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DIVISION OF SOILS

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Divisional Report No. 14/46

SOIL SURVEY OF A PROPOSED EXTENSION TO THE MILDURA IRRIGATION AREA SOUTH OF TRYMPLE ("MID AREA").

In July, 1946, a detailed soil survey of the Portion of the Mildura Irrigation Area south of Trymple known as the "Mid Area" was carried out to determine the suitability of the land for horticultural purposes under irrigation.

SOIL PATTERN: The Mid Area is a continuation of the country which has been described as undulating sandy rise country in the Mildura soil survey bulletin, C.S.I.R. Bulletin No. 133. The northern portion of the area grades into the high level plain country which has been described in the same Bulletin. The accompanying soil map shows that the Murray and Berri sand types occupy the crests of the rises and that they are flanked by Barmera soil types with Neekanka soil types in the intervening depressions. Where the rise country grades into the high level plain country areas of Morpung, Sandilong, Merbein, Belar and Trymple soil types occur. These types are of limited occurrence.

VEGETATION: The typical vegetation of this area is pine, hobbush and some sandalwood and belar on the crests and higher slopes often grading into mallee on the lower slopes or on small rises. Occasionally some pine and belar occur in the depressions. Bluebush occurs in some of the depressions but appears to be of secondary origin.

SOILS: The soils have been described previously in the bulletin already mentioned and on the whole they conform to the descriptions given therein. However, the Barmera soil types mapped in this area are noteworthy. Contrary to the normal experience the very deep subsoil, below 72 inches, lightens in texture instead of becoming heavier. It is difficult to study this feature in the course of a normal soil survey. Nevertheless, the fact that the soil profiles to 72 inches are typical for the Barmera series suggests that these soils will react under irrigation in much the same way as does the normal Barmera series, therefore they have been mapped as such.

Apart from this feature there are two important variations which occur in the Barmera sand. The first of these variations conforms to what has been termed a "light profile" in the Mildura bulletin. In the normal Barmera sand profile the texture increases from a sand to a sandy loam or sandy clay loam at 16 inches but in most of the Barmera sand in the "Mid Area" this increase in texture does not occur until 24 inches; the horizons below 24 inches are normal for the Barmera sand type.

In the second variation there is a cemented rubble layer or pan which occurs between 18 and 48 inches. This variation is of limited occurrence and is shown by the word "panned" on the accompanying soil map. This variation cannot be recommended for citrus culture.

The acreages of each soil type are given in the following table which further illustrates that there is a good proportion of sandy soil types on which citrus usually grow well.

<u>SOIL TYPE</u>	<u>ACRES.</u>
Murray sand	114
Berri Sand	79
Barmera Sand	173
Barmera sand "panned"	20
Barmera sandy loam	437
Moorook sandy loam	11
Morpung loam	147
Coomealla sandy loam	44
Coomealla loam	17
Nookamka loam	72
Nookamka sandy loam	146
Sandilong loam	61
Merbein loam	18
Irymple loam	1
Belar clay loam	24
Total	<u>1364</u>

* The roads have been omitted in the calculation of the acreages of the Soil Types.

The accompanying soil map has been coloured to show the soil distribution. From the table of figures given above and the pattern of occurrence of the types it is thought roughly 366 acres in the Murray sand, Berri sand and Barmera sand (light profile) types would be suited for citrus, an additional 604 acres in the Barmera sandy loam and Morpung loam types for stone fruit, and the balance of 394 acres for vines. The relative values of the soils in the latter group of types for vines are not precisely known but, on general experience, all, failing difficulties due to topographic position and drainage, may be used for this crop. Stone fruit would also be grown safely on the citrus group of soils and vines on all types. All soils in the latter, it is thought, could be irrigated by the spray system satisfactorily and in the other two groups by the furrow system. Drainage reserves should be allowed for in design.

KHN/JLB,
4th September, 1946.

K.H. NORTHCOTE.

ed for citrus culture.

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