CLIMATE

THE relatively even spread of the rainfall over the May to October period, coupled with lower evaporation, a flat topography and impermeable subsoil gives the Esperance area a longer growing season than would be expected from the annual rainfall figures.

The maps on the opposite page show—
1. Total rainfall.
2. Summer and winter rainfall, and
3. The number of months of effective rainfall as calculated from Prescott's (1949) formula $P = 0.54$.

Rainfall

Only limited rainfall records are available except in the vicinity of Esperance and along the Esperance-Norseman railway line. Many of the stations have only short records.

The isohyets run roughly parallel to the coast except over the western quarter where they turn towards the coast. There is no very wet period in winter. This is demonstrated by the data from Park Farm where, although the monthly rainfall for May to September is over $2\frac{1}{2}$ in., the highest monthly rainfall is less than $3\frac{1}{2}$ in.

Although rainfall falls off rapidly to the north a great deal of the country within 20 miles of the coast has a rainfall of 20 in. or more. However, on the western side of the region the 20-inch isohyet crosses the coast, between Hopetoun and the rabbit-proof fence.

The area receives significant falls of rain in the period from November to April. All parts receive at least 6 in. during this period and the part immediately to the east of the Esperance Bay receives an average of 7 in.

In addition to rainfall the amount of moisture in the soil depends on a number of factors including evaporation. "Effective rainfall" is defined as the amount of rain necessary to start germination and to maintain growth above the wilting point.

The per cent. chances of receiving effective rainfall in any month at Park Farm, Clackline, Gingin and Kojonup, together with the per cent. chance of receiving 1 in. of rain, is shown in Table 3. This table shows the favourable influence of the milder temperatures in the Esperance area in increasing the chances of receiving effective summer rainfall. Actually between 1950 and 1961 the Research Station had falls of more than an inch in January, February or March in all but four years, and in three years more than an inch fell in two out of the three months.

TABLE 2

MONTHLY AND ANNUAL RAINFALL IN POINTS.
(100 Points = 1 in.)

<table>
<thead>
<tr>
<th></th>
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<td>66</td>
<td>149</td>
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<td>96</td>
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<td>48</td>
<td>73</td>
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<td>122</td>
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<td>336</td>
<td>394</td>
<td>430</td>
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<td>89</td>
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<td>64</td>
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<td>123</td>
<td>134</td>
<td>364</td>
<td>282</td>
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<td>73</td>
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<td>122</td>
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<td>294</td>
<td>218</td>
<td>167</td>
<td>192</td>
<td>145</td>
<td>150</td>
<td>87</td>
<td>81</td>
</tr>
</tbody>
</table>
AVERAGE ANNUAL RAINFALL

LAKE KING

SALMON GUMS

RESEARCH STATION.

RAVENSTHORPE

HOPETOUN

ESPERANCE

ISRAELITE BAY

AVERAGE WINTER RAINFALL

AVERAGE SUMMER RAINFALL

MONTHS OF EFFECTIVE RAINFALL

Journal of Agriculture Vol 4 No 2, 1963
The Research Station

Rainfall data are available for the Esperance Downs Research Station for the period August 1951-December 1961 (inclusive). Over the period from 1952-1961 (inclusive) the average annual rainfall has been 17.20 in. However, as the Research Station was started in 1950, the data for Gibson for 1950 and up to July 1951 are also given in Table 4 and an overall average calculated. The 1950 and 1951 figures would be slightly higher than those for the Research Station but this would not make an important difference.

While the anticipated rainfall at the Research Station would be between 19.5 in. and 20 in. the rainfall actually received has been significantly lower. It might therefore be assumed that wetter periods will occur in the future which could give significantly higher pasture production than has been attained over the past 10 years, provided excessive winter waterlogging does not occur.

Temperature

Temperatures in autumn and spring are favourable for active crop growth and even in winter the temperatures permit significant growth.

Winter temperatures are high and the total range in mean temperature in the area is only 53° to 55° F. Winter temperatures are slightly higher near the coast.

The autumn temperatures are similarly warmer near the coast but again there is little variation over the area, the range of mean autumn temperature being 62° to 64° F.

TABLE 3

PROBABILITY OF RAINFALL IN FOUR DISTRICTS

<table>
<thead>
<tr>
<th>Centre</th>
<th>Annual Rainfall</th>
<th>Per cent. Chance of Receiving—</th>
<th>Effective Rainfall</th>
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<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>N</td>
<td>D</td>
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<tr>
<td>Park Farm (Esperance)</td>
<td>23-48</td>
<td>42</td>
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<tr>
<td>Clackline</td>
<td>22-31</td>
<td>42</td>
<td>22</td>
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<tr>
<td>Gingin</td>
<td>30-78</td>
<td>24</td>
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<tr>
<td>Kojonup</td>
<td>22-09</td>
<td>26</td>
<td>21</td>
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TABLE 4

RAINFALL DATA 1950-1961—ESPERANCE DOWNS RESEARCH STATION

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Average 12 years 83-8 98-5 53-6 151-4 196-1 246-8 223-3 207-8 237-5 160-4 1255-2 89-3 77-3 1285-7

* Until end of August, 1951, records from Gibson have been used. Since then records from Esperance Downs Research Station used.

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(b) Where long lasting Nitrogen will reduce or eliminate side dressings.
(c) Where Nitrogen side dressings are impractical due to height or
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(d) Where soils are too light or sandy and won’t hold Nitrogen near
root zone.
(e) Where soluble forms of Nitrogen will damage foliage or roots.

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The mean summer temperature is highest along the northern boundary and lowest near the coast but the range in mean temperature is only 67° to 69° F.

Frosts are infrequent in the coastal areas, averaging only two a year at Esperance. The average increases inland.

Summer temperatures are generally mild and the mean maximum temperature for February ranges from 77° F. near the coast to 80° F. on the north of the area. Periods of hot weather do occur and the highest reading recorded at Esperance is 117° F.

THE AGRICULTURE OF THE AREA

THE Esperance area is suited to the production of pastures and the raising of stock, particularly sheep for wool and cattle for beef.

In the development stage sheep will be run, primarily for wool, with the introduction later of fat lambs and beef cattle. The facilities available and relative returns will determine the relative importance of the various forms of stock management.

As the fertility of the soils is built up cash crops will become an important part of the farm practice. However the returns per acre need to be high to pay for the loss of production associated with ploughing up an area of highly productive pasture and to offset the depreciation of expensive machinery.

Climate during the harvesting season can be a problem and often there are only short periods during each day when harvesting is possible with machines other than “all crop” headers.

Also, experience in recent years has shown that fungal root rots of wheat and to a lesser extent barley are a serious problem in the area when these crops are sown on clover ley. The root rots limit the suitability of the area for the present varieties of these cereals.

At present the most satisfactory cash crops on clover ley land appear to be linseed and oats. Fortunately there is so far no evidence that the annual subterranean clover—Wimmera rye grass pastures need renovation to maintain their species composition. At Esperance Downs Research Station the oldest paddock, which was sown in 1950, still has an excellent species composition even though it has not been renovated since it was sown.

LAND DEVELOPMENT

Development of the scrub plain to carry excellent subterranean clover pasture is relatively easy provided three simple basic principles are followed.

These are:
- The depth of sand on the selected area should not be more than 3 ft. and preferably less than 2 ft.
- Land preparation should be thorough.
- Fertiliser applications over the first five years should be adequate.

Areas where the surface sand is deeper than 3 ft. should be avoided.

Land Preparation

The selected area should be rolled, logged or chained in the late winter to early summer period, and the dead native vegetation burnt in the following autumn.

It should then be ploughed to a depth 4 or 5 inches in the winter (June or July) and left fallow. The depth of ploughing should be such as to get below the main root zone and as far as possible invert the sod.

The following encourages the decay of the fine roots and the harsh native material and renders soil nutrients more available.

Sandy surfaced soils which do not carry a significant amount of mallee can be sown after being ploughed back in the following autumn (March-April).

Areas which support heavy mallee in the virgin state will need three ploughings if reasonable regrowth control is to be obtained. After fallowing in June or July they should be ploughed back in October and then ploughed again in the following autumn.
Fallowing new land after a good burn. For successful development the native vegetation must first be rolled and burned, and the area followed for six to nine months before backploughing and planting pasture. Heavy disc ploughs have been used in the past for the first ploughings, but heavy offset disc implements have become popular in recent years.

Some root picking will be necessary on all areas, particularly where cereals are to be planted. On chittick or blackboy country it is usually essential to pick up unburnt logs and stumps after the burn. On mallee country it is necessary to either root rake or hand pick the roots. This is usually done after the second ploughing but in some cases the area is scarified before root raking.

Good fallow is essential if good pastures and crops are to be obtained. Where it is necessary to plough in a significant amount of the harsh native vegetation, due to either a poor burn or insufficient material to burn, a two year fallow is desirable.

Seeding
All pastures at the Research Station have been sown without a cover crop. Using this technique an excellent establishment of subterranean clover has been obtained and very good second years pastures have resulted.

Bacchus Marsh subterranean clover has been sown at 6 lb. per acre with ½ oz. per acre of Wimmera rye grass. Heavier rates of sowing of Wimmera rye have been found to be detrimental to the second year pastures.

Many farmers have successfully established pastures under a cereal cover crop. Low rates of seeding of the cereal—25-30 lb. per acre—have been successfully used for this purpose.

A successful cover crop will pay for some of the development costs or for the second year topdressing. However, if the spring is dry the clover will not set seed evenly under the crop and reseeding will be necessary. This may happen as often as one year in three.

In wet years returns from the cereal crop are poor where extensive waterlogging occurs. Pasture development is usually better under wet conditions.

Also there is a significant risk of rust infection of the cover crop, particularly where susceptible varieties of wheat are sown.

Obviously the use of a cover crop involves an element of risk and it is unwise for any farmer to operate his finances so that he is dependent on the returns from a cover crop to carry on.

As an indication of the variability in returns due to season the yields obtained in cereal variety trials at the Research Station in a number of years are shown in Table 5. It should be appreciated that the standard of land preparation would be above that of a normal paddock and the yields would therefore be higher than could be expected on a paddock scale. The figures in brackets for 1951 and 1953 are for bulk crops and confirm that yields from experimental areas are often higher than can be obtained from bulk crops.

Successful cover crops are more common in areas receiving an annual rainfall of less than 22 in. It is also important that areas of deep sand and waterlogged areas be avoided. The best crops are normally grown on gently sloping ground with clay or gravel within 6 to 12 in. of the surface.
The effect of zinc deficiency on seed set of a first year pasture. Only a few zinc deficient plants can be seen germinating in the second year through the residues of the first year clover stand. It is essential to use both zinc and copper on sandplain soils.

Copper deficient wheat. Note the death of the terminal shoots with accompanying whitening and twisting of the leaves. Emergence of the heads and grain formation are also affected and yield is substantially reduced.
TABLE 5
CEREAL YIELDS ON NEW LAND (BUS/AC.)
Esperance Downs Research Station
(All crops sown with 150 lb. super + 30 lb. copper ore + 3 lb. zinc oxide.)

<table>
<thead>
<tr>
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<th>1951</th>
<th>1952</th>
<th>1953</th>
<th>1955</th>
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</thead>
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<tr>
<td>Wheat (Eureka)</td>
<td>6-0</td>
<td>*7-6</td>
<td>11-3</td>
<td>16-2 (15-8)</td>
<td>9-5</td>
</tr>
<tr>
<td>Oats (Dale)</td>
<td>18-2</td>
<td>7-5</td>
<td>15-3</td>
<td>23-2 (15-1)</td>
<td>15-0</td>
</tr>
<tr>
<td>Barley</td>
<td>13-6</td>
<td>4-0</td>
<td>18-3 (12-4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Bencubbin 48. No Eureka sown.
† Bulk Creps.
‡ The area bad not been burnt and the scrub was ploughed in when it was fallowed in 1949.

Fertiliser Use
Experimental work has shown that all soils in the area should be treated with copper and zinc. Some soils are also now showing the need for molybdenum.
Superphosphate is essential and should be applied at 150 lb. per acre for the first six years, after which the rate of application can be reduced to 112 lb. per acre.

It has also been shown that twice as much feed can be grown in the second year if 300 lb. per acre of super is used instead of 150 lb. per acre. This is good economics, provided the extra feed can be utilised, as other costs are stationary.

An area sown straight to pasture which is topdressed with 300 lb. per acre of super should carry between two and three dry sheep per acre by the beginning of September in the second year. Where seed set is light in the first year it would be better to wait until the third year before applying the heavy super application so that sufficient plants are available to make maximum use of the phosphate supplied.

The residual value of applied superphosphate is high. Maintenance dressings on pastures will not be more than 112 lb. and could be considerably less.

In a number of experiments no benefit was obtained from applying super with two successive oat crops grown on an area of clover ley. The area had previously received more than 1,000 lb. of super per acre over seven years.

Where cover crops are sown on virgin land increases in grain yield can be obtained from using nitrogen fertilisers. Sulphate of ammonia and urea can be used economically to supply up to 30 lb. of nitrogen per acre. (50 lb. of urea or 112 lb. of sulphate of ammonia contain 23 lb. of nitrogen.)

To date there is no evidence of potassium deficiency or any other major nutrient deficiency except on areas of deep sand.

Water Supplies
Over most of the area it is necessary to sink dams to obtain adequate summer water supplies for stock.

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A cereal experiment prepared for a field day. One treatment in this experiment had a total superphosphate application of 6 cwt. per acre in the previous nine years. It had no super in the year of cropping and yielded 59 bushels of oats per acre. This shows the high residual value for crops of phosphate applied in the previous years.

The pine trees in the background are around the research station buildings.

Rain or less and in some of the higher rainfall areas. Areas with clay within 8 to 12 in. of the surface can usually be found and roading is not a major expense. Clay of good water holding quality and depth (to 12 ft.) is usually readily found.

In some sandy surfaced areas it may be necessary to have the overlying sand removed so that a roaded catchment can be made. Also near some of the creeks and rivers, shallow clay layers (less than 10 ft.) can make site selection difficult.

Underground water is too saline for stock use over most of the area. However within the area enclosed by a line drawn from Mt. Hawes, to Gibson, to Dalyup, to Barkers Inlet good quality underground water can...
usually be found, although even in this area it is not certain.

While stock water has been obtained at the Research Station a large number of dry holes or holes containing salty water have been sunk. The cost of exploration of this type may be beyond the resources of the average farmer.

**Development Costs**

Considerable amounts of capital are needed for land development in the Esperance area.

The extent to which the development costs can be offset by cereal cropping or harvesting pasture seeds will vary with the individual case. Some farmers in the area have successfully based their development on one of these activities. Before entering either of these fields however a farmer should fully acquaint himself with the problems and make his decision in the light of this information.

The new settler must budget realistically and then tailor development to fit available funds.

It is better to carry out limited development thoroughly so that a productive unit is obtained, than to partly develop a large area. When development is being planned it should be remembered that, if an area is sown straight to pasture it will be four years from the time the first area is logged until any significant income is received.

**TABLE 6**

**DEVELOPMENT COSTS (£ per acre)**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Materials</th>
<th>Contract Charges</th>
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<tr>
<td>Rolling Chaining or Logging</td>
<td>£ s. d.</td>
<td>£ s. d.</td>
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<td>Burning</td>
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<td>Picking Up</td>
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<td>Second Ploughing</td>
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<tr>
<td>Seeding Operation</td>
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<td>15  0</td>
</tr>
<tr>
<td>Super copper zinc</td>
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<td>15  0</td>
</tr>
<tr>
<td>Seed and inoculum</td>
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<td>1  0</td>
</tr>
<tr>
<td>Water Supply</td>
<td></td>
<td>12  6</td>
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<tr>
<td>Fencing</td>
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<td>1  0</td>
</tr>
<tr>
<td>Topdressing</td>
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<td>2  0</td>
</tr>
<tr>
<td>2nd Year</td>
<td></td>
<td>1  0</td>
</tr>
<tr>
<td>3rd Year</td>
<td></td>
<td>15 lb./acre by drill</td>
</tr>
<tr>
<td>150 lb./acre by spinner</td>
<td>1 3 6</td>
<td>5  0</td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
<td>2 wethers/acre at £2 10s. each</td>
</tr>
<tr>
<td>Total</td>
<td>13  3  0</td>
<td>4 12  6</td>
</tr>
<tr>
<td>Overall Total</td>
<td>17  15  6</td>
<td></td>
</tr>
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</table>

To this must be added the cost of housing, sheds and machinery costs which are not related to the acres sown. Depending on available funds these could cost from £6,000 to £10,000.

If the farmer decides to live on the block adequate allowance for living costs should be made.

Table 6 gives an estimate of the cost per acre of sowing pasture at present contract rates. Sufficient funds should be allowed for topdressing in the second and third years as no significant income will be received to that stage.

The saving obtained by living in the area and doing the work personally is not as great as would be imagined; of the £17 15s. 6d. per acre only £4 12s. 6d. is paid for contract operations. Only a part of this would be saved by doing the work personally.

**The Points to Remember in Development**

- Only attempt to develop an area within the available capital resources (reserves + borrowing power). Remember topdressing in the second and third year, fences, water points and living expenses will have to come from capital reserves.
- Only develop soils with a subsoil within 24 to 30 in. of the surface. Avoid deep sand areas.
- Prepare the land thoroughly and do not skimp on seed and super.

**ACKNOWLEDGMENTS**

Much of the information contained in this article was derived from reports prepared by many Officers of the Department of Agriculture, and from discussions with them. The assistance received from these officers is gratefully acknowledged.

**REFERENCES**

Report by the Esperance Downs Development Advisory Committee 1955.


### APPENDIX 1

**SOILS OF THE ESPERANCE DISTRICT**

Some Chemical and Physical Analysis Data

<table>
<thead>
<tr>
<th>Soil Types</th>
<th>Depth</th>
<th>pH</th>
<th>Ca</th>
<th>HCL</th>
<th>Sol</th>
<th>Org</th>
<th>2mm A. Stone</th>
<th>Mechanical Analysis</th>
<th>Exchangeable Cations</th>
<th>Ex. Cations as per cent.</th>
<th>Total Exchange Capacity per cent.</th>
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</table>

* In samples of the Fleming, Caltup and Gibson sands and the sand layers of the deep sands exchangeable H+ was determined at pH 8.4. In all other samples it was determined by subtraction of total exchangeable bases from cation exchange capacity determined at pH 7.

† Possibly not in true clay layer.

N.D. = not determined.

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DETAILS OF SAMPLES IN TABLE 1

FLEMING GRAVELLY SAND
0-1 in. Grey fine sand.
1-6 in. Grey fine sand.
9-12 in. Grey brown very gravelly sand.
21-24 in. Yellow brown mottled gravelly friable clay.

GIBSON SAND (DEEP PHASE)
0-1 in. Grey fine sand.
1-6 in. Light grey fine sand.
24-27 in. Yellow brown mottled gravelly mellow clay.

GIBSON SAND (SHALLOW PHASE)
0-1 in. Greyish yellow fine sand.
1-6 in. Pale yellow sand with slight clayeyness.
7-10 in. Yellow grey mottled mellow clay.

CAITUP GRAVELLY SAND
0-1 in. Grey sand.
1-6 in. Greyish yellow sand.
9-12 in. Yellow grey mottled mellow clay.

Site No. 1 (S1)—On north west boundary of Nerldup Location 135.
0-54 in. Grey sand over greyish yellow sand.
54-6 in. Yellow grey mottled mellow clay.

Site No. 2 (S2)—Eight miles south west of Gibson.
0-30 in. Grey sand over greyish yellow sand.
30-33 in. Yellow grey gravelly clay.

Site No. 3 (S3)—Fifteen miles east of Shark Lake siding along Fisheries Road.
0-12 in. Grey sand over greyish yellow sand.
12-24 in. Greyish yellow sand with dense gravel.
24-27 in. Yellow grey mottled mellow clay.

Site No. 4 (S4)—Collected east of Esperance along the Mt. Merrivale road. Spongolite floaters present in the profile
0-3 in. Grey fine sand.
3 in. Yellow grey mottled clay.

Site No. 5 (S5)—Collected 35 miles east of Esperance.
0-3 in. Grey fine sand.
3-12 in. Greyish yellow sand with dense gravel.
12 in. + Yellow grey brown mottled clay.

Site No. 6 (S6)—Collected 40 miles east of Esperance.
0-3 in. Grey over greyish yellow fine sand.
8 in. + Yellow, brown and red mottled clay.

Site No. 7 (S7)—Collected 60 miles east of Esperance in the Lake Warrup area.
0-6 in. Grey over greyish yellow fine sand.
6 in. + Red yellow mottled clay.

Site No. 8 (S8)—Collected 70 miles east of Esperance.
0-14 in. Grey sand over greyish yellow and yellow fine sand.
14 in. Yellow grey mottled gravelly clay.

Site No. 9 (S9)—Collected at the junction of the south road with the Thomas River track 65 miles east of Esperance.
0-3 in. Grey fine sand.
3 in. Yellow-grey mottled clay.

APPENDIX 2

BOTANICAL SURVEY OF ESPERANCE DOWNS RESEARCH STATION

Report by R. D. Royce*, May, 1953

In May 1953 a botanical survey of the vegetation on the major soil types of the Esperance Downs Research Station was undertaken.

The soil types investigated were:—
(1) Fleming Gravelly Sand.
(2) Caitup Gravelly Sand.
(3) Gibson Sand.
(4) Esperance Deep Sand.

1. FLEMING GRAVELLY SAND: The area inspected was on the west side of the main road opposite the home paddock of the Research Station.

Dominant Species:
Lambertia inermis R. Br. “Chittick.”
Xanthorrhoea Preissii Endl. “Blackboy.”
Eucalyptus incrassata Labill. Lerp mallee.
Eucalyptus tetrogona (R. Br.) F. Muell. “White leaved Mallee.”

Scattered and Less Important Species:
Nuytsia floribunda (Labill.) R. Br. “Christmas Tree.”
Adenanthis cuncata Labill. “Sweet Bush.”
Isopogon polycephalus R. Br.
Hakea trifurcata (Sm.) R. Br. “White Bush.”

2. CAITUP GRAVELLY SAND: The area inspected was northwards of the Fleming Gravelly Sand, and opposite the northern boundary fence of the home paddock of the Research Station.

Dominant Species:
Eucalyptus incrassata Labill. stunted specimens.
Hakea cinerea R. Br.
Isopogon polycephalus R. Br.
Dryandra cirsoides Meissn.
Melaleuca pulchella R. Br.

* Now Officer-in-Charge, Botany Branch, Department of Agriculture.
Scattered or Less Prominent Species:
- *Micromyrtus elobata* F. Muell.
- *Hakea corymbosa* R. Br.
- *Phymatocarpus sparsiflorus* (W. V. Fitzg.) C. A. Gardn.
- *Beaufortia micrantha* Schau.
- *Leptocarpus canus* Nees. Twine rush.
- *Lepidosperma spp.* Sword sedge.

There appears to be some variation in the soil of the area selected as the dominants tended to be grouped in sub-associations, particularly the *Hakea* and *Dryandra*.

3. GIBSON SAND: The area examined was on the eastern side of the railway line, and opposite the fence running from the homestead to the eastern boundary of the Research Station.

Dominant Species:
- *Nuytsia floribunda* (Labill.) R. Br. "Christmas Tree."

Less Dominant Species:
- *Isopogon polycephalus* R. Br.
- *Casuarina humilis* Otto & Dietr.

Scattered and Less Dominant Species:
- *Verticordia densiflora* Lindl.
- *Banksia pulchella* R. Br.
- *Hibbertia lineata* Steud.
- *Mesomelaena tetrogona* (R. Br.) F. Muell.

4. ESPERANCE DEEP SAND: The area examined was about 4 miles from Esperance on the Norseman road.

Dominant Species:
- *Banksia speciosa* R. Br.
- *Xanthorrhoea Preissii* Endl. "Blackboy."
- *Lepidosperma spp.*
- *Nuytsia floribunda* (Labill.) R. Br. "Christmas Tree."
- *Eucalyptus incrassata* Labill.

Less Dominant Species:
- *Leucopogon fimbriatus* Stschegl. 
- *Jacksonia spinosa* (Labill.) R. Br.
A MODERN SCIENTIFIC RUST PROOF COMPOUND IMPERVIOUS TO MOISTURE

For Protecting and Repairing New and Old Galvanised Iron and Cement Tanks, Squatters' Tanks, Troughing, Roofs, etc.

IRNKOTE

One coat on the inside of rusty tanks adds years to their life. One coat on the inside of new tanks protects from rust.

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For repairing holes, leaky seams, and joints in iron tanks—cracks in cement tanks.

APPLY COLD STRAIGHT FROM THE TIN WITH A PAINT BRUSH.

USE LIKE PUTTY APPLY WITH KNIFE PACK HOLES AND CRACKS TIGHTLY

OBTAINABLE ALL BRANCHES OF...

DALGETY-N.Z.L. DISTRIBUTORS