

Where present it is said to seriously diminish the yield of seed and to lower its quality.

In New Zealand it has been naturalized for many years past, and in certain localities is excessively abundant. There are fields in the Auckland District where nearly every clover-plant appears to be affected, and the whole ground is thickly studded in the early summer with the thick erect brownish-red asparagus-like shoots of the parasite. After the broom-rape comes into flower the stems, which hitherto have been fleshy, dry up, and all the aerial portions die away, fresh shoots being again developed in the following year. It is very peculiar that no complaints have ever been received that the broom-rape injures the vitality of the clover-plants to any appreciable extent. I have specially studied this parasite in the Auckland District, where it appears to be spreading rapidly, and is now everywhere to be found, but have not noticed any appreciable difference in the vitality of affected and unaffected plants. When it is considered that the whole of the food-supply necessary to produce the broom-rape, which is quite a large plant compared with the size of the host, is derived from the plant on which it is parasitic, it would appear that the drain on the affected plants should result in a very serious diminution in their vitality. In general, however, affected clover-plants appear to be quite vigorous, and in no cases have plants been seen whose death could be attributed to this parasite. Nevertheless it seems incredible that clover-plants can be made to provide all the food necessary for the development of the broom-rape without considerably impairing their yield. Sweet-peas attacked by broom-rape have been frequently received, and in all these cases a serious diminution in growth had resulted from the attack. Again, last year in the Wairarapa a crop of affected parsnips came under my notice, and the development of the roots of all the affected plants was seriously interfered with, finally resulting in considerable distortion.

From the above it can be seen that the question of the seriousness of broom-rape in New Zealand is a debatable one, and the opinions of farmers who may have had experience of this parasite in their pastures would be especially valued. No attempt is made in New Zealand to prevent the seeding of this weed parasite—a matter of great importance if it is shown that it really causes any harm.

Distribution in New Zealand.

Broom-rape is exceedingly abundant throughout the whole of the Auckland Province. It is also common in Taranaki, but further south is comparatively rare. In Canterbury it has been naturalized for many years in odd localities, but does not appear to be spreading.