as the protein falls with the onset of winter and the dry season.

Tests were made with three grasses—Rhodes, green pannie and buffel—sown with lucerne and phasey beans. It was arbitrarily decided to stock the sown pastures at double the rate used in the district for native grasses. Steers of eighteen months and weaner steers were used.

From January 1955 to November 1957, when the groups were fattened to high quality export trades, the productivity of the sown pastures was more than three times that of native pastures on a per acre basis. From January 1955 to August 1958 the buffel grass mixture produced 356 lb. live weight per acre; green pannie, 341; and Rhodes, 276 lb. Native pastures produced 108 lb. in the same period. Lucerne played a major part in these weight gains.

The trials at Innisfail were made under a very different environment. Rainfall is around 150 inches, the bulk of which falls in the summer. Natural vegetation is dense rain forest with no native pasture. Grasses of considerable value used in the high rainfall areas have been para, Guinea and molasses. Mr. Graham, district agrostologist at Rockhampton (1958), laid down the first grazing trials in Australia, incorporating the legumes, centro and stylo with the three grasses.

The Innisfail results showed it was possible to fatten eighteen months' stores in under twelve months at the high-carrying capacity of one to one and a quarter acres. Live weight gains per beast were 1.3 lb. per beast per day.

Coastal fattening, using sown pastures, including legumes, is already being developed in the Ingham area.

The value of legumes in these pastures has not yet been fully determined, but early results seem significantly promising.

Irrigated pastures for beef production have been tested mainly at the Ayr Regional Experimental Station where the environment is widely different from that at Gayndah and Innisfail. Annual rainfall here is 40 inches, chiefly in summer. Winters are practically dry, and relative humidity, despite proximity to the coast, is low, except during the wet season.

The native pastures are mostly coarse, tussocky types, including black spear grass, chrysopogons, some wild sorghums, kangaroo grass and some blue grasses. Carrying capacity is low at around 1 to 25-30 acres. Actually these rain grown grasses may be improved by the inclusion of Townsville lucerne which can be encouraged by management. (Eighteen-months-old Shorthorn steers averaging 520 lb. moved from native pastures at Charters Towers to irrigated pastures at Ayr in June 1957 had gained 270 lb. by May 1958, and were still 139 lb. lighter than the first group.)

Some of the factors which govern the application of these methods to commercial use are: Costs of establishment, longevity of the pastures, and expected income from these pastures.

Sown pastures have not yet become an integral part of commercial herd management, but will do in time if the trend of recent years continues. Pastoralists have reaped the benefit of more systematic breeding, and in improved methods by provision of more paddocks and watering facilities.

The home demand for beef continues to expand, and this increased consumption should be maintained as the new population, mainly European, turns from the lean and “made-up” meats to the selvedged, marbled cuts so familiar to natural-born Australians. In the disposal of the export surplus attention will have to be paid to proper processing and shipping to get the best of the United Kingdom market, the best customer still. These are the functions of the

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MEAT FOR EXPORT

Australia Pioneered Meat Exporting

In the export spheres of preserving and refrigeration, Australia played the pioneering role.

Herds had expanded beyond domestic needs a century ago, and disposal of surplus was restricted to the production of tallow and fertilizer by "boiling down" carcases after the hides or skins had been removed. It is estimated that at one time there were more than 100 "boiling down" plants operating in Australia, and the large output of little-wanted by-products was of relatively small value to producers. This wasteful process in the face of a persistent demand for meat from the United Kingdom no doubt stimulated the inventive mind, and before long Australia made the first move in transporting by sea a highly perishable product over thousands of miles.

About 1867 the introduction of canned meat proved an ideal supplement to the inadequacy of local fresh meat in Britain. Until that time preserved meat, usually packed in barrels, had been used by the services, and on sailing vessels, but not by the general public. In 1867 Australian exports of canned meat and meat extract totalled 266,000 lb., and by 1880 the figure had soared to 16,000,000 lb.

By the year 1880 the experiments of several men in Sydney had culminated in the evolution of a process of exporting frozen meat and Australia opened up a successful export trade in frozen and, ultimately, chilled meat with the markets of the world. As with canned meats, Australia had pioneered another important development in the world distribution of perishable cargoes.

A leading figure in the development of refrigerated meat was Thomas Sutcliffe Mort, who became interested in the project in 1866, after several failures (by others using an ice-making process).

As the European market for frozen beef expanded, so did the advantage swing to the North American trade (until its forced withdrawal to meet its own domestic needs). Later, Argentina and other South American countries, which held a strong hand with the shorter distances they had to travel, gained a further advantage with the introduction of chilled meat, until Australia began to bridge the gap in the years preceding World War II.

Acknowledgment: Compilation of this beef cattle survey was materially aided by the co-operation of the Queensland Department of Agriculture and Stock, The Australian Hereford Society, The Australian Poll Hereford Society, and by reference to Beef Cattle in Australia, 1956 (F. H. Johnston Publishing Co. Pty. Ltd., Sydney.)

Meat was first processed in Queensland in 1881, at Queensport, on the Brisbane River, then operated by the Queensland Freezing and Food Export Co. Ltd., and the first shipment of frozen beef from Queensland comprised 3,954 carcases of mutton and 100 quarters of beef by the B.I.S.N. steamer, "Dorunda," in May 1884. Unfortunately, the shipment was not a success.

In 1867 a boiling-down works had been established at Laurel Bank, upriver from Rockhampton, by two graziers, Berkelman and Lambert. A steamboat, the "Ant," towed preserved meat into Rockhampton loaded on lighters, and tallow and skins were sent down the river on rafts.

At Lakes Creek, meatworks progressed to export capacity after alternating fortunes dating from their inception in 1871, by an English company, under the title of the Central Queensland Meat Export Company.

The Laurel Bank enterprise was purchased in 1875 by Whitehead and Co., which owned a meatworks at Ramornie. (The company had a contract to supply 2,000,000 lb. of preserved meats to the French Government, and had been unable to obtain sufficient cattle in New South Wales.)

The high price of cattle forced the closure of Lakes Creek in 1874; it remained idle until 1877 when it was purchased by the liquidators of Whitehead and Co., who proposed to transfer the plant from Laurel Bank. However, Whitehead and Co. went into liquidation in 1880, it being stated that closure again was forced by losses elsewhere, and not at Lakes Creek itself.

About 1880 a second Central Queensland Meat Export Co. was formed and it reopened the works. In 1883 a freezing plant was added and on 13 September of that year the chambers were full of meat ready for shipment by the "Fiado." The vessel was late arriving and a pioneer enterprise was wrecked by a disastrous fire which robbed Rockhampton of the honour of sending the first frozen beef consignment to Britain and temporarily threw 200 employees out of work.

Although a new works resumed operations in 1884, the company went into liquidation in 1885, mainly as the result of the fire and the expense entailed in rebuilding and installing imported plant. In 1886 the enterprise was taken over by a Melbourne syndicate which included Messrs. Andrew Rowan, George Fairbairn and John Living.

In 1901 the meatworks was purchased by a company formed in London.

Lakes Creek was idle again in 1928, its resources having been strained by the post-war depression, and a dull market. The share capital was eventually purchased by a syndicate headed by the late Sir William Angliss and F. J. Walker and operated under that control until 1934 in which year it was taken over by the international Vestey organisation. From that time the works began to prosper, at first mainly from the stimulus given by the Empire preference granted under the Ottawa Agreement.

Improved plant, chilling, freezing and processing facilities and the saving of by-products have to-day placed the works on a stable footing and the present (1958) daily capacity is 987 cattle.

About 1890 the Queensport works was taken over by the Graziers Meat Export Co., and later passed into the hands of Baynes Bros., a firm with a large domestic trade and contracts with the Netherlands Indies Government for Army supplies of salt beef which was shipped...
in casks to Java. At the outbreak of World War I Baynes Bros. had developed a fair export trade and were supplying their own retail shops, numbering about fifty, in Brisbane suburbs.

In 1920 the company began to dispose of its suburban retail shops, and in 1929 sold the works to the late Sir William Angliss. The plant has since been dismantled, but the remnants of the old building, wharf and sheds remain to-day as mute testimony of a once-flourishing enterprise.

About the time that Lakes Creek had installed its first refrigeration plant, in 1883, a freezing works had been established at Poole Island, near Bowen. (This venture stemmed from the desire of Robert Christison, of Lammermoor, and other northern pastoralists to have adjacent treatment works. As a result of Mr. Christison's visit to London, an Australian company was formed in 1881 with Sir Richard Cotton, M.P., formerly Lord Mayor of London, as Chairman.)

In 1884 the first cargo of frozen meat was loaded for Batavia aboard the S.S. "Fiado," but disaster overtook the venture when a terrific cyclone left the vessel stranded on the mainland, and practically destroyed the works! The plant was subsequently sold to the British India Steam Navigation Co. Ltd. which made frozen beef exports until operations were abandoned in 1896.

**Bowen** became a lasting centre in beef processing nine years later when Bergl Australia Ltd. acquired the Bowen Meat Export and Agency Co.'s small plant at Merinda; made extensive additions, and carried on slaughtering and freezing until the plant was purchased in 1933 by Thos. Borthwick and Sons which has operated it continuously since. (The Merinda works reached its slaughtering peak in 1958 with a tally of 38,500 head.)

**Gladstone**'s meatworks had its inception in 1893 at a meeting called by Messrs. J. H. Geddes and Co. A company was formed in 1894 and shipments began in 1896. (The originators of the company were two graziers, W. B. Shaw and W. P. Bayne. After Mr. Bayne's departure for England control of the works remained with the Shaw family until purchased by Swifts in 1934. The Swift Co. installed export chillers, and about 1955 or 1956, the original freezers were demolished and rebuilt. Annual throughput at Gladstone is about 70,000 cattle.)

The **Alligator Creek** plant was started in 1895 by the late Thomas Cordingly, in association with a Mr. Tindal, and canning and export operations were carried on until its purchase in 1914 by Swift (Australia) Ltd. Swifts had already begun the erection of the plant at Cannon Hill and lost no time in transforming the Alligator Creek venture into a five-story works with all facilities for freezing, storing and preserving. (Normal annual slaughtering at Alligator Creek have ranged from 65,000 to 80,000 head, but reached a new peak of 100,000 at the end of the 1958 season.)

The absorption of the separate ventures at Gladstone and Alligator Creek, near Townsville, by Swift (Australia) Ltd., signalled the entry of American capital into the Queensland beef industry. Construction of works at Cannon Hill, later to become the Brisbane Abattoir, followed.

The earliest meatworks in **Townsville** was the Ross River establishment completed in 1892 by Queensland Meat Export and Agency Co. (Q.M.E.), which also erected a large plant at Pinkenba, Brisbane. The company was floated by Sir Thomas McIlwraith (previously, and again later, Premier of Queensland), in association with John Cooke.

The Q.M.E. organisation stepped up the development of the frozen beef trade. In its first year the company treated 5,156 cattle at Ross River and 3,599 at Pinkenba. These tallies rose progressively until, in 1900, they had reached 21,518 and 51,920. In 1916, when the firm name was changed to Queensland Meat Export Co., the slaughtering were 81,433 and 28,620. The peak at the Pinkenba works was 69,755 head in 1914.

Early overseas shipments of frozen beef had not been satisfactory, mainly due to bone taint, and in 1895 the company purchased and installed two new Linde refrigerating machines, with excellent results.

In 1901 the company purchased a canning and extract works operated by the Burketown Meat Export Co., on the Albert River. Operations were continued at this works during the year and also at works on the Norman River, near Normanton, which was held under a lease which expired in 1901. The Burketown works was sold to the Torrens Creek Meat Export Co., which later sold to Mr. N. McIntyre.

The company's files record the purchase in 1903 of four Gulf cattle stations—Carpentaria Downs, Forest Home, Miranda Downs and Magoura. (Miranda Downs was sold in 1907.)

An extreme shortage of cattle, together with high prices, forced closure of the Pinkenba works during 1919 and for most of 1920. The plant ceased operations in 1931 on the establishment of the Brisbane Abattoir and was eventually demolished in 1938.

The Queensland Meat Export Co. liquidated its meatworks holdings in 1956, the Ross River plant passing into control of the Vestey organisation. The company's name was changed to Queensland Trading and Holding Company and substantial capital was returned to shareholders. It retains shareholding interests in the Singapore Cold Storage Company.

**Birt and Co.** were one of Australia's largest frozen meat exporters for some years. In 1895 the company leased the Musgrave Wharf, Brisbane, and built a cold storage and ice works on adjoining land.

In 1901 Birts built their own killing and freezing works at Murarrrie, near Brisbane, with a capacity of 150 cattle and 600 sheep daily, and had storage for 1,030 tons. In later years the venture, known as Burt's works, was purchased by the Darling Downs Co-operative Bacon Factory.

The Moreton works of Thomas Borthwick and Sons Ltd., on the Brisbane River, began freezing in 1912.

This plant was later modernised and to-day is an important unit in the frozen and chilled beef export trade. (The normal annual throughput at the Moreton works is about 84,000 cattle and 28,000 calves. The peak year was 1957 when 86,882 head of cattle were treated.)

Towards the end of 1912 Messrs. Clyne and Story sold their interests in the Torrens Creek plant to Messrs. J. W. Fletcher and F. J. Walker. The latter opened an office in London and sold all the meat products there. J. W. Fletcher continued to handle the business at the Torrens Creek end.
The shortage of sheep and strong competition for cattle, particularly from the large works at Townsville, compelled the closure of the Torrens Creek plant in 1915. The higher costs of running an inland meatworks compared with the coast also influenced the owners' decision.

(Mr. J. W. Fletcher, O.B.E., started work with G. S. Yuille and Company, in Sydney, and was with the Queensland Meat Export Company for many years before launching his own enterprise at Torrens Creek. He was a member of the Royal Commission on Abattoirs and Meatworks (Queensland) in 1945, and was a member of the Commonwealth Bank Board in 1951-52.)

The Queensland Meat Industry Board

During 1930 the Queensland Parliament passed the Abattoirs Agreement Ratification and Meat Industry Act, the main purpose of which was to enable the Government to acquire the Swift (Australia) Ltd. works at Cannon Hill for establishment as a public abattoir. Under this legislation the Queensland Meat Industry Board was constituted on 3 August 1931, and became the owner of the abattoir on 23 November of the same year.

A public saleyards and set of agents' offices at Cannon Hill were included in the purchase agreement.

Chilled Beef

The Queensland Meat Industry Board has played a prominent part in the final development of chilled beef on a commercial basis.

Since the 1890's many attempts had been made to introduce an export trade in chilled beef. These experiments had had varying success, but the problem was not permanently solved until 1934.

In 1895-96 a trial shipment was made from Brisbane by the steamer "Rakaia." The cargo comprised 500 quarters of beef, but these had to be frozen down after being forty-nine days on board, and the experiment was a failure. The second shipment was a small one from Bowen by the steamer, "Urmston Grange." In this test the quarters were given a preliminary coating of oil in an endeavour to prevent mould growth, but again the experiment failed.

The advent of the Linley system encouraged some Queensland exporters to make a further attempt in 1909. A successful shipment was actually landed in London from John Cooke and Co.'s Redbank works by the steamer "Marathon."

However, hopes were soon dashed. The Linley system involved the use of formaldehyde vapour in the initial sterilizing process of the meat, and in 1924 the Departmental Committee on the use of Preservatives and Colouring Matters in Foods (United Kingdom) condemned the use of formaldehyde in any article of food or drink.

A shipment was successfully made from Melbourne in 1925, and in 1926 Swift (Australia) Ltd., then owners of the Cannon Hill works, made a successful delivery in London under a method of refrigeration employed by the Perfect Food Process Pty. Ltd. In both shipments, however, a considerable amount of mould growth was apparent.

Upon its establishment in 1931 the Queensland Meat Industry Board, in conjunction with the C.S.I.R.O., set about developing a processing technique which permanently established the chilled
Demonstration at Goldsborough Mort & Co., Sydney, in 1887, of the first machine-driven shearing apparatus, invented by Wolseley.

PLATE XLV.  (Courtesy of the Department of Agriculture and Stock, Brisbane.)
"The Backbone of the Country." Prize Merino.

PLATE XLVI.

(Courtesy of the Department of Agriculture and Stock, Brisbane.)
export trade in 1934. This was achieved by certain alterations in the existing meatworks technique, extremely strict attention to cleanliness and the use in the ships' holds of atmospheres containing 10 per cent. of carbon dioxide.

(Much of the credit for this achievement belongs to the late E. F. E. Sunners, Chairman of the Board from its inception in 1931 until 1948. His foresight and enthusiasm contributed greatly to the final success.)

The first chilled beef shipment from the Brisbane Abattoir was made by the motor vessel "Idomeneus" in 1934, and 44 tons were successfully put on the London market. Subsequent shipments from the Abattoir indicated the expansion made until 1939 when the outbreak of war compelled a reversion to frozen meat. (The following is a summary of chilled shipments in the relevant years: 1934-35, 3,589 tons; 1935-36, 3,429 tons; 1936-37, 3,833 tons; 1937-38, 7,261 tons; and 1938-39, 5,543 tons.)

Since 1920 a freezing and export works has been operating at Queerah, near Cairns, on a steadily increasing scale. In the last decade plants have been erected at Oakey, Roma, Winton and Kilcoy. Of these Oakey has made commendable progress, and the Kilcoy unit is progressing and working to capacity.

An inland plant which succumbed to the strong competition of coastal works was Sellheim, near Charters Towers, which ceased operations at the end of the 1929 season.

Shand's Gulf Meatworks, at Karumba, at the mouth of the Norman River, operated from 1937 to 1939 with Government assistance before going into liquidation. From this meatworks the John Burke vessel, "Alagna," equipped for refrigerated cargoes, brought regular shipments of frozen beef to Brisbane for re-distribution.

In 1939 the works was purchased by the now well-known firm of A. W. Anderson Pty. Ltd., and operated under the name of Anderson's Gulf Meatworks. Operations were on a seasonal basis during the years 1939, 1940 and 1941. During the 1940-41 seasons, canning was introduced and exported in conjunction with other frozen meat. The works was not reopened during the 1942 season owing to labour and shipping difficulties, and was later taken over as an R.A.A.F. base during the war.

In 1949 the Abattoirs Agreement Ratification and Meat Industry Act was amended to provide for the establishment of local abattoirs in Queensland provincial areas. Under this legislation local abattoirs have been constructed at Toowoomba, Bundaberg and Townsville, another is in course of construction at Ipswich, and plans are being prepared for a plant at Mackay.

The outlook for Queensland's beef industry has improved considerably over the last twenty years, mainly from the co-operation now evident between the producer and the processor. The pastoralist generally has displayed business acumen in better breeding and management methods which are returning dividends in the saleyard. On both sides the operators are giving greater acknowledgement to the achievements of science in their particular industry, and the
incentive for higher standards in production and marketing seems certain to continue. Queensland, as the leading cattle State, produces more than 80 per cent. of the beef and veal exported annually from Australia, and the industry as a whole has reason to congratulate itself on the progress it has made in the last 100 years. (Acknowledgment for data used in compiling this section is made to T. G. Hope, Esq., Chairman, Queensland Meat Industry Board.)

THE STORY OF WOOL

Queensland is the third largest wool producer among the Australian States, and in 1955-56 furnished over one-eighth of Australia’s total wool production. Wool is Queensland’s most valuable single product.

Wherever men settled in Queensland in the early days they brought sheep; to grow wool; to graze and multiply in the green seasons; and to die in thousands during droughts. Leslie brought 6,000 sheep to Queensland in 1840; there were 12,000 in 1843; and by 1844 a census showed 184,651 sheep in the Moreton Bay and Darling Downs Districts, of which 110,231 were on the Downs. By 1849 the flocks had spread over the Darling Downs, Moreton Bay, Burnett, Wide Bay, and Maranoa districts, and sheep numbers had risen to 1,077,983.

At the time of Separation in 1859 there were over three million sheep widely dispersed throughout the State. Their numbers reached 21,700,000 by 1892, but fell to seven million in 1902 owing to a long drought. Within a few years sheep numbers were restored to 20 million and since 1916 have fluctuated between 15½ million and 20 million.

In the early days sheep were run in large numbers in sub-coastal areas, but the occurrence of seedy grasses and the ravages of dingoes and intestinal parasites resulted in cattle supplanting sheep in such districts as the Burnett.

In its 120 years of sheep history, Queensland’s sheep population has suffered violent fluctuations from drought, flood, fire, and depredations by rabbits and internal parasites. Drought is still the main factor for the periodical fall in sheep numbers. (127)

(127) In the latter half of Queensland’s history of sheep breeding, wool production has increased more than sheep numbers, reflecting the improved husbandry and the breeding of better sheep for wool. Early figures of cuts per head do not provide reliable information, and it must be remembered that these may differ in comparison with modern figures because it was customary to wash sheep prior to shearing. Figures for fleece cuts of Australian sheep in the latter years of the nineteenth century show cuts of 5 to 6 lb. per head. More reliable are figures which show that in Queensland over the five-year period 1910 to 1915 the average cut per head was 6.77 lb. of greasy wool. In 1914 to 1915 it was 6.15 lb., an increase in that period of 20 per cent. In the past five years the figure has ranged between 8.03 and 8.47 lb. per head. There has been a general trend of increase in the average fleece cut throughout, representing approximately 0.026 lb. per year.

The main belt of country used for wool growing extends from the southern border towards the Gulf of Carpentaria and occupies roughly half the area of the State. In the south, the sheep belt extends westwards from the eastern Darling Downs for over 500 miles, but from Charleville northwards it is 200-300 miles wide. A variety of vegetation types is represented in the sheep areas, ranging from originally dense forest, thinned out to permit grass growth, to open treeless grassy plains. These plains carry the drought resistant Mitchell grasses, which, with a miscellany of other grasses and herbage, provide the diet of many millions of sheep. The open plains are intersected by streams but little permanent surface water is available and reliance is placed on underground water. In the south-western sheep areas, an edible tree, the mulga, occurs in extensive stands and provides a reserve feed in droughts.

The distribution of sheep in Queensland is interesting, inasmuch as over five million head are run within the tropics. This represents the largest aggregation of sheep in any tropical area. The sub-tropical area, because of its milder temperatures, better shade, and generally more satisfactory pasture conditions is, however, the favoured sheep-raising region.

Sheep stations vary greatly in size, some of the larger properties shearing up to 50,000 or more sheep in a season. However, only 350 flocks have more than 10,000 sheep; the majority of flocks range between 2,000 and 5,000 sheep. Many of the original large leaseholds have been subdivided into grazing selections of about 10,000 acres, and are commonly run by individual families; pastoral companies manage many of the large leaseholds.

The story of the origin of Australia’s sheep has often been told; and the romance of the development of the merino would need a chapter in itself. There are about seventy-five active merino sheep studs in Queensland and these provide flockowners with the major portion of all rams used in Queensland. (The oldest sheep stud in Queensland is Welltown in the Goondiwindi district. It was established before Separation, approximately 1856 or 1858.)

The two most famous merino families in Australian sheep history were the Grimes strain, bred to the Rambouillet ewes, which founded the Warrior family; while Emperor, on Grimes’ ewes, headed the Premier family. The Peppins evolved a type of sheep that put the Australian merino on a firm foundation, especially on two qualities—its ability to “nick” with almost any other line of breeding and its suitability under widely varied climatic conditions, particularly those of the hot, dry plains.

The Peppin strain, even to-day, is a “blue-blood” line of Australian wool.
An importation of special significance to Queensland arrived in Sydney in 1829, for Mr. J. Brindley Bettington, of Brindley Park, on the Upper Hunter. These were a large consignment of Saxon merinos, brought out in charge of Frederick Bracker, for many years afterwards known throughout Australia, in connection with his Warroo flock, as a most skilful breeder.

In the early 'forties Bracker came overland to the Darling Downs in charge of a number of sheep from the Brindley Park flock, to establish a flock for the North British Australasian Investment Company, at Rosenthal, near Warwick. One of the offshoots of that flock was the Glengallan flock, established by John Deuchar, and later the property of Marshall and Slade, under the management of W. B. Slade, the resident partner. This flock was subsequently improved by the importation of some fine sheep from the flocks of Baron von Maltzahn, in Mecklenburg. Bracker's flock was established on the same blood, but improved by frequent importations of German and Silesian merinos. The last importation of German merinos was in 1871, when Donald Gunn, of Pikedale, imported seventeen pure German Negrettis of a purely clothing type of wool.

The success of Learmonth, of Victoria, and Murray and Fisher, of South Australia, in establishing a purely Australian type of merino induced breeders all over the Australian continent to follow their example, and therewithforth the flocks of the Southern States and Tasmania, principally the latter, were largely drawn upon by Queensland breeders in the improvement of their flocks.

On the early sheep-runs only the homestead and branding paddock were fenced. Squatters divided their sheep into various flocks, which in turn were divided among the out-stations, two to each. The two shepherds had to take their respective flocks to the grazing grounds, one easterly and one westerly, not more than an hour after sunrise. They would watch them and keep them slowly moving all day, and bring them back at night when they were counted and put into the fold. When counted, the shepherds handed over the sheep to the watchman, whose duty it was to protect them at night; there was one watchman to every two shepherds. The wild dogs were as bold as hungry wolves, and one of them working quietly among folded sheep would mangle some seventy animals before he could be heard from the huts. To guard against this menace, the sheep were strongly folded, and the watchman slept with them. (128) Yards were not used until much later. Movable hurdles were used to pen the sheep; these were made of rough scantling cut from gums or swamp oaks. Later log fences replaced the hurdles; the sheep were herded at night into log compartments, and night watchmen were dispensed with. The first fences were erected in the 'fifties; wires were not used till 1870. Fences with dingo barriers six feet high and countless miles of subdivision fencing obviated constant supervision of sheep. Capacious shearing sheds and drafting yards made easier the working of sheep and the progress of wool towards market.

The most spacious days of wool-growing in Queensland were from the 'seventies to the 'nineties. Stations were of enormous extent, and there was considerable over-stocking. Huge numbers of sheep were shorn at the annual shearing. In 1895, Wellshot shore 356,000 sheep; Bowen Downs 316,000; Milo 250,000; Darr River Downs 241,000, and Evesham 228,000.

Since the turn of the century the trend has been for wool production on smaller areas; the individual sheep has been improved to produce more complete covering of the animal and a cleaner and heavier fleece. Better subdivision, pasture improvement and mechanisation of properties have improved carrying capacity.

Crossbreeds

As mentioned earlier, of the 22 million sheep in Queensland over 99 per cent. are merinos. Crossbreed and British breeds number only about 275,000, and most of these are run on the Darling Downs and adjacent areas. Of these sheep the predominant breed is Corriedale, of which there are about 60,000. Dorset Horn, Border Leicester, Southdown, Romney Marsh, Polwarth, and Suffolk sheep are present in lesser numbers. The Corriedale and British breeds are used primarily in the small fat lamb industry.

The history of cross-breeding in sheep in Queensland dates back to 1869. In that year F. J. C. Wildash, then of Canning Downs, introduced a pure English Leicester ram into a small flock of merino ewes. The success of this cross was so marked that in 1870 and 1871 he and George H. Davenport, of Headington Hill, introduced a number of Leicesters into their flocks. In 1872 Sir Joshua Peter Bell, of Jimbour, introduced a number of superior Leicesters, rams and ewes, from England and New Zealand.

On the premise that the Queensland wool industry would do better to breed its rams under local environmental conditions than to bring rams in from other States, the Queensland Government has long given concessions in lease conditions for Crown Land used for stud purposes. Many of the established studs have participated in these concessions. In a further effort to improve the yield and quality of fleeces, a wool biology laboratory was established in the Department of Agriculture and Stock to provide a fleece testing service for stud and commercial flocks.

Risks in Wool Growing

The extension of sheep-raising to the western districts, which have little permanent surface water, was hastened by the discovery of artesian water in the Great Artesian Basin, from which bores as deep as 4,000 feet draw precious water for sheep. In the thirty years from 1884 to 1914, over 1,200 bores were drilled.

The problem of drought has usually been met by the negative
method of removing breeders to agistment elsewhere and letting the wethers take their chance on the property. However, drought feeding on purchased grains, hays and concentrates has also been widely practised despite the high cost of purchase and transport. Within recent years scientific studies of drought feeding and of rainfall expectation have been most valuable. The conservation of silage in suitable seasons has resulted in a number of properties making a substantial provision against drought losses from starvation. The road-transporter has assisted during recent droughts by enabling sheep to be moved to agistment sometimes in a matter of hours instead of the days involved in long-distance rail transport.

Next to drought, an insect pest, the sheep blowfly, is, and for many years has been, the most important problem of the sheep industry. The sheep owners till the turn of the century were spared the worries of blowfly strike. The fly was first troublesome after the Big Drought of 1897-1901. The bountiful seasons from 1902 to 1905, the record year 1906, and the wet years of late 1909 and early 1910 gradually increased the menace of the fly; and by 1913 examination of flocks and crutching had become a regular feature of sheep properties.

The beau ideal of the sheepman's eye early in the century was a ram with wrinkles from the back of its neck to the tail and with horns close to its head. The blowfly "blew" the folds between the wrinkles and also on the side of the head beneath the horns. The demand at once turned full circle—everyone wanted plain-bodied sheep with horns wide out from the head.

(Acknowledgement is made for data kindly provided by A. T. Bell, Esq., Director of Sheep Husbandry.)

A great deal of attention was given to the blowfly problem in the 1930's on a national scale, and research workers devised fairly effective methods of protecting and treating sheep. An operation to render the crutch of the sheep less susceptible to fly strike, originated by J. W. H. Mules in South Australia and later improved by C.S.I.R.O., has proved the most progressive step in blowfly control. The development of particularly efficacious insecticides in recent years has tended to diminish the value of the Mules operation in the eyes of many graziers, but scientific workers feel that resistance to the insecticides may develop and that the Mules operation will then assume a more prominent place in blowfly control.

Internal parasites, mainly worms, have been one of the factors excluding sheep from the higher rainfall areas, and even in the semi-arid interior they have proved troublesome during a run of good seasons.

Bacterial and other diseases of sheep are not of major importance. Scab was particularly serious in the early days of the industry, but was eradicated in the 1860's and has not recurred.

Substantial losses of lambs and grown sheep are caused every year by the dingo. This native dog proved difficult for the sheep-raiser to combat in the sub-coastal forested country, and the vast numbers of sheep on the open grassy plains and light scrub country of the west are also harassed. It has always been necessary to put dingo-proof fences around individual properties or blocks of properties and to employ doggers to trap and destroy those that breach the fences.

The individual approach to dingo control has been supplemented over the past few years by special Government operations. One of these is the distribution of baits over infested country from the air. The other is a project to complete a dingo-proof fence to enclose the whole of the western sheep area.

Sheep Dogs

The famous Australian sheep dog, the Kelpie, it is generally accepted, was developed from Scottish collies of the smooth-haired black and tan variety (as distinct from the border collie of to-day), which were imported into Australia from Scotland about 1870. The breed took its name from a bitch called "Kelpie," believed to have been a grand-daughter of the first pair of imported collies, which won the first sheep dog trials at Forbes, N.S.W., about 1872. The brothers King, owners of Hanging Rock and Wollongough Stations, began breeding from these early Scottish collies in the early 1870's, and later joined McLeod. (One of the feats of King and McLeod kelpies was known as "tinning the chicken," i.e. making the dog drive a chicken into a jam tin!) They dominated sheep-dog tests during the 1900-1920 period. The true kelpie is a tireless, alert, faithful animal, capable of infinite patience and of almost uncanny sagacity. With its smooth coat and clean-cut build, it is an ideal sheep dog for the hot, dry regions of western New South Wales and Queensland. The economic importance of the kelpie can be judged from the fact that the breed numbers between 70,000 and 30,000 in Australia.

(129) A remarkable feature that has never been satisfactorily explained is that in the 1880's and 1890's huge flocks of sheep roamed the various stations as far west as the Cooper, with no protection against dingoes and though there were some losses, the sheep multiplied. Stock returns of 1894 show that Durham Downs on Cooper's Creek ran 72,543 sheep, Keerungooloo, 70 miles further up, ran 41,800 unshepherded sheep. To-day it is impossible to run sheep in this area unless they are in a dog-netted property. The first enclosures protecting sheep against the native dog were stake enclosures. The labour involved in the building was great and limited them to about 1,000 acres. They were also vulnerable to bushfire. Extensive dog-netting of large areas (say 20,000 acres) began in the western sheep districts of Queensland about 1910. In the next ten years many miles of netting were erected.
Another celebrated sheep dog breed is the border collie, which is especially popular in parts of New South Wales, Victoria, and South Australia.

ROMANCE OF SHEARING

The shearing side of the Australian sheep industry has a romance all its own. In the early years ticket-of-leave men, assigned servants, and free labourers were employed as shepherds, and they carried out the shearing, using hand shears to remove the wool. The washing of sheep in a river or waterhole prior to shearing was a customary practice until the 'seventies of last century. When convict transportation ceased, the squatters of Moreton Bay, in common with other parts of New South Wales and Victoria, suffered an acute shortage of labour, later accentuated by the gold discoveries. Chinese were imported as shepherds and shearers, and many were employed in northern “New South Wales,” including the Darling Downs and the Burnett country.

At the end of 1854, 2,000 Chinese were working as shepherds and station hands in “New South Wales,” including the northern districts, which in 1859 became Queensland. The opening of the goldfields in the South attracted many Chinese who deserted the pastoral industry, following the example of the white men.

Patrick Leslie, pioneer pastoralist on the Darling Downs, was offering in 1850—ten years after he brought the first sheep to the Downs—3/4 a score to shearers (2d. a head) or 16/8 a hundred. The first award for shearers was not made till fifty-seven years later, when the Federal wage of 24/- a hundred was fixed, in 1907. The first State award made for shearers in Queensland was by the late Chief Justice McCawley in 1920 when he struck a rate of £2 a hundred, which was 10/- a hundred in excess of the ruling Federal rate.

(From that time onwards, both Federal and Queensland awards have operated in the industry; the Queensland rates are almost always in excess of the Federal rates.)

Australia’s greatest shearer, whose world record tally of 321 sheep blade-shorn in 7 hours 40 minutes has never been surpassed, was Jack Howe, who died about thirty-six years ago in Blackall, Central Queensland. His son, John H. Howe, has called his property near Dalby “321” — the world record tally established by his father at Alice Downs in 1892. Even to-day, no modern shearer using machine shears had been able to equal Jack Howe’s record, till 1950 (see page 273.)

Jack Howe was a powerful, admirably-proportioned man. He measured 26 inches around the thigh, 17½ inches around the calf; his chest measurement was 47½ inches, and he weighed 14 st. 6 lb. In the late 1880’s he received his shearing tuition from a Chinese on Killarney Downs station where his father was manager. At that time nearly all the shearers on the Downs were Chinese. Howe quickly surpassed his teacher, and for many years he shone in the sheds around Warwick. Later, Howe left the Downs for the Central Queensland sheds.

Machine-driven shears were introduced by Frederick York Wolseley, an early Australian pastoralist who first shored sheep with a machine of his own invention at his property “Euroka” on the Darling River, New South Wales, in 1887. By 1888 Wolseley had formed a manufacturing company for his machines, and in the first three years after their inception it is claimed that 50 million sheep were shorn by machinery.

Some big tallies have been put up by Australian shearers, who are recognised as the best in the world. In the 1950 season W. E. Rieck, a South Australian shearer, machine-shored 326 sheep at Brinane Station in North-west Queensland in 7 hours 48 minutes actual shearing time. (Compare this with Howe’s performance in hand-shearing 321 sheep in 7 hours 40 minutes.)

By 1915 most large sheds in Australia had installed machines, and to-day hand or “blade” shearing is only done in isolated cases; for the careful shearing of valuable sheep, such as “studs,” or to shear an odd sheep without recourse to use of engines or machinery.

Modifications and improved forms of Wolseley’s handpiece and shearing machinery still form the essential basis of plant for present-day wool-removal.

To the expert shearer, doing his 120 to 150 sheep per day, shearing is still arduous “back-breaking” toil. Shearing is paid for according to numbers shorn, competition between shearers is keen, and there is no “let-up” during the four shearing “runs” that comprise an eight-hour day.

The most notable step in making shearing easier has been the invention of shearing tables, to restrain the sheep firmly without physical stress to the operator, also to permit rotation of the sheep to any required position during the operation. Most forms of shearing tables are derived from the originals designed around 1955 by two Queensland graziers, John Borthwick, of “Whynot,” Quilpie, and E. C. Frecklington, of “Dalmally,” Roma. They have not yet become widely used. Sheepmen and shearers both are notoriously wary of change from routine shed procedures.

(130) Sleevesless shirts and singlets are known as “Jackie Howes.” The name derives from the fact that Jack Howe always cut the sleeves from his shirt to give him easy arm movement when shearing. The Howe family dates back to the earliest days of Queensland's pastoral history. Jack Howe's mother, whose maiden name was Miss Stokes, came to Canning Downs as companion to Mrs. Patrick Leslie in 1840. She was one of the first white women on the Darling Downs, and married Bill Chadbourne, who was appointed stud groom at Canning Downs in 1848. Chadbourne was drowned while trying to swim the Condamine River in the flood in 1854. In the same year his widow married Jack Howe, a circus performer, who had come to Warwick with Le Rosiere's circus. A son was born and called Jack; this was the man who grew up to become the champion shearer of the world.
In addition to the shearsers, of whom there are from ten to forty men on the shearing board, according to the size of the flock, many other men are employed in the shed.

The fleeces are thrown on a table where they are skirted, the trimmings being divided into "locks and pieces" and "bellies"; the rolled fleece is thrown on another long table at which the wool-classer presides. He grades the wool according to its quality—condition, length of staple, and brightness. The wool is then fed to the wool-press where the bales, of an average weight of 3 to 4 cwt., are turned out, sewn, and branded. The wool is despatched from the stations by road, rail, and ship to the brokers' stores at the selling centres. On arrival it is weighed on modern dial scales; sworn weighers record the weights on their own official slips in addition to marking them on the bales, and also denote on each bale the brand and description of wool. The bales are then forwarded to the wool store where they are stacked in easily identifiable positions to await their turn of offering at the wool sales, which commence in September.

WOOL SELLING

To the uninitiated the scene at a wool sale appears a frenzied incoherent pandemonium of clamorous voices, pantomime, and gesticulation. But there is complete understanding between the bidder and the auctioneer with his gavel, and split-second comprehension as bids in farthings are flung with machine-gun like rapidity at his rostrum. Each buyer knows the limit of his bid and calculates it to the utmost farthing. *Normally an individual line or lot of wool is cleared in eight seconds!*

The marketing of Australia's wool clip is a masterpiece of efficient organisation. In 1843 Thomas Sutcliffe Mort held the first wool auction in George Street, Sydney, with two bales of wool! Five years later Richard Goldsborough established himself as a wool broker in Melbourne. To-day there are fourteen selling centres in Australia, and some thirty wool-broking houses.

Until October 1898, when the first Brisbane wool sales were held, Queensland wool was sold through selling centres outside the State.

Brisbane's first auction sale of wool took place on 29 October 1898, when 1,622 bales of greasy wool were sold in the Exchange Room at the Courier Building.

There are 22 million sheep in Queensland (1958) and the amount of wool sold in 1957-58 was 210,790,484 lb. (705,656 bales), which realised £57,416,937. (The average price per bale was £81 7 shilling and 4 pence, and the average price per lb. 65.36 pence. Present value on a subdued market is approximately 49.5 pence. per lb.)

The bulk of the wool produced is exported overseas, chiefly to European countries; Japan and the United Kingdom are our best customers, but the United States, Germany, France, and Italy also purchase large quantities. Some of the largest oversea freighters carry up to 30,000 bales of wool in one shipment—almost £3 million in one cargo.

Australia, indeed, dominates the world wool scene at present with the world's largest wool population—149 million sheep; the world's largest wool production, 1,433,400,000 lb. in 1957-58—including 60 per cent. of the total world production of fine merino wools.

VALUE OF EXPORTS

**LAND INDUSTRIES PROVIDE NEARLY ALL EXPORTS**

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(131) The early Queensland wool press was a pit in which the bale was hung. The pressure was provided by a long lever. However, they were not very efficient. The first practical press was invented by the Ferriers of Geelong, Victoria. This press, with little alteration, is in use to-day. Later Kreutz (or Kuretso) invented a press very popular with people with small flocks.