AGRICULTURE IN SOUTH AUSTRALIA

—Upper Eyre Peninsula

DEPARTMENT OF AGRICULTURE, SOUTH AUSTRALIA

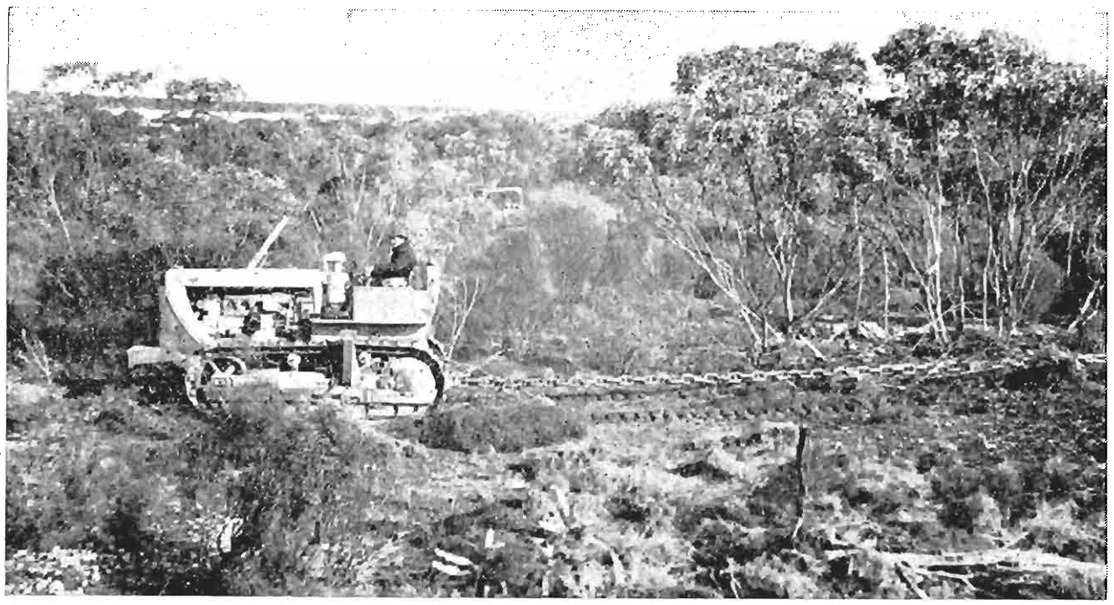
LEAFLET No. 3788 I

AGRICULTURE IN SOUTH AUSTRALIA

Upper Eyre Peninsula

By **W. A. Michelmore,** formerly District Agricultural Adviser, Minnipa.*

Big areas in this district have been cleared in the past 10 years. Here, scrub is being cleared with two tractors and an anchor chain near Minnipa.



Few places in Australia can claim a history of more than 300 years, but in Streaky Bay, a monument marks the tri-centenary of the discovery of the area in 1627 by Peter Nuyts, a Dutchman.

More than 200 years later, it was further investigated by Eyre and others. Then came the first settlement in 1860.

The early settlers were mainly pastoralists, who used the natural open grassland plains which covered up to ten per cent of many parts of the district.

These properties were large stations concentrated around available underground water and rock catchment sites. Because of the sparse feed in areas served by natural water, and the unreliable supply from rock catchment tanks, livestock numbers were limited.

* Now District Agricultural Adviser, Nuriootpa.

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WHEAT GROWING EXPANDS

Following the opening of the railway line from Port Lincoln to Ceduna and Penong in 1915, the development of wheat growing increased. Again, during the 1920's, water became a limiting factor—it limited the number of horses available on the farms.

The answer to this problem was provided by the Tod pipeline. Constructed between 1926 and 1929 and extending from Port Lincoln to Ceduna, this source of water allowed more horses to be kept.

Then later, low prices of the "depression" forced farmers to adopt an over-cropping programme to cover costs. During this period, many of the farms were found to be too small to provide a suitable living; a number were abandoned and taken over by neighbours. Thus today, we find properties occupied by one family, where 30 years ago, five or six families existed.

In the past ten years, a 50 per cent reduction in the number of properties has occurred in some Counties (Table 1).

The trend towards large farms was dominated by a set of circumstances. Of these, the availability of water has been and will continue to be dominant. Others included the development of implements during the first quarter of this century, with which large areas could be cleared, and the "depression" in the 1930's, which brought about the over-cropping of much of this land.

More recently, we have seen development of a "pasture era". In this era, barrel medic pastures and increased use of superphosphate are building soil fertility and making more frequent cropping safer.

RAINFALL AND CLIMATE

Rainfall varies from about 10½ inches near Ceduna to 16 inches near Mount Cooper. Most of this falls in the period May to October, and there is a high probability of a dry finish due to lack of rain either in August or September.

Summer rains are not reliable, but can be useful for water supplies and to maintain lucerne growth. Rain damage to grain at harvest is not a regular problem.

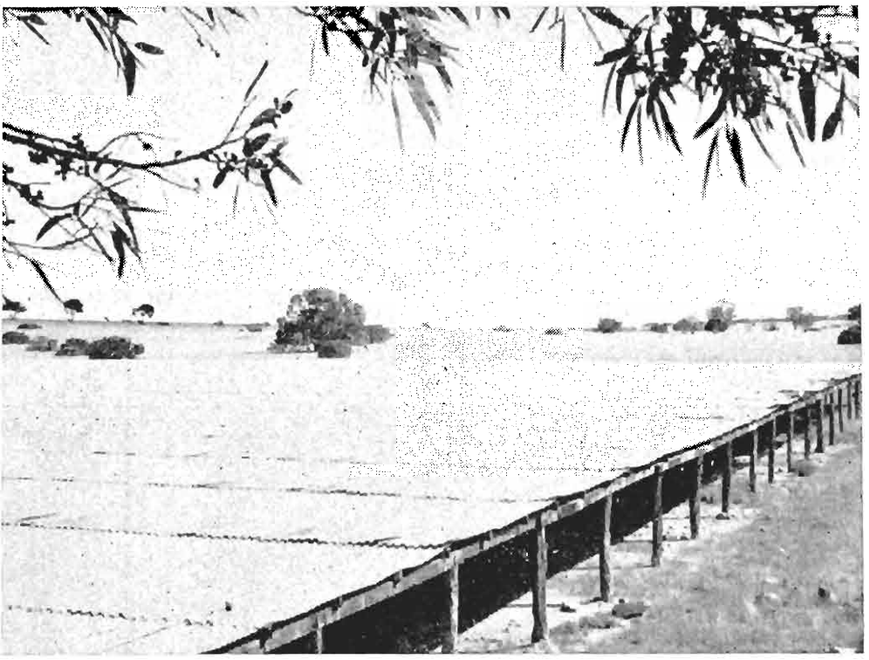
Extremes of temperature are experienced, with very hot summers and inland frosts during the winter. Frost damage to cereals is common in some lowlying or flat areas, but rarely are large proportions of farms or district crops affected.

There is a fairly high drought frequency, with one year in five or six being classified as either a drought or a semi-drought. These occurred in 1954, 1957 and 1959, while 1961 and 1962 were "short seasons".

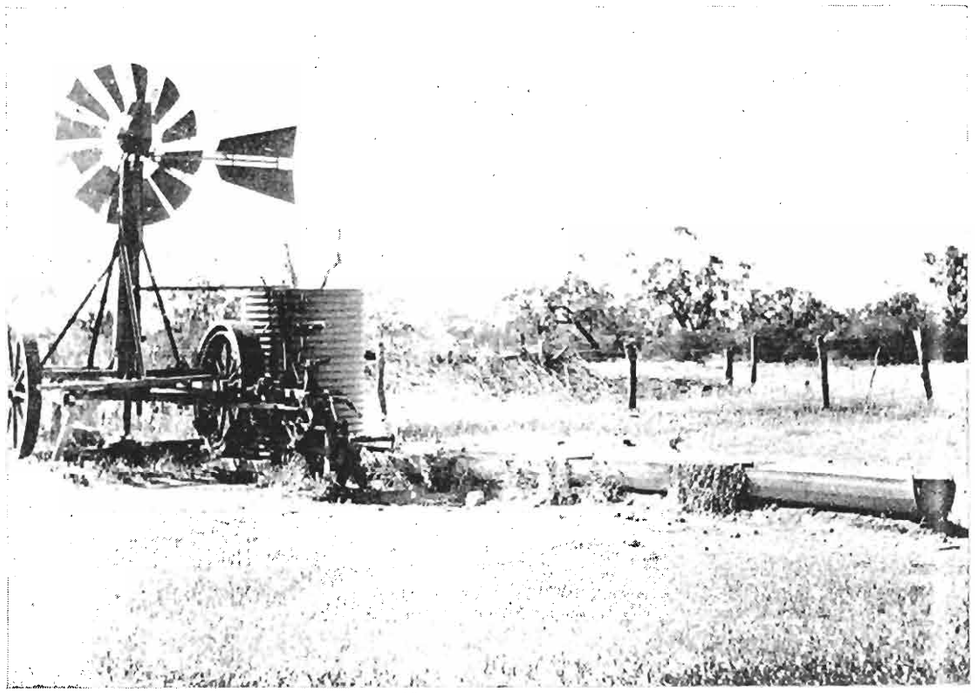
Grain yields vary five-fold between the good and the dry seasons, but with the advent of medic pastures and increased fertility, these depressions of production will be less severe.

Hot north winds have caused less erosion in recent years, because of a smaller area of fallow and the ground cover provided by improved pastures. However, lighter soils are still subject to wind erosion if they are not carefully managed and protected.

Wind erosion is still a problem in some seasons on the lighter soils, especially if the soil is overworked after cover is burnt or grazed out.



Before the Tod pipeline came to Ceduna in 1927 clean rainwater was provided for steam trains and domestic purposes from roofed catchments supplying underground tanks. This catchment at Maltee is 100 yards square, and is used for a reserve of rainwater for domestic purposes.



West of Ceduna, wells supply limited quantities of stock water. This portable mill pumps water from the brush-covered underground tank in the background, which is filled by run-off from roadways and other hard ground.

WATER SUPPLIES

The soils of Upper Eyre Peninsula are not suitable for dams, so the Tod pipeline has become the "Lifeline of Eyre Peninsula". Through this pipe, water gravitates from near Port Lincoln to Ceduna, following the railway line for more than 250 miles. With its numerous branch lines making up 8,000 miles of mains, water is supplied to most farms for domestic and stock purposes.

The western portion of County Robinson is watered from the "Robinson Basin" which covers some 200 square miles. This fresh water occurs as a shallow layer on top of very salty water, so that some control must be maintained to prevent over-use.

A similar basin occurs at Polda in County Musgrave. This is now being used to supplement the Tod Reservoir water from Port Lincoln.

The area west of Ceduna is not supplied from either pipeline or regular underground water. It relies on surface catchment from roadways and special roofed areas, some of which are more than two acres in area.

Many roofed areas previously supplied water for steam trains and domestic purposes. The biggest are not maintained because of the reduced need for clean rainwater for trains, but many of the smaller catchments are still kept in working order.

A few isolated basins supply stock and domestic water in this area. Up to a dozen mills on each pump water to homesteads and paddocks, often for more than five miles.

The eastern part of the district has numerous granite rock outcrops which are used for water catchment. A concrete gutter around the base takes water to underground tanks. These were the only sources of water before "the Tod" came to the district.

The annual flow of the western main of the Tod Scheme has almost doubled in the past 10 years, increasing from 513 million gallons to 974 million. A little more than half of this latter amount was pumped into the main from the Polda basin, near Lock.

The trunk main through Lock to Thevenard is being enlarged, but at present there is little chance of more water being available for farmers. If on-the-farm storage is used, water can be taken at off-peak periods.

TOPOGRAPHY

The topography of the district is dominated by several granite hills, surrounded by areas of better soils. In the main, the district is a gently undulating plain of light grey-brown calcareous soil, but in the eastern part there is an area of sand ridges and flats. Some of these sand-hills are not suitable for clearing, but the majority can be cropped with reasonable management.

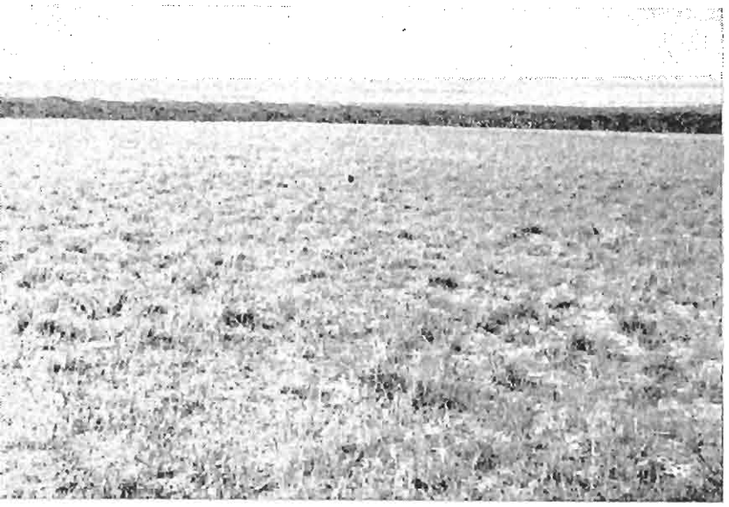
There are some extensive areas of limestone outcrops, mainly in County Robinson. The flats between these outcrops provide good agricultural land, but because of the stony areas, land values are lowered; these parts are mainly used for sheep grazing on larger properties.

The remainder of the district on its northern fringe is a light sandy area used as pastoral country, with sheep grazing on the natural herbage.

LAND USE AND VALUES

The soils of the district can be divided into several distinct types, although land use is basically similar as far as pastures are concerned. The whole area grows medics, the variety varying to some extent with soil type—barrel medics on the heavier soils, and harbinger and early Cyprus medic on the light soils of the lower rainfall regions.

Some of the lighter soils have been regarded as more suitable for barley because of their lower fertility. But with the increased use of medics, these soils can grow wheat, which is cropped according to the markets and handling facilities.



A typical farming area at Nundroo, west of Ceduna, the most westerly wheat farm in South Australia.

Zone 1

Around the granite outcrops we find good agricultural soils. However, they are subject to water erosion on the steeper slopes, especially from summer rains. These are the highest priced lands, usually selling at $24-$30 an acre, although more recently they have brought up to $40 an acre.

Zone 2

The western part of the district extending from near Poochera to Fowler's Bay, mainly consists of light grey-brown calcareous mallee soils. The soil varies from a light sand to a sandy loam, and is well suited to medics. These are used to build fertility and improve the crop yields. Care is needed to ensure these soils are not exposed to wind erosion.

Rotations have been fairly long in the past, but with the introduction of improved medics, a crop-pasture rotation has been found quite satisfactory—especially where water supplies are limiting stock carrying capacities. A three-year rotation, with oats as the first year pasture, can be used to advantage where more stock are kept.

Bulk wheat is temporarily stored on the ground.

Land prices range between $10 and $20 an acre for cleared arable land.

The coastal dunes and samphire* swamps adjacent to the coast have been included in this zone, but are of no commercial value, except in the area south of Penong where gypsum is harvested from the lakes (see **Livestock and Other Industries**).

Zone 3

The sand ridges and flats in the eastern part of the district need to be treated with some care. Erosion hazards develop when cropping the sandy ridges between the better mallee flats. These sandy soils are more suited to the earlier maturing medics and lucerne.

Zone 4

Limestone outcrops are common in this area, but the soil between the limestone is similar to that of Zone 2.

Properties are generally large because of the extensive areas of waste land, but medic pastures are making the usable land suitable for a cropping programme similar to the remainder of the district.

In the past, the main crop has been barley, but as fertility is built up, wheat is being used more widely. Future cropping will depend on markets and grain handling facilities. Land values are determined by the proportion of stony outcrops, but vary from less than $2 an acre to $20 an acre for better land.

Zone 5

This is pastoral land, where the sheep rely mainly on the natural herbage. Although medics grow well on some of the flats in good seasons, their growth could be made more reliable by occasionally topdressing these areas. Agricultural development here is not likely in the next decade.

**Crithmum maritimum, L.*—samphire is a salt tolerant plant of little value.

PRODUCTION

Income is based on cereals, with sheep an important adjunct. Cattle and pigs provide diversification on some properties.

Grain production fluctuates considerably with the seasons, average yields varying from 2-20 bushels an acre. Tables 2-7 show the seasonal variation and emphasize the problem of budgeting for an "average annual income".

Cereals

Wheat, the major cash crop, produced an average of about 12 bushels an acre for the ten years 1953-62.

The main wheat varieties are Gabo and Insignia 49—they have replaced Bencubbin. Gamenya and Heron are now gaining popularity.

Barley will increase in favour as bulk facilities are made available, but ultimate production will depend on the price compared with wheat.

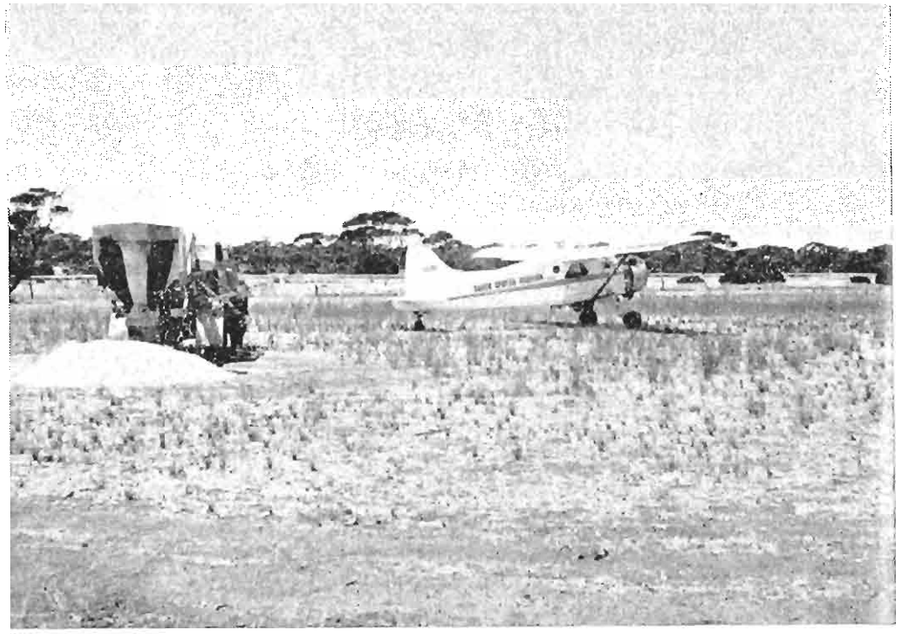
Prior is the main barley variety, but is giving way to Noyep—a selection that originated in the district. Average production has been about 15 bushels.

Oats fill an important role in the cereal rotation, and are used as a dual-purpose feed and grain crop. But once again, with increased use of bulk handling this cereal could play a more important part in the farm rotation.

Average yield of oats is almost 10 bushels an acre. Kent and Avon are the main varieties at present, whereas Ballidu and Early Kherson have been popular.

Some farmers growing adequate medics are getting better average yields than in the pre-medic days, and it now appears that early predictions of doubling grain returns will be attained.

Superphosphate is the only fertilizer needed on most of the district, and the average annual rates of application have recently been increased. But this average dressing should be 30-50 lb. a year for greatest medic production.



Eyre Peninsula advances with the times. Loading bulk superphosphate for cereal top-dressing at Wudinna. Superphosphate is the only fertilizer needed on most of the district.

Some of the superphosphate can be applied as a dressing to the pastures or otherwise the whole amount is applied with the crops. There is a growing practice to topdress the pasture during the spring, as this makes the work programme lighter at seeding. Buying the fertilizer out-of-season also provides the advantage of price concessions, but there appears to be no particular virtue fertilizer-wise.

Some very limited areas, mainly on the coastal sands, give a response to copper, zinc and manganese. Nitrogen fertilizers may also give profitable increases in yield on sands in some seasons, but legume pastures have the same effect and are more economical.

Pastures

Spear grass was native to the district and regenerates if the land is not sown to improved pastures.

Medics can be grown on all soils here, and barrel medic is the universal recommendation. More specifically, greater production can be obtained from barrel medic 173 on the heavier soils, harbinger on light soils and early Cyprus barrel medic on light soils with a very short season.

The perennial legume, lucerne, also has a place, especially where a pasture is needed for dairy cattle or to grow better hoggets.

Wimmera rye grass can be used, but once medics are well established, there is little need for an annual grass. Barley grass and brome grass invade the pastures after two years of medics and it pays to crop to keep these grasses out of the pasture.

Oats are another valuable alternative, both as a grazing and cash crop; they are, as well, more easily controlled.

Fallowing and Rotations

Fallowing is less popular now than ten years ago. These days, the majority of wheat is sown on grassland that has been "worked" dry during the early autumn. The aim is to get at least one good weed germination to kill by cultivation before sowing. However, herbicide sprays are preferred if late opening rains delay seeding. Wild turnip and saffron thistle have to be controlled in most crops.

Where longer rotations are used, wheat stubbles are sown to oats. This crop can provide greenfeed or hay if fodder is to be conserved—although most farmers rely on grain as the sole reserve fodder. Very little silage is made.

After the oat crop, the land is left to volunteer annual pastures for several years, during which the fertility is again built up. The general practice has been to work on a five or six year rotation, and to crop to stimulate pastures into better growth.

The present trend is to shorten the period between crops; thus the natural habit of the medics to grow well in the first year after cropping is used to advantage.

Pasture Seed Now Harvested

Medic seed harvesting has come to the district as an industry in the past ten years. From a few acres harvested in 1950 with home-made machines, the industry has grown to several modern harvesters and a well equipped cleaning-shed.

Seed harvested in 1964 was estimated at 40 tons, most of which is intended for sowing on the properties where it was produced.

Livestock and Other Industries

Although sheep numbers have remained fairly constant, the cut per head has increased slightly during the past ten years. This has come from better feeding, as well as from a desire to improve the quality of the sheep kept.

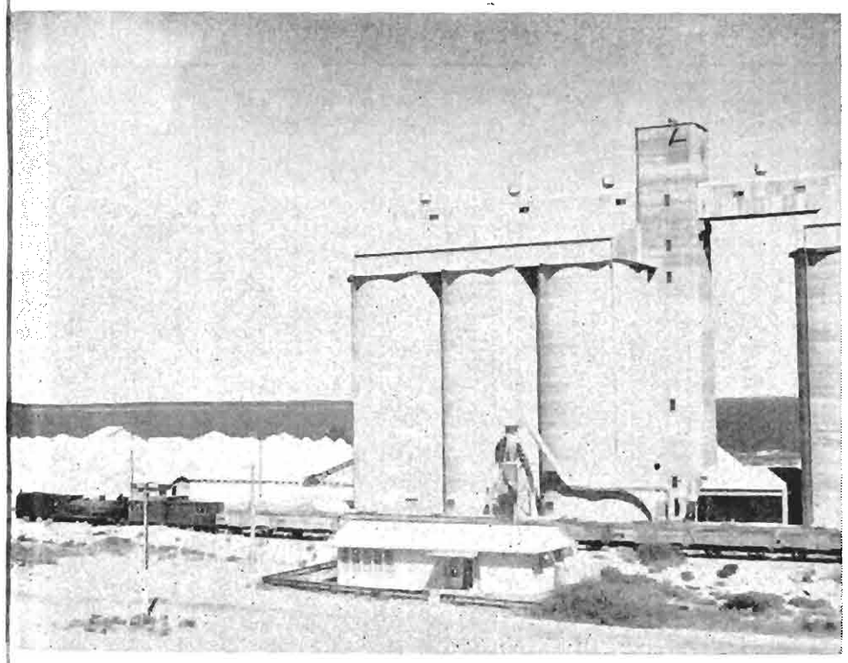
Cattle numbers have not changed significantly, but there has been a marked swing from dairying to beef.

Pigs are an important sideline on some properties. The district produces about 10 per cent of the State's pigs.

During the ten-year period 1953-62, more than ½ million acres of scrub have been cleared. Considerable effort was put into sowing these areas to pastures during the earlier years of development; consequently, increased production can be expected in the future.

The common method of clearing is to have scrub pulled with an anchor chain and two tractors, burning after one or two seasons, then cropping to get further burns to control regrowth.

Oats are often aerial sown into the pulled scrub to get a hotter burn, because the scrub lacks undergrowth to carry a strong fire. Because of the low



Most of the grain from Upper Eyre Peninsula is shipped from Thevenard, the deep sea port at Ceduna. This port handled more than 100,000 tons of wheat, 10,000 tons of oats and 250,000 tons of gypsum in the 1964-65 season.

value of the land, a good burn is essential to reduce hand labor to a minimum.

A fishing industry based at Ceduna and Streaky Bay is an important source of production and employment in the area.

Gypsum production from lakes near Penong has increased in the past few years, and now more than ¼ million tons a year are shipped from Thevenard. The bulk wheat belt is used at present, but before this, the majority was bagged. Gypsum is used in the building, chemical and fertilizer industries.

PROBLEMS OF THE DISTRICT

The main problems of the district have been reduced in importance during the ten-year period under consideration. With better roads and an air service, the district is less isolated. A more reliable water supply, due to the tapping of the Polda basin, has allowed further extensions from the Tod pipeline.

Medics, together with increased use of superphosphate, have reduced the severity of the dry seasons by building fertility. This increased fertility in turn also helps to reduce most of the problems of cereal and livestock production.

The cereal diseases rhizoctonia, "take-all" and eelworm occur, but once again, all are reduced in severity with higher soil fertility. Other cereal diseases, such as rust and mildew, are of little importance because of the dry spring conditions. Mottling of wheat is a problem in some parts, more especially on the medium fertility soils.

Weed and Pest Problems

The district is relatively free of most noxious weeds, but saffron thistle, Ward's weed and horehound make up for the lack of numbers. Wild turnip is also prevalent. Ward's weed has attracted attention in recent years, and is well established in most areas.

Skeleton weed appeared near Wirrulla, but has been controlled by excellent community effort.

Insect pests, such as cutworm, talis caterpillars and cockchafers are a regular problem in some parts, but are controlled by spraying or with insecticide mixed with superphosphate.

All of these are native insects and do not appreciate cultivation. For this reason, they are controlled to some extent by shorter rotations; however it is necessary to be ready to spray if damage is severe.

Red-legged earth mite is not yet important in the district, but could become a troublesome pest if good seasons allow numbers to build up. Well pastured areas would be the first affected. The blue oat mite, which is similar to earth mite in habit and effect, could also damage cereal crops.

Soil erosion has been a problem, but more careful management of soils has reduced losses to a low level—except in seasons of severe wind. Contour workings have arrested water damage on steeper arable slopes around the granite outcrops.

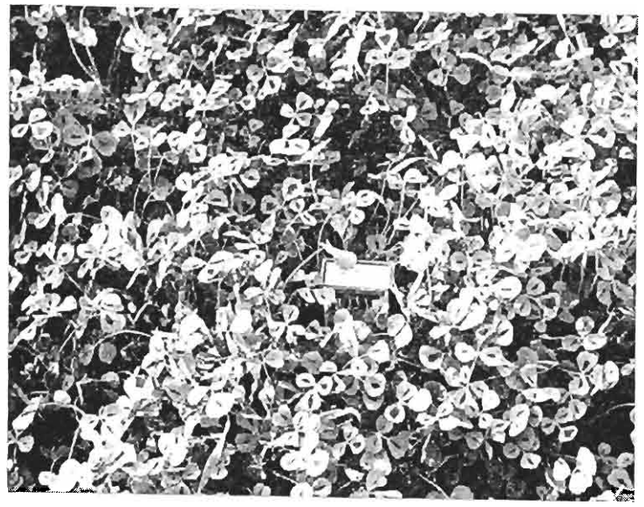
POTENTIAL FOR INCREASED PRODUCTION

Potential for increased production in the district is linked with developing and expanding medic pastures. This would improve soil fertility, raise yields, and cropping frequency could be increased. As a result, the area cropped annually could expand greatly, and the output of cereals could, as a consequence, be doubled: at the same time, the number of livestock would increase markedly.

Furthermore, with the adoption of shorter rotations, larger properties will become too unwieldy, and will either be subdivided, share-farmed, or worked as family units.

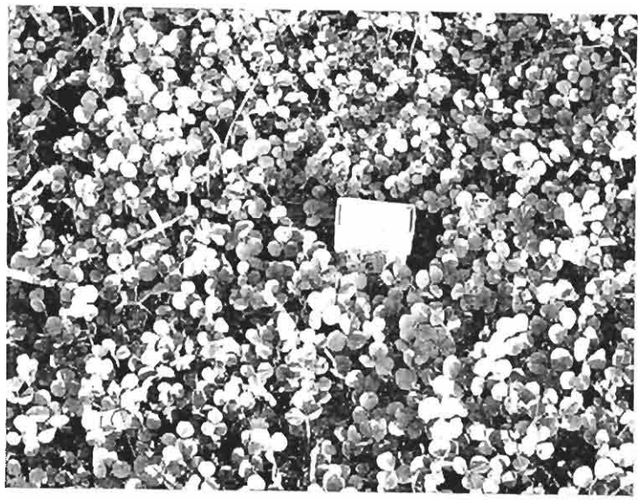
The type of cereal grown will depend on prevailing prices. Nevertheless, there is likely to be a big increase in both barley and oats for export as bulk handling for these grains becomes available.

Substantial quantities of oats have been shipped in bulk during the past two years, and this will increase as the grain improves from feed to milling quality.



Barrel Medic 173

[*Photo.*: *"The Chronicle"*.]

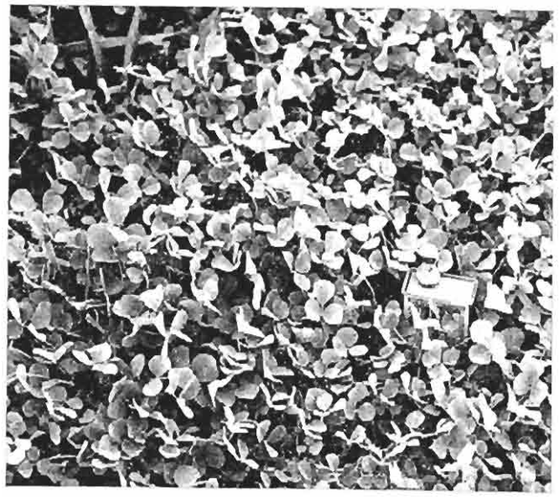


Commercial Barrel

[*Photo.*: *"The Chronicle"*.]

MEDICS FOR THE DISTRICT

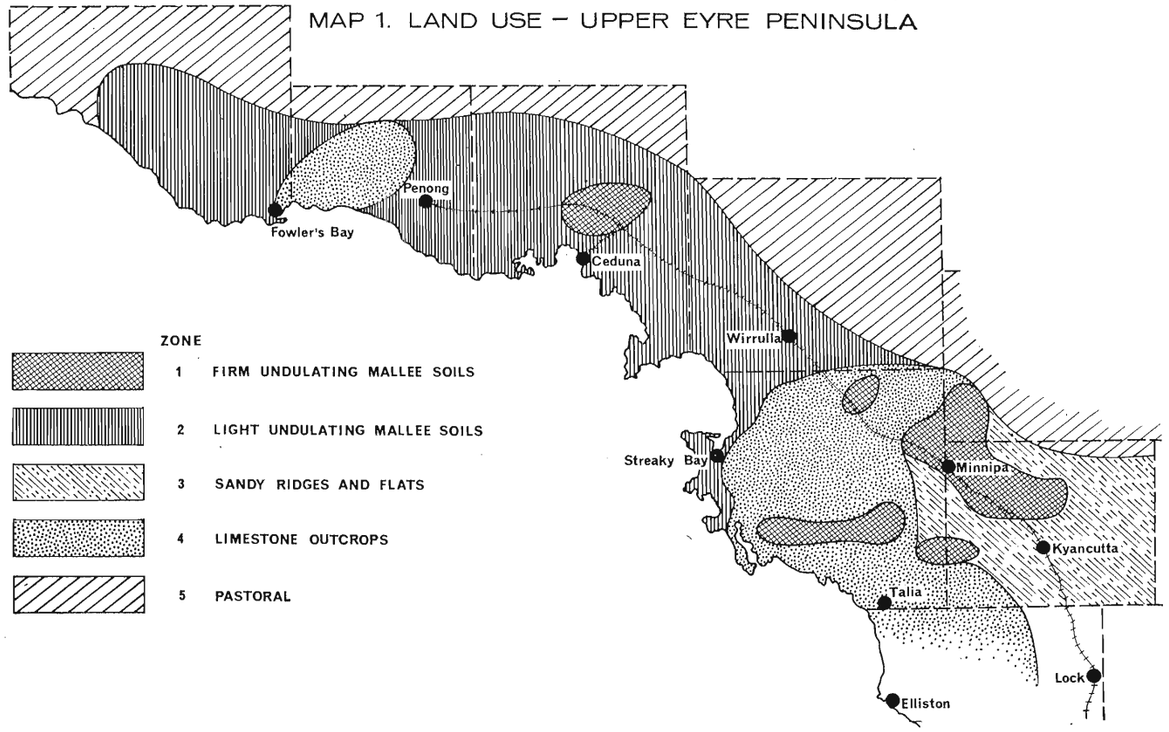
These photographs taken on June 18, 1963, show the comparative winter growth of the three main varieties of medic grown in the district. Strong winter production is an important feature of both harbinger and barrel 173.



Harbinger Medic

[*Photo.*: *"The Chronicle"*

MAP 1. LAND USE – UPPER EYRE PENINSULA



MAP 2. RAINFALL – UPPER EYRE PENINSULA

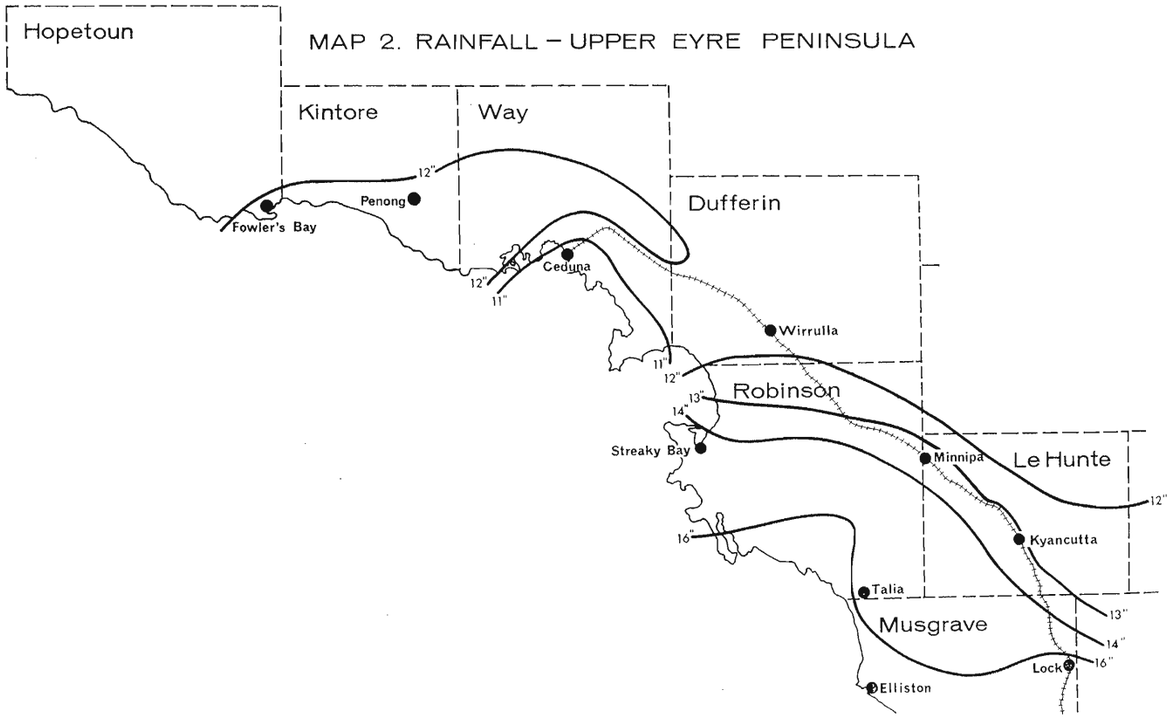


Table 1—HOLDINGS

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
BOSANQUET										
Number	18	19	16	16	13	13	13	12	12	10
Total area (acres)	1,247,131	1,305,402	1,269,377	1,252,276	1,231,686	1,245,565	1,232,999	1,252,560	1,233,082	1,224,391
Average (acres)	69,285	68,705	79,336	78,267	94,745	95,813	94,846	104,380	102,757	122,439
Area cropped (acres)	3,590	4,029	5,255	4,859	6,516	5,167	5,125	6,549	6,761	4,293
LE HUNTE										
Number	291	284	213	209	214	214	213	215	213	212
Total area (acres)	911,299	948,912	846,883	776,187	790,698	863,352	874,017	860,090	866,151	898,015
Average (acres)	3,132	3,341	3,976	3,714	3,695	4,034	4,103	4,000	4,066	4,236
Area cropped (acres)	105,630	118,366	117,614	131,868	132,577	133,314	128,482	136,349	158,471	149,997
ROBINSON										
Number	323	323	283	248	240	249	232	236	238	235
Total area (acres)	1,522,578	1,520,242	1,514,207	1,502,681	1,542,003	1,590,112	1,546,470	1,601,835	1,622,558	1,614,703
Average (acres)	4,714	4,707	5,351	6,059	6,425	6,386	6,666	6,787	6,817	6,871
Area cropped (acres)	109,002	117,282	114,472	127,237	128,245	122,830	122,041	132,823	156,974	143,680
DUFFERIN										
Number	161	157	97	77	78	77	76	78	77	78
Total area (acres)	1,370,406	1,362,290	1,484,478	1,324,858	1,315,963	1,320,209	1,328,692	1,333,630	1,270,784	1,267,124
Average (acres)	8,512	8,677	15,304	17,206	16,871	17,146	17,483	17,098	16,504	16,245
Area cropped (acres)	43,037	47,541	47,364	48,095	48,336	45,840	45,729	49,011	52,712	54,148
WAY										
Number	195	191	149	117	118	121	121	122	123	123
Total area (acres)	833,097	837,089	899,290	832,309	843,380	835,789	904,944	902,709	975,244	985,486
Average (acres)	4,272	4,383	6,036	7,114	7,147	6,907	7,479	7,399	7,929	8,012
Area cropped (acres)	57,056	61,391	65,234	73,227	77,424	76,017	73,349	82,023	87,731	98,964
KINTORE										
Number	83	80	65	41	40	41	41	39	41	39
Total area (acres)	633,536	1,007,994	1,008,426	999,316	1,050,735	1,046,160	1,046,335	1,071,798	1,046,100	1,057,739
Average (acres)	7,633	12,600	15,514	24,374	26,268	25,516	25,520	27,482	25,515	27,122
Area cropped (acres)	14,289	14,873	14,771	16,359	16,713	21,068	18,611	20,595	20,106	21,331
HOPETOUN										
Number	66	66	25	25	25	22	21	21	21	21
Total area (acres)	1,064,713	964,518	601,973	413,036	1,677,247	1,838,116	1,598,398	2,030,253	2,054,671	2,040,402
Average (acres)	16,132	14,614	24,079	16,521	67,090	83,551	76,114	96,679	97,841	97,162
Area cropped (acres)	5,264	3,991	4,538	5,005	6,413	6,292	5,869	6,597	5,159	6,013

Table 2—WHEAT

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY BOSANQUET										
Acres	2,275	3,080	2,355	2,938	2,355	2,157	2,430	3,061	3,360	2,974
Yield, Bushels	32,835	50,456	12,131	61,497	40,748	14,566	60,825	16,125	74,196	20,700
Yield, Bushels/Acre	14.43	16.38	5.15	20.93	17.3	6.75	25.03	5.27	22.08	6.96
COUNTY LE HUNTE										
Acres	61,018	60,301	65,606	67,908	65,169	61,941	63,266	74,717	85,195	93,098
Yield, Bushels	861,210	859,137	425,384	1,067,835	971,174	433,029	1,298,238	324,834	1,766,664	738,474
Yield, Bushels/Acre	14.11	14.25	6.48	15.72	14.90	6.99	20.52	4.35	20.74	7.93
COUNTY ROBINSON										
Acres	49,381	47,518	50,190	53,050	49,816	45,793	50,969	51,305	81,054	85,030
Yield, Bushels	664,473	669,225	469,018	853,933	865,718	417,117	1,022,238	71,265	1,866,123	648,786
Yield, Bushels/Acre	13.46	14.08	9.34	16.10	17.38	9.11	20.06	1.39	23.02	7.63
COUNTY DUFFERIN										
Acres	23,013	21,992	20,698	20,760	20,429	21,463	22,550	23,942	30,970	33,328
Yield, Bushels	188,844	210,325	83,631	272,337	317,960	126,906	385,782	40,356	617,559	272,664
Yield, Bushels/Acre	8.21	9.56	4.04	13.12	15.56	5.91	17.11	1.69	19.94	8.19

Table 2—WHEAT—*continued*

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY WAY										
Acres	37,043	34,912	36,656	36,379	39,617	41,389	41,067	45,294	56,713	64,061
Yield, Bushels	352,029	322,910	275,729	502,899	806,511	328,279	845,682	56,061	1,171,182	441,030
Yield, Bushels/Acre	9.50	9.25	7.52	13.82	20.36	7.93	20.59	1.24	20.65	6.88
COUNTY KINTORE										
Acres	8,560	8,412	7,497	8,046	9,042	11,275	9,919	11,567	12,704	12,240
Yield, Bushels	98,043	80,554	71,733	118,041	180,199	64,775	165,762	15,540	247,041	33,150
Yield, Bushels/Acre	11.45	9.58	9.57	14.67	19.93	5.75	16.71	1.34	19.44	2.71
COUNTY HOPETOUN										
Acres	3,267	2,106	2,045	2,469	3,019	2,996	2,466	2,603	3,227	3,458
Yield, Bushels	32,994	16,545	17,173	36,051	52,385	14,707	27,417	6,720	51,798	8,559
Yield, Bushels/Acre	10.10	7.86	8.40	14.60	17.35	4.91	11.12	2.58	16.05	2.48

Table 3—BARLEY

	1952-53	1953-54	1954-55	1955-56	1956-56	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY BOSANQUET										
Acres	340	390	330	195	1,205	1,130	810	910	871	389
Yield, Bushels	6,293	7,069	94	5,875	19,315	7,812	19,766	1,860	21,061	1,132
Yield, Bushels/Acre	18.51	18.13	0.28	30.13	16.03	6.91	24.40	2.04	24.18	2.91
COUNTY LE HUNTE										
Acres	9.975	17,120	13,071	13,708	19,664	20,760	22,444	19,596	23,763	18,687
Yield, Bushels	154,368	297,384	31,714	282,703	311,954	147,296	494,585	75,411	530,207	123,048
Yield, Bushels/Acre	15.48	17.37	2.43	20.62	15.86	7.10	22.04	3.85	22.31	6.58
COUNTY ROBINSON										
Acres	21,504	30,249	24,670	25,895	33,268	32,341	34,554	30,976	37,384	33,817
Yield, Bushels	401,477	651,225	191,848	567,785	701,274	365,031	875,648	23,026	1,077,920	250,318
Yield, Bushels/Acre	18.67	21.53	7.78	21.93	21.08	11.29	25.34	0.74	28.83	7.40
COUNTY DUFFERIN										
Acres	1,356	4,395	3,781	3,475	6,023	4,600	3,551	2,795	2,408	2,146
Yield, Bushels	12,433	44,638	8,420	56,275	85,357	32,167	59,392	708	58,635	14,664
Yield, Bushels/Acre	9.17	10.16	2.23	16.19	14.17	6.99	16.73	0.25	24.35	6.83
COUNTY WAY										
Acres	1,090	3,354	3,518	3,612	5,001	4,120	3,166	3,563	2,509	4,646
Yield, Bushels	11,786	39,944	26,073	59,273	80,816	33,836	69,062	1,160	65,175	31,790
Yield, Bushels/Acre	10.81	11.91	7.41	16.41	16.16	8.21	21.81	0.33	25.98	6.84
COUNTY KINTORE										
Acres	—	290	517	492	730	520	312	200	367	850
Yield, Bushels	—	3,517	5,850	6,517	10,515	2,555	6,839	—	9,272	869
Yield, Bushels/Acre	—	12.13	11.32	13.25	14.40	4.91	21.92	0.00	25.26	1.02
COUNTY HOPETOUN										
Acres	325	609	803	866	1,267	1,376	1,390	1,191	1,188	1,490
Bushels, Yield	4,306	7,420	6,889	14,159	25,225	9,465	29,019	3,705	28,886	4,271
Yield, Bushels/Acre	13.25	12.18	8.58	16.35	19.91	6.88	20.88	3.11	24.31	2.87

Table 4—OATS

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY BOSANQUET										
Acres	280	355	690	758	926	1,240	715	1,455	798	880
Yield, Bushels	3,131	4,650	378	16,161	10,292	2,759	16,337	890	14,900	5,255
Yield, Bushels/Acre	11.18	13.10	0.55	21.32	11.11	2.23	22.85	0.61	18.67	5.97

Table 4—OATS—*continued*

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY LE HUNTE										
Acres	16,417	11,970	18,832	24,464	22,059	26,464	21,389	26,062	25,129	20,373
Yield, Bushels	199,228	132,918	53,260	406,224	309,889	76,329	385,959	55,833	437,782	102,302
Yield, Bushels/Acre	12.14	11.10	2.83	16.60	14.05	2.88	18.04	2.14	17.42	5.02
COUNTY ROBINSON										
Acres	27,277	16,548	18,058	24,945	23,829	20,944	22,177	37,936	26,267	18,416
Yield, Bushels	292,800	178,899	96,098	373,634	341,342	94,401	402,990	7,337	553,464	78,759
Yield, Bushels/Acre	10.73	10.81	5.32	14.98	14.32	4.51	18.17	0.19	21.07	4.28
COUNTY DUFFERIN										
Acres	13,122	9,435	8,614	17,887	12,965	12,649	13,163	16,044	13,635	10,771
Yield, Bushels	97,293	77,565	26,330	199,944	147,971	48,352	156,352	7,980	238,690	52,570
Yield, Bushels/Acre	7.41	8.22	3.06	11.18	11.41	3.82	11.88	0.50	17.51	4.88
COUNTY WAY										
Acres	12,226	14,600	11,553	20,132	21,726	16,558	20,714	26,696	23,608	20,630
Yield, Bushels	120,792	70,989	74,069	263,184	376,328	96,680	368,569	7,521	453,565	81,459
Yield, Bushels/Acre	9.88	4.86	6.41	13.07	17.32	5.84	17.79	0.28	19.21	3.95
COUNTY KINTORE										
Acres	4,334	3,941	3,835	4,664	4,890	5,010	6,573	7,509	5,667	6,855
Yield, Bushels	39,940	28 149	31,034	54,789	74,481	22,749	116,554	1,587	107,411	10,122
Yield, Bushels/Acre	9.22	7.14	8.09	11.75	15.23	4.54	17.73	0.21	18.95	1.48
COUNTY HOPETOUN										
Acres	1,562	982	1,030	1,353	1,402	1,460	1,505	1,703	734	1,065
Yield, Bushels	12,557	6,075	3,837	21,000	23,235	4,650	20,308	477	10,679	853
Yield, Bushels/Acre	8.04	6.19	3.73	15.52	16.57	3.18	13.49	0.28	14.55	0.80

Table 5—SHEEP AND WOOL

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY BOSANQUET										
Sheep, Number	52,205	44,119	44,086	46,551	52,404	47,643	52,187	51,847	56,027	52,896
Sheep, Shorn	55,912	50,600	49,029	47,252	51,131	55,922	53,525	59,456	62,440	67,959
Wool (lb.)	641,017	493,577	502,579	526,613	638,866	597,203	533,944	593,874	652,643	756,216
Wool/Head (lb.)	11.5	9.8	10.3	11.1	12.5	10.7	10.0	10.0	10.5	11.1
COUNTY LE HUNTE										
Sheep, Number	142,335	138,944	106,182	135,488	161,752	156,141	172,422	151,574	167,824	173,719
Sheep, Shorn	155,552	148,700	150,994	132,327	168,556	178,343	178,932	195,471	171,121	194,778
Wool (lb.)	1,595,825	1,366,602	1,426,126	1,299,266	1,749,433	1,681,048	1,809,930	2,017,375	1,683,564	1,982,944
Wool/Head (lb.)	10.3	9.2	9.5	9.8	10.4	9.4	10.1	10.3	9.8	10.2
COUNTY ROBINSON										
Sheep, Number	224,462	227,611	221,493	226,234	262,474	278,937	274,431	192,506	216,470	255,917
Sheep, Shorn	234,286	239,935	254,052	242,118	269,277	302,702	299,412	274,348	206,131	258,825
Wool (lb.)	2,196,014	2,106,158	2,301,271	2,171,518	2,699,823	2,749,469	2,802,618	2,647,138	1,862,842	2,540,296
Wool/Head (lb.)	9.4	8.8	9.1	9.0	10.0	9.1	9.4	9.6	9.0	9.8
COUNTY DUFFERIN										
Sheep Number	93,510	82,048	70,572	84,260	100,678	105,155	111,827	91,050	100,981	110,638
Sheep, Shorn	97,290	87,502	87,857	77,110	92,008	106,674	111,482	109,442	95,477	116,154
Wool (lb.)	982,901	856,049	870,597	771,189	966,410	1,034,579	1,151,491	1,153,685	1,005,631	1,207,624
Wool/Head (lb.)	10.1	9.8	9.9	10.0	10.5	9.7	10.3	10.5	10.5	10.4
COUNTY WAY										
Sheep, Number	108,610	112,448	107,744	113,259	128,861	137,144	134,249	108,065	115,953	121,576
Sheep, Shorn	107,369	115,662	118,417	114,157	127,305	140,482	140,586	140,298	111,084	127,863
Wool (lb.)	1,031,281	1,120,878	1,183,863	1,176,859	1,345,658	1,402,897	1,472,657	1,500,344	1,107,186	1,329,393
Wool/Head (lb.)	9.6	9.7	10.0	10.3	10.6	10.0	10.5	10.7	10.0	10 4

Table 5—SHEEP AND WOOL—*continued*

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY KINTORE										
Sheep, Number	46,634	47,512	49,342	51,779	53,394	60,439	62,160	56,251	50,208	52,060
Sheep, Shorn	45,994	50,575	51,245	54,499	55,924	59,821	64,431	64,000	52,128	53,485
Wool (lb.)	432,820	479,923	522,625	533,504	541,554	614,133	670,572	676,338	541,165	554,901
Wool/Head (lb.)	9.4	9.5	10.2	9.8	9.7	10.3	10.4	10.6	10.4	10.4
COUNTY HOPETOUN										
Sheep, Number	28,819	27,796	25,573	31,994	34,655	36,688	38,762	37,704	38,314	32,352
Sheep, Shorn	28,784	30,675	28,148	29,237	32,309	36,195	39,187	39,822	37,143	38,542
Wool (lb.)	294,129	299,209	254,830	281,310	323,901	361,349	424,609	370,508	405,558	358,166
Wool/Head (lb.)	10.2	9.8	9.1	9.6	10.0	10.0	10.8	9.3	10.9	9.3

Table 6—CATTLE

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY BOSANQUET										
Beef	58	24	40	54	18	44	8	14	24	6
Dairy	56	44	51	39	56	64	53	43	42	45
Total	114	68	91	93	74	108	61	57	66	51
COUNTY LE HUNTE										
Beef	52	65	17	83	172	179	172	183	320	784
Dairy	1,364	1,327	1,156	1,053	1,100	1,022	845	740	736	743
Total	1,416	1,392	1,173	1,136	1,272	1,201	1,017	923	1,056	1,527
COUNTY ROBINSON										
Beef	65	103	78	115	82	104	181	95	166	222
Dairy	1,399	1,491	1,466	1,391	1,460	1,381	1,232	902	855	1,134
Total	1,464	1,594	1,544	1,506	1,542	1,485	1,413	997	1,021	1,356
COUNTY DUFFERIN										
Beef	55	46	60	25	32	78	59	12	6	88
Dairy	344	360	319	337	349	319	290	221	244	279
Total	399	406	379	362	381	397	349	233	250	367
COUNTY WAY										
Beef	27	44	83	48	20	30	82	70	75	107
Dairy	653	759	824	807	754	758	694	529	534	503
Total	680	803	907	855	774	788	776	599	609	610
COUNTY KINTORE										
Beef	134	193	10	72	69	71	41	1	28	60
Dairy	202	202	201	230	221	251	240	208	210	222
Total	336	395	211	302	290	322	281	209	238	282
COUNTY HOPETOUN										
Beef	—	2	9	13	3	33	33	10	29	52
Dairy	107	107	95	92	106	100	89	125	134	97
Total	107	109	104	105	109	133	122	135	163	149

Table 7—PIGS

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
Bosanquet	44	35	42	9	216	352	286	197	154	142
Le Hunte	1,267	1,239	1,576	1,912	3,253	4,001	3,165	3,088	3,888	4,829
Robinson	925	650	1,069	1,000	2,522	3,270	2,278	2,152	3,026	4,006
Dufferin	103	176	246	829	251	575	287	217	267	435
Way	356	444	947	1,186	1,198	1,002	1,029	572	878	1,259
Kintore	29	41	32	12	12	104	53	55	97	137
Hopetoun	39	14	22	26	26	48	17	14	14	5

Table 8—FERTILIZERS

	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
COUNTY BOSANQUET										
Area (Acres)	3,590	3,990	5,072	4,740	4,275	4,217	4,779	6,366	6,525	4,253
Fertilizers (Tons)	124	145	188	175	179	173	191	245	247	163
Lb./Acre	77.37	81.61	83.03	82.70	93.79	91.89	89.53	86.21	84.79	85.85
COUNTY LE HUNTE										
Area (Acres)	103,275	118,223	116,616	130,895	115,742	120,449	127,041	132,341	150,496	144,069
Fertilizers (Tons)	3,866	4,339	4,281	4,909	4,386	4,619	5,254	5,107	6,249	5,678
Lb./Acre	83.85	82.21	82.23	84.01	84.88	85.90	92.64	86.44	93.01	88.28
COUNTY ROBINSON										
Area (Acres)	101,951	109,045	105,430	114,762	112,712	113,425	120,129	121,462	144,135	138,072
Fertilizers (Tons)	3,821	4,020	4,036	4,533	4,427	4,655	4,700	4,304	5,492	5,408
Lb./Acre	83.95	82.58	85.75	88.48	87.98	91.93	87.64	79.37	85.35	87.74
COUNTY DUFFERIN										
Area (Acres)	31,943	31,630	32,160	31,330	27,827	31,962	33,463	39,171	38,606	42,966
Fertilizers (Tons)	1,001	1,037	1,059	1,177	1,027	1,192	1,520	1,229	1,325	1,476
Lb./Acre	70.20	73.44	73.76	84.15	82.67	83.54	101.75	70.28	76.88	76.95
COUNTY WAY										
Area (Acres)	43,874	43,412	49,872	52,968	55,633	57,574	57,111	62,959	66,018	79,924
Fertilizers (Tons)	1,136	1,313	1,664	1,562	1,628	1,887	1,808	1,951	1,950	2,653
Lb./Acre	58.00	67.75	74.74	66.06	65.55	73.42	70.91	69.41	66.16	74.35
COUNTY KINTORE										
Area (Acres)	9,920	11,817	9,965	12,768	14,240	17,843	14,505	16,427	12,736	21,128
Fertilizers (Tons)	308	364	329	367	391	449	443	457	441	619
Lb./Acre	69.55	69.00	73.95	64.39	61.51	56.37	68.41	62.32	77.56	65.63
COUNTY HOPETOUN										
Area (Acres)	3,625	3,534	4,193	4,252	5,642	5,672	5,338	4,538	4,840	5,498
Fertilizers (Tons)	68	80	87	116	128	125	104	101	138	127
Lb./Acre	42.02	50.71	46.48	61.11	50.82	49.37	43.64	49.85	63.87	51.74

Table 9—RAINFALL (Inches)

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
COUNTY LE HUNTE										
April-November	10.26	7.29	13.52	20.68	7.30	12.37	5.18	12.99	7.86	—
Year	14.64	9.13	16.90	23.25	8.24	16.10	7.79	16.43	8.40	—
COUNTY ROBINSON										
April-November	11.59	8.82	13.74	20.94	8.13	12.67	5.02	14.09	9.84	—
Year	15.71	10.77	16.13	22.98	9.60	15.53	6.94	17.19	10.59	—
COUNTY DUFFERIN										
April-November	9.76	6.88	13.04	20.46	7.26	12.67	4.79	14.17	10.46	—
Year	14.25	8.74	16.42	22.32	8.90	16.47	6.61	16.82	10.87	—
COUNTY WAY										
April-November	10.04	8.04	11.64	18.00	7.06	11.82	5.24	12.36	8.50	—
Year	14.14	9.85	15.35	19.15	8.85	15.22	6.54	15.14	9.50	—
COUNTY KINTORE										
April-November	9.47	9.79	13.17	19.41	8.12	13.02	5.51	14.05	8.59	—
Year	14.49	11.89	15.40	19.94	10.77	15.48	6.91	17.99	9 31	—

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