NOTE

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Pest and Disease Management under Reduced Tillage Systems

Pest and disease management under reduced tillage

Pest and disease monitoring is an integral and essential part of the management programme. With the exception of slugs, LandWISE has found no difference in the pest and disease management requirements needed for reduced tillage systems compared to conventional tillage for the crop types it has grown. Slugs have become an issue in some instances but this hasn't happened at all of the sites.

Will this always be the case?

We don't know. Research into minimum tillage programmes in New Zealand is accelerating. Pest and disease issues are integral to any studies and as more information becomes available LandWISE will be sharing information via seminars, newsletters, field days and the website.

LandWISE results are based on only a few years experience and trials. Our outcomes are often an expression of a particular season; different seasonal factors may give rise to different outcomes.

How do I assess the pest and disease risk factors in my crop?

Monitoring crops is essential and results should be recorded in your diary. You can monitor your crops for pests and diseases on an informal basis on a walk through the crop or you can use a documented scouting method.

Monitoring can include checking residue for carryover of pests and diseases. This provides a very good baseline upon which decisions can be made.

Knowledge of the pest and disease history of the paddock provides a good insight into the risk status of your crop too. Pest and disease history also allows you to make good selections when deciding crop rotations to eliminate the risk of carryover infection from previous crops. Monitoring also helps define the boundaries and required inputs of your pest and disease management plan.

What is a pest and disease management plan?

A pest and disease management plan sets out the monitoring and potential input requirements to control pest and diseases. Inputs can be:

- agrichemical eg. seed treatment
- mechanical eg. harrowing to kill slugs
- cultural eg. crop rotations

Decisions on required inputs can be decided after consideration of all the risk factors.

A **risk assessment** includes consideration of:

- paddock history
- monitoring results
- crop type and variety.
- seasonal factors (weather)
- inputs available in the event of an outbreak.

Your pest and disease management plan needs to be in place before embarking on a reduced tillage cropping system. It ensures that all potential problems are, or have the ability, to be addressed before they arise. Simple notes in your diary are adequate.

An important point to consider:

When you change one part of a system it has a possible effect on every part of that system. The control measures that were used in a conventional production system may not work or may have to be modified to work under a reduced tillage system.

See also LandWISE Note "Slugs and their control"