

SAFEGUARD ANNUAL RYEGRASS – a weapon against ARGT

USING genetics to fight the devastating effects of annual ryegrass toxicity (ARGT) could be the long term solution to this devastating livestock toxin.

Developed by Australian scientists with funding from the Meat Research Corporation (MRC), South Australian Research and Development Institute (SARDI) and Valley Seeds, the new variety Safeguard can convert low levels of ARG-T-susceptible Wimmera ryegrass to a resistant ryegrass in as little as one year.

Specifically developed for the drier conditions of WA and parts of South Australia, Safeguard crossbreeds with the local ryegrass species such as Wimmera to produce ARG-T-resistant seeds which germinate the following year, but only with the right management.

Farmers have demanded a solution to ARG-T yet livestock are still dying. The brainchild of Dr Alan McKay of South Australian Research and Development Institute (SARDI), Safeguard was bred after demand for a variety specifically for Western Australian conditions.

"To produce a variety like Safeguard with such a high level of resistance that it can create ARG-T-resistant offspring in one generation is a phenomenal achievement in plant breeding," Valley Seeds managing director Donald Coles said.

Safeguard offers both the livestock producer and cropping farmer excellent characteristics but it cannot do its work without careful management. Some of the key management issues that must be implemented are:

- Reduce to less than 20 local ryegrass plants per square metre. This can take more than one and sometimes several years.
- Mr Coles also emphasised the importance of dry sowing Safeguard before the autumn break, which ensures early germination and this will help Safeguard flower at a similar time to local Wimmera ryegrass plants. Wimmera ryegrass in WA, however, varies in its flowering time from one area to another. The first year is critical to get as many Safeguard plants crossing with Wimmera as possible.
- Leave an unsown strip to enable you to monitor the background Wimmera ryegrass. Leaving more than one unsown strip at different locations around the paddock is also essential. Wimmera can vary in its density depending on the area in the paddock.
- Monitor the unsown strips and if you find that the background ryegrass level is high or the density of the sown Safeguard outside these areas is low, spray top to prevent seed set and therefore the potential of livestock deaths. There are no guarantees that Safeguard will flower at the same time as your Wimmera so you must carefully monitor the paddock.

In addition to spreading resistance to ARG-T, the variety Safeguard has excellent winter pasture production and will not allow the build up of the root disease take-all. The ability to effectively clean the paddock of pasture grass before the cropping phase is essential and with good herbicide management.



■ Donald Coles with Don and Jemma Sadler inspecting Safeguard ryegrass in the second year trials run by the Ballidu Woolpro group and funded by MLA with assistance from the department of Agriculture.

"This high level of resistance to ARG-T, combined with the qualities that meet the demands of broadacre crop production, will be especially appreciated by the export hay producers," Mr Coles said.

Trial results indicate that the minimum seeding rate is 6kg/ha but increasing the seeding rate to 12kg/ha helps both in terms of feed production and second year re-generation.

To ensure that the pasture remains clear of ARG-T susceptible species it is necessary to continue to sow only certified

seed of Safeguard. This is especially important when re-sowing pasture after a cropping rotation.

Safeguard is marketed by Valley Seeds Pty Ltd and good seed stocks will be available for in autumn 2005 from WA distributor Irwin Hunter & Co, Cottesloe. No uncertified farmer-saved seed is permitted for this variety due to potential ARG-T susceptible contamination that may occur.

**For further information contact:
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