Establishing saltland pastures

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Establishing saltland pastures

Erratum
Found in previous article Winter pests in the pasture P N. Forte Vol 2 No 4 Page 377 Part of the article is in the supplement PDF
WINTER PESTS IN THE PASTURE

By P. N. FORTE, Senior Entomologist

ALTHOUGH the pests concerned in attacking winter pastures are known to most farmers a discussion of their control and relative importance will not be out of place. The principal pests concerned fall into two groups. Firstly the red-legged earth mite and lucerne flea whose attacks are most noticeable soon after germination and secondly a group of caterpillars which appear about the same time and whose attack is not noticed until a large amount of damage has been done.

The main caterpillars concerned are those of the webworm, brown looper, day flying moth and tiger moth.

While the flea and mite seem to prefer the subterranean clover these other pests prefer the other plants that go to make up the pasture, for example capeweed, wild geranium and numerous grasses.

The attack of the red-legged earth mite and lucerne flea can be so severe that when a new pasture is being established the plants can be killed out.

In the case of caterpillars in plague numbers we find that the paddocks appear bare. Usually the plants they like are killed out and it is not uncommon to find later in the season an almost pure subterranean clover stand.

This was not an uncommon sight in some areas of the Great Southern and wheatbelt last winter.

We are now in a position to advise that when it is required these pests can be quickly and effectively controlled, with DDT or DDT-malathion mixtures.

This, to my mind, is a tremendous step forward. However, whether the cost of the insecticide and its application is economical for the farmers is one for individual decision.

It seems to me that where one is establishing a pasture, treatment to control pests should be treated as a type of insurance, as considerable money has already been spent in preparing and seeding the ground and no one wants this to be wasted because pests have destroyed all the germinating plants.

In the case of established pastures the circumstances are a little different.

If the conditions after germination are dry then so much damage can be done to the plants even with a small population of pests that large numbers of plants will die. Further, when conditions are good for growing but the plants are carrying a heavy infestation of pests the pasture can be so retarded that the desired early growth before the winter does not amount
to anything worthwhile and eventually the paddock becomes bare.

I mention these points not as an advocate for overall spraying of the farm with insecticide as this is undesirable, but to assist farmers to make a decision in this important problem. This should be done soon after germination and when the insects start to appear.

Farmers should therefore watch all their paddocks after the opening rains and by getting first hand information on their pasture conditions and pest numbers thereon should be able to decide whether it is necessary to treat paddocks or not.

Further details of these pests and their control can be obtained from the Department of Agriculture.

## IMPROVING POTATO SEED

**By J. P. FALLON, Senior Adviser (Vegetables).**

Some of the oldest records of potato cultivation show that throughout the ages it has been generally accepted that periodically, a change of seed is essential, and the only means of maintaining satisfactory yields in crops. Even today most potato growers are familiar with the term “run out” as applied to any particular line of potatoes which tends to progressively decrease in vigour and productivity when planted from year to year.

In the past, this belief was based, no doubt, on the experience of generations of growers who noted improvements in their crops with the introduction of new stocks from areas of certain kinds of soils or climates. Although the benefits resulting from the change of seed to some extent led to the recognition of certain localities as being more suitable for seed production, for many years there was no satisfactory explanation of the causes underlying the degeneration of potato stocks.

It was not until early this century that it was discovered that the potato plant is susceptible to certain virus diseases and it is now known that these diseases are the main cause of deterioration in seed potatoes, with consequent reduction in crop yields.

Virus diseases are not apparent on the tubers, although carried over from season to season by them. However, they may be detected by the observant grower in the growing crop. As they do not cause spectacular wilting of the plants, rotting or marking of the tubers, as is often the case in fungous or bacterial diseases they may escape the notice of even experienced growers until the yields are seriously affected.

The main virus troubles which affect potato crop yields in this State are leaf roll and a group of diseases known by the term mosaic. Leaf roll, which is by far the most important is spread from plant to plant by certain species of aphides. If infection occurs late in the growing season, plants may not show symptoms, but the disease may have been transmitted to the tubers which if used for seed would produce plants showing the disease.

It will be seen then that the maintenance or improvement of potato seed of any particular variety depends largely on the elimination of virus disorders. It was for this reason that the Department of Agriculture introduced the Certified and Approved Seed Schemes. However, it is not sufficient to leave the business of improving seed solely to the Certified and Approved potato growers. Every grower could and should play a part in seed improvement by preventing the spread of virus disorders. This can be done by carrying out a few simple precautions such as by planting the best seed available and...
removing diseased plants from the crop during the growing period.

Many growers when buying seed tend to favour a well-graded line of clean evenly-shaped tubers, but unfortunately, it is not always realised that the appearance of the seed gives little indication of its productive capacity.

Where possible, approved or certified seed, which is the best available should be purchased. In the event of this type of seed being in short supply, the advice of the district officer of the Vegetable Section should be sought as to the best alternative seed.

During the growing period the detection of diseased plants in the crop should be followed by their instant removal. The plants and tubers should be placed in a bag and carried right away from the crop and destroyed. The potato plant is most susceptible to virus infection in the early stages of growth and up to the time of flowering. It is therefore important to reduce the time for which plants are exposed to infection to an absolute minimum by early and persistent roguing.

First symptoms of the leaf roll disease, become noticeable three to six weeks after plants appear above the ground. The lowest leaves of the plant roll up at the margins and become thickened, hard and brittle. The plants affected with the disease are usually stunted and pale with an erect stiff habit due to the rigidity and rolling of the leaflets. An experiment conducted by the Department has shown that leaf roll can reduce the total yield of a crop by as much as 55 per cent.

The importance of the disease cannot be over-emphasised and all growers are urged to take an active part in improving potato seed by eliminating virus disease from their crops.

ESTABLISHING SALTLAND PASTURES

By C. V. MALCOLM, Adviser, Soils Division.

With the approach of winter, thoughts are turning to the seeding season. It will therefore be appropriate to discuss methods of establishing saltland pastures. This discussion will be restricted to "bluebush," creeping saltbush, and old man saltbush. Seed of these plants is available from local stock firms.

All three bushes will grow on non-salty as well as on salty ground, and the soil types most suitable are those which support morrel, salmon-gum, gimlet, and york-gum. Very wet areas are not suitable, and usually samphire is the only plant which will colonise these parts. The best results have been achieved on morrel soils.

On areas which are badly salt-affected establishment is hazardous and several years are usually necessary to give a good stand. During the whole of this establishment period grazing animals must be excluded for best results.

Preparation for sowing should start, if possible, before the opening rains. This initial roughening may be done any time after the feed dies off in spring and up till the first rains: the purpose is to break the surface seal which occurs on salty soils in order that blowing seeds may be collected and the first rains will soak into the soil and leach as much salt as possible away from the surface. The soil should be worked with a narrow pointed implement to a depth of three to four inches. On close-tyned implements some tynes may be held out of the ground as overall working is not required. The surface should not be left smooth or powdery. On some soils which blow badly it may be advisable to leave the roughening until autumn. On slopes, the working should be on the contour, if possible.

A second working after the rain may be of assistance, especially if the soil has been flattened by the rain. On very salty areas the killing of any plant should be avoided.
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Journal of Agriculture, Vol 2 No 4, 1961