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CANTERBURY EXPERIENCE WITH SUBTERRANEAN CLOVER
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The information contained in this paper is principally first-hand knowledge extending over a period of six years gained from personal experience from our own "Oakleigh" farm, It is hoped that what is being related will prove of interest to you and of some value to those farmers who have the type of land essential to the **successful** and economic growing of this wonderful pasture plant.

The first essentials of a fodder **plant, it** is said, are palatability, nutritive value and permanency combined with a plenteous and vigorous growth. A plant to **be** of the greatest value must have these attributes to a high degree. When palatability is mentioned, **undoubtedly** more is really meant than the word implies, and what is inferred is that, in addition to being palatable, it must also be nutritious. Now, when it is definitely stated that this plant has all **these attributes** and many others which will be mentioned, it will be realised that we have in Subterranean Clover a fodder plant which will fill a very definite place in our economic life, and which will be the **means** of bringing into profit large areas of land in the Dominion which are at the present time just on the border line or are being farmed today at a loss. It is stated that a pasture plant must be palatable, nutritious, permanent and have a plenteous and vigorous growth and our **experience goes** to show that all kinds of stock are very partial to this clover; in fact we have had the experience of seeing sheep leave an area of young Italian Rye-

grass and concentrate on Subterranean. There is therefore in our minds no doubt as to its palatability, and, we would add, its nutritive value, as stock thrives on it. With regard to its permanency, we can only state that during the period of six years it has been under our observation, every area we have sown has today, without exception, a better stand than for any other period during that term, notwithstanding the fact that this part of Canterbury has for the past six years experienced exceptionally dry conditions over lengthy periods. The other essential for a pasture plant, that of a full and vigorous growth, is verified by the fact that although we have sown it in conjunction with white clover and cowgrass, with perennial ryegrass and cocksfoot, it has given a greater bulk of feed than any of the other plants mentioned, has certainly proved more permanent than the first three named, and is the only one which has shown a continuous growth throughout the Winter. It is admitted here that Subterranean Clover dries off earlier in the Summer than the other pasture plants mentioned, but, given reasonable moisture in the Autumn, it will throw up a marvellous growth again and will continue to do so throughout the Winter. There is also considerable value in the aftermath; the plant, being a very prolific seeder and the seed itself being of an oily nature, stock thrives on this plant in its dry state.

Subterranean Clover in our experience will thrive on land of a sandy nature with a good open subsoil, but it also adapts itself to light shingly soils, and it is in each of these types of land where its true value lies. There must be in this Dominion tens of thousands of acres of land as described, and in Canterbury in particular this type of land predominates, so there is ample scope for the use of this Clover. Naturally, the better the land the

bigger the crop, but it is on the poorer lands that this pasture plant will prove of greater value than any other clover , and it is this point we wish to emphasise.

From our experience , early Autumn is the best time in Canterbury for sowing, and February or early March has given the best results. In these months surface sowing is preferable, but should the sowing be delayed to a later period, we have always found on the light sandy soils that drilling gives better results owing chiefly to the fact that frosts do not injure the young plants to the same extent . The importance of sowing in early Autumn is emphasised as this gives the plants more time to establish their rooting systems, after which the plant will be in a position to-throw up, a good vigorous growth in the Spring. A light grazing only during the first season is strongly recommended; a heavy grazing is strongly condemned, particularly during the flowering period. The reason for this is obvious as Subterranean Clover, being an Annual must have an opportunity of maturing in order to be in a position to perpetuate its kind. It is desired to mention here that in our opinion, most of the failures in the successful growing of this pasture plant may be attributed to injudicious feeding during the first flowering period, Though it is admitted that this Clover is an Annual, it has certain characteristics which make it superior to an ordinary Annual, and in a sense more perpetual than a perennial, for it takes the precaution to bury its seed head in the ground and thus makes every effort practicable to re-establish itself. It has also another method of perpetuating itself which is accomplished in the following manner, In almost every instance each seed head contains three seeds, and of these, two will germinate the first season and the remaining seed will not germinate till the following year, This

is **just** another way of Nature's coming to the rescue, for if for **one** reason **or another**, the first two seeds do not **reach** maturity there is always another one left to **keep** the flag flying, Now this is brought about by Nature's supplying the remaining seed with an extra hard skin, which apparently protects and **controls the germ for a longer** period, In the seed trade it is not uncommon **to find in** some samples of white clover, and lucerne in particular, a varying quantity of what is termed hard seed; and we offer **the** suggestion that possibly this is after all another example of Nature's way, **and** what we may have regarded as a very serious fault, may in fact, be a blessing in **dis-**
guise. This as mentioned before is only a suggestion, but it may be of sufficient **importance to merit** investigation.

As related earlier in this **paper, we have tried** several different mixtures in sowing down and find **Cocks-**
foot and **Subterranean** the most satisfactory, One **cannot**
lay down any hard and fast rule as to the respective quantities of **each**, but we have found a mixture of **10** to
12 lbs. of Cocksfoot and **2½** to 3 lbs. Subterranean Clover quite satisfactory, and in the **course** of twelve months with judicious treatment this will form a very dense **sward** of highly nutritious pasture,,

Subterranean Clover will respond very rapidly to a dressing of 1 cwt. **44/46** per cent. **Superphosphate, and** we **have** found that one application every second year, made in the late Autumn is very beneficial, and at the same time not very costly.

In Australia it is said they are concentrating on the **early** maturing varieties, such as Extra Early Dwalganup, the **reason** being that in the later varieties, for instance that known as "**Mt. Barker**" it is found that owing to the excessive heat prevailing over a large area of the Continent,

the plant wilts and dies before the seed matures, thereby becoming extinct. With the very early varieties the plant is sufficiently matured before the hot weather sets in. In New Zealand the later varieties such as Mt. Barker, would, it is thought, be of much more value as they would give a longer growing period; and we have found even in the hottest and driest periods in Canterbury, that the plant has always matured and formed its seed quite satisfactorily. It is our opinion that Mt. Barker or even later varieties would be of greater value in New Zealand, and if the Department would carry out trials of the various varieties with a view to ascertaining those most suited to New Zealand conditions in different localities, their work in this direction would be greatly appreciated, and we are sure would be ultimately of very great value.

A further feature to be pointed out is the fact that this plant is a wonderful soil improver and in localities where Subterranean Clover has been sown down for a number of years, the texture of the soil shows a marked improvement, and from that point alone, this plant is doing wonderful service. On our "Oakleigh" estate which comprises mainly sandy loams to light shingly soils situated in the Ellesmere County, we have an area of approximately 1,000 acres in Subterranean Clover, and anyone sufficiently interested in this pasture plant will be welcome at any time to inspect it, and any further information we can offer will be given willingly.

In conclusion it may be said that until five years ago the whole of that 1,000 acres was down in native grasses and tussock, and had not Subterranean Clover been available to sow down with the Ryegrass and Cocksfoot, we do not think the two latter grasses would have held, but that the land would have reverted to native grasses with their lower carrying capacity.