

LUCERNE VERSUS TEMPORARY PASTURE.

A COMPARISON AT MARTON.

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It is well recognized that where suitable conditions for lucerne exist there is no more valuable crop our farmers can grow, this having been proved many times. Unfortunately, however, it has been stated repeatedly that lucerne will grow on all types of soil and under practically any conditions; and while this may be literally true, the growing of lucerne on certain types of land has often turned out to be an unsound proposition, much to the farmer's regret. In considering lucerne, the point is not so much whether it will grow, but whether it will give returns in excess of any other crop in respect to quality, yield, and cost of production. The answer to the latter query is occasionally in the negative.

SOIL CONDITIONS AT MARTON.

The soil of the Marton Experimental Area, which is typical of much of the land in the district, is by no means a suitable one for lucerne. It is of a heavy clay type—so heavy and puggy, in fact, that mole drains (made by the drain-plough) have lasted for over fifteen years, and at the end of that period were still working satisfactorily in parts. The clay surface soil is underlaid in many situations by a stratum of hard ironstone which varies in depth from a few inches up to 18 in. or 2 ft., and lies anywhere between the surface and a depth of 4 ft. or 5 ft. This stratum could hardly be called a hardpan, however, as it is more or less broken, and is not continuous.

In connection with this ironstone it is interesting to note that during the summer months the roots of the lucerne go down beyond the stratum and draw their nourishment from below it; but with the rise of the dead-water level during the winter months the roots rot back to the ironstone, and it is not until the fall of the water in spring that the roots go down again. Thus it must be seen that much of the plant's strength is used up in the growing of new deep roots each spring, and this no doubt accounts to some extent for the slowness with which the crop comes away at that period. This is probably only a contributing factor, as the nature of the soil itself does not tend towards early growth.

Considering the soil-conditions at Marton it must be recognized that the lucerne has done remarkably well in yielding as it has, and its success is largely due to the fact that the stand has never been grazed. With constant or even occasional stocking the stand would probably have died out during the first season or two; it certainly could never have lasted as it has. It should be noted that, owing to the nature of the land, the crop has never been successfully cultivated. In early spring the land lies too wet for cultivating, the clay holding the moisture for a much longer period than a lighter soil would; then in autumn the land is too hard, and consequently cultivation cannot be carried out. This, of course, is only another point against the growing of lucerne on that type of soil.