Aircraft to be used on agricultural advisory work

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BARREL CLOVER
Some Encouraging Results at Salmon Gums
By F. L. SHIER, Assistant Superintendent of Wheat Farming

RESULTS obtained with barrel clover in recent years at the Salmon Gums Research Station suggest that this legume will play an important part in improving the quality and quantity of the grazing on many farms in the district. It has shown its ability to survive and to build up from small sowings under average rainfall conditions and to produce a large bulk of feed in a wet year. By comparison Dwalganup subterranean clover has not done nearly as well.

Pasture development, with more productive species of high feed value, has become a very important problem in the Salmon Gums district in recent years. There has been a marked increase in sheep numbers, not only following the usual pattern of development in the wheat areas, but also as a result of the low and unreliable wheat yields on certain soil types.

In consequence wheat growing has been restricted to the limited areas of the more suitable soils and sheep raising has tended to become the main source of farm income. The Rural & Industries Bank instituted and encouraged a scheme of farm linkages so as to give each settler a reasonable area of the better soils and also permit him to carry a sizeable flock of sheep.

NATURAL PASTURES POOR

However, both natural and volunteer pastures are poor. Virgin country provides practically no grazing, while on cleared land cropped periodically to cereals and grazed by sheep, only poor volunteer pastures exist, even after 20 years. The scanty grazing has included practically no legumes. Pasture species such as barley grass, silver grass, bromes and capeweed which quickly become self-introduced in the main wheatbelt are poor and sparse whilst the usual volunteer or so-called "native" clovers are non-existent. On the other hand sowings of Wimmera ryegrass have been very satisfactory. This plant has now become the main grazing of the district, and where it is periodically cultivated with or without a cover crop, has appreciably raised the carrying capacity of the farms.

Under these conditions the desirability of a suitable legume for the district needs no emphasis. At the Salmon Gums Research Station many sowings have been made on several soil types of species such as burr trefoil, snail medic and cluster clover but invariably these have been failures.

PROMISING LEGUME

A legume which has, however, shown distinct promise is barrel medic (Medicago tribuloides) or, as it is more commonly called, barrel clover. Over the last three years, field sowings on soils with a shallow sandy surface overlying a sandy clay subsoil have been most encouraging and excellent swards of this pasture have developed in the second and third year.

The first field sowing of 10 acres of barrel clover at 6lb. per acre with 20lb. of oats and 1lb. of Wimmera was made with the sanderseeded in April, 1948, following 80 points of rain. It is an area of Circle Valley sand, a soil which
is approximately neutral (pH 6.5-7.0) in the surface sand but alkaline (pH 8.0-8.5) in the subsoil. Below 12 inches, lime nodules generally occur.

The seed was inoculated with the rhizobial culture prepared by the Government Plant Pathologist and which has given excellent results with barrel clover in experiments at the Wongan Hills and Merredin Research Stations. This seed treatment is recommended for all sowings of this clover. Some seed germinated shortly after seeding but the main germination was in June.

Despite a very dry period in spring the plants set appreciable seed. On an adjoining area Dwalganup subterranean clover grew poorly and suffered badly in the spring—little seed was set.

**FIRST CLASS GRAZING**

The barrel clover was topdressed with 56lb. of superphosphate per acre in 1949, 112lb. in 1950 and 90lb. in 1951. There was almost a complete cover by September, 1949, with further improvement in 1950. Rainfall was about average in these two years. In the fourth year, 1951, the rainfall was considerably above average. Germination followed falls of about 5in. in January-February, and the barrel clover attained sward conditions, about six inches high, by June. Wimmera also grew prolifically and the mixed pasture provided first-class grazing for the sheep.

On a similar soil type in an adjoining paddock, a further 40 acres of this clover was sown at 3lb. per acre in 1949. This grew very well and with good spring rains considerably more seed was produced than in the first year with the 1948 sowing. It developed to a good pasture in 1950 and in the third year, 1951, was excellent with an even mixture of Wimmera ryegrass (see illustration). It provided good grazing for stock in the winter and summer periods. As was the case with the first paddock, Dwalganup subterranean clover on an adjoining area under similar conditions to the barrel clover was relatively poor despite the good season.

Our experience with barrel clover at the Salmon Gums Research Station on the soil type described has been most encouraging. A further 100 acres will be sown this year. It is apparent that this plant is very hardy and well suited to the particular soil. Its hardiness is no doubt related to its relatively deep rooted habit and, even in years when the rainfall is low in spring, it still sets some seed. Under suitable conditions it has the capacity to produce a large...
bulk. Barrel clover and Wimmera ryegrass would appear to be a very promising pasture mixture in the Salmon Gums district, for sandy-surfaced soils with sandy clay subsoils. Seeding rates of 3lb. and 1lb. per acre respectively are recommended, whilst the barrel clover should be inoculated with the rhizobial culture available from the Department.

**AIRCRAFT TO BE USED ON AGRICULTURAL ADVISORY WORK**

For the first time in Western Australia, an aircraft will shortly be used as an adjunct to the Department of Agriculture’s advisory services.

Mr. J. R. M. Wolfe, an advisor on the staff of the Department of Agriculture’s North-West Branch, recently took delivery of a canopied Tiger Moth aircraft which he will use for travelling between stations in the Port Hedland district. Mr. Wolfe is a graduate of the University of Western Australia and obtained his pilot’s license through the Royal Aero Club of W.A. He has been with the North-West Branch for two years, engaged in studies of sheep fertility, mineral deficiencies and related subjects in the spinifex areas. He recently disposed of the utility truck which was his former means of transport and is taking to the air.

Mr. Wolfe feels that much time can be saved by air travel and cited instances of journeys which were only 60 miles by air but would necessitate travelling 360 miles by road to travel between the same two points. His headquarters are at Mundabullangana Station about 50 miles south-east of Port Hedlands.

Apart from widening the scope of his advisory work by the use of an aircraft, Mr. Wolfe feels that he will be able to render service to pastoralists by assisting in “spotting” mobs of sheep at mustering time. Several North-West pastoralists now have their own aircraft which are a valuable aid to station management in these days of labour shortages. Mobs of sheep may be spotted from the air and their position indicated to the mustering crews by means of marked diagrams dropped near the camps.

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