

SUBTERRANEAN CLOVER INVESTIGATION

Mr. J. W. CALDER

The permanent subterranean clover investigation area of 72 acres at Ashley Dene has maintained the high production with an average carrying-capacity of 2·36 sheep per acre for the 1946-47 season.

The improvement in the productivity of the land since the investigation was commenced in 1939-40 is well shown by the following comparison :

			Sheep per Acre.
Average carrying-capacity for the first three years	..	..	1·55
Average carrying-capacity for the last three years	..	..	2·505

This is on land which, prior to the introduction of subterranean clover, supported approximately three-quarters of a ewe per acre under a costly system of short-rotation pastures and considerable cultivation for winter and summer forage crops.

The four individual fertilizer treatments under investigation were continued. During the past two years the treatments which had an initial application of 1 ton of lime in 1937 (C and D) were showing evidence of declining production in comparison with the treatment which had received 5 cwt. of lime every other year (treatment A). The lime status of the soil was determined, and the results indicated that the soil in all treatments other than the one receiving 5 cwt. of lime every other year (A) was low ; as a result of this, a fresh application of 1 ton of lime per acre was applied during the winter to treatments C and D.

The carrying-capacity in terms of sheep per acre of the four fertilizer treatments is given below :—

Treatment.	Average First Three Years.	Average Last Three Years.	Season 1946-1947.
A: 1 cwt. super. alternately with 5 cwt. lime	1·3	2·57	2·36
B: No lime—2 cwt. super. annually	1·2	2·08	1·85
C: 1 ton lime 1937, 2 cwt. super. annually, 1 ton lime 1946	1·7	2·55	2·54
D: 1 ton lime 1937, 2 cwt. super. annually, 1 ton lime 1946, ½ cwt. potash annually	2·0	2·80	2·69

Treatment A is maintaining its high standard of production in relation to the cost of the fertilizers used. Treatments C and D are higher in production, but the cost, also, is considerably higher. Increased production on subterranean clover pasture on light land in Canterbury can thus be secured by a small application of lime and super. in combination.

FARM MACHINERY RESEARCH

Mr. A. W. RIDDOLLS

Effort has been concentrated mainly on the development of a truck-mounted grass-seed stripper, based on an earlier invention for harvesting the large areas of rye-grass, brown-top, and crested dogtail which are allowed to seed every year and which cannot be economically headed with the header-harvester. The principle of the machine is simple, the stripper being mounted on the front of a truck which is driven through the crop at about 15 m.p.h., stripping the seed, which is collected in trays. Hitherto the stripper had been unsuccessful. Experimental work showed that it had been constructed on incorrect lines. As a result of further work an improved machine, which worked most successfully in the recent harvest, has been designed, the high speed at which the work is done making the harvesting of very light seed crops economical. The machine is now at a stage where it can be put into commercial production. An important feature is the light, cheap construction and absence of moving parts.

A successful experimental machine was developed for the removal of stones from the surface of fields to allow the use of harvesting and haying machinery.

Some experimental work was done on a truck-mounted weed-cutter and pasture-topper in the form of a large blade mounted on the truck, the speed of the truck causing the knife to cut. Although very successful in stiff-stemmed weeds such as thistles, the choking of the knife when attempting to top grass paddocks could not be overcome.