

Ryegrass Staggers FREE Pastures – Establishment and Management

Key Points

- Ryegrass staggers can be prevented by grazing pastures free of ryegrass endophyte chemical Lolitrem B
- Rid the paddock of high endophyte **plants** and **seeds** before establishing new pasture
- Growing a crop, spray/cultivation and double spray/fallow can remove ryegrass plants and seeds
- NOT recommended are single spraying or hard grazing only before drilling new seed
- Ensure no unwanted seed is introduced through hay, silage, stock dung, wool or machinery to new pasture

Background

- Most perennial ryegrass plants in New Zealand pastures contain a naturally occurring fungus called endophyte that grows inside the plant. Endophyte protects the plant from insect attack but can also cause animal health problems, especially ryegrass staggers, to which alpacas appear to be particularly susceptible.

Chemicals produced by wild endophyte and their effects are:

Peramine	Provides protection against insects, particularly Argentine Stem Weevil
Ergovaline	Provides some resistance to black beetle, but may increase heat stress
Lolitrem B	Causes ryegrass staggers occasionally

Alternative Pastures

Pastures, which do not cause ryegrass staggers, can be established. The main difficulty is however, ridding the paddock of ALL high endophyte plants and seeds and ensuring no unwanted seed is introduced through hay, silage, stock dung, wool or machinery.

- New pasture must contain non-ryegrass species or novel endophyte ryegrass (e.g. AR1), which produces only peramine chemical to protect against Argentine Stem Weevil, but does not cause ryegrass staggers.
- Non ryegrass pastures should include species best suited to your region, climate and management practices and might include:
 - **Grasses:** Tall fescue, grazing brome, timothy, cocksfoot,
 - **Legumes:** White clover, red clover, lucerne
 - **Other species:** Chicory, plantain, yarrow

Pre-sowing and Establishment Management

- The removal of all existing ryegrass plants and the depletion of ryegrass seeds on the soil surface and buried in the topsoil are essential first steps.
- Options to reduce the seed bank by minimising seed production the summer before sowing include:
 - Not making hay
 - Topping after grazing when seed heads are present or developing
 - Growing a feed crop
- To kill existing ryegrass plants and deplete the seed bank (i.e. allow seed to be buried or to germinate and be subsequently killed) before sowing, successful pre-sowing techniques are:
 - Growing a feed crop
 - Spray/cultivation (surface seeds must be buried or germinate and be killed)
 - Double spray/fallow (timing of second spray is critical to kill seed germinating after first spray)
- Techniques NOT recommended are single spraying or hard grazing only before drilling.

New Pasture Management

- Do not feed hay or silage made from wild-endophyte ryegrass onto new pasture
- Wild endophyte seed can be transferred in stock dung. Spell animals for at least 3 days between wild-endophyte pastures and new pasture
- Be aware that seed can also be transported by machinery and in animal fleeces.

Acknowledgements:

Prepared by Sue Cumberworth, The AgriBusiness Group, with excerpts from:
 Dexcel FarmFact 1-16: Ryegrass Staggers – Management Options
 Dexcel FarmFact 5-25: Establishing Ryegrass Containing Novel Endophytes
www.dexcel.co.nz go to publications and then FarmFacts, numbers 1-16 & 5-25.