

Herbicide Tolerance in Lupins

Aim: Demonstrating the tolerance of WALAN2141 to Metribuzin

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Company: Dept of Agriculture



Farmer: Keith Carter

Location: Liebe Main Trial site Jibberding Hall Rd, Wubin

Background: The tolerance of lupin varieties to metribuzin (Lexone) is a concern to farmers who use this herbicide to control double-gees and radish. This has become a more critical consideration in the breeding program because it has been shown that Tanjil has less tolerance to this chemical than older varieties such as Kalya and Gungurru. In the experiment conducted at Wongan Hills in 2002 the effect of metribuzin on the yield of WALAN2141 in comparison to other leading varieties showed that WALAN2141 and Belara tolerated a metribuzin/brodal/simazine mix to the same degree with approximately 25% loss in yield compared to non-sprayed plots. However, under the same conditions Tanjil and Wonga lost 46% yield when sprayed with metribuzin. These figures are indicative of the ranking in tolerance to metribuzin while the level of yield loss will vary depending on the conditions under which the herbicide is used.

Trial Details:

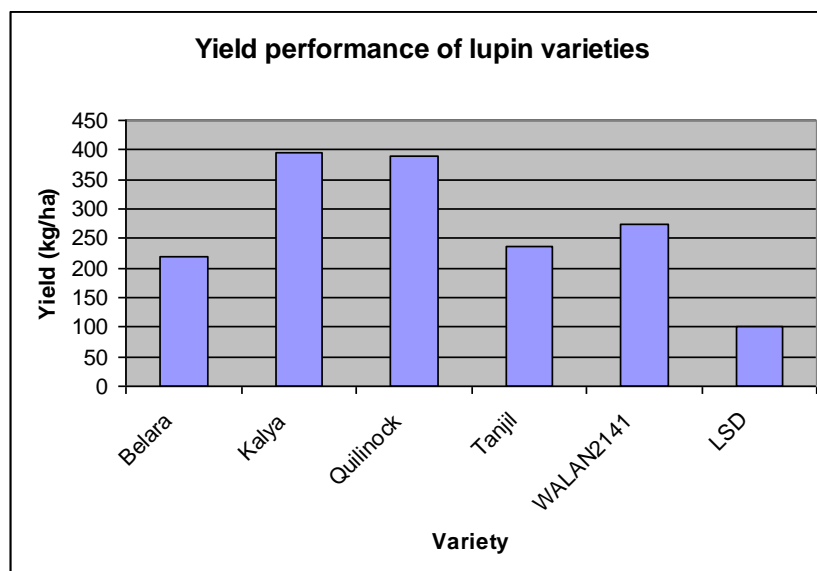
Plot size and replication	3.3m x 10m * 4 replications for each herbicide treatment
Soil type	Loamy sand
Sowing date	28 th May 2003
Conditions at sowing	Dry
Machinery	Cone seeder
Seeding rate	Rates to achieve 60plants/m ²
Fertiliser	85 kg/ha Bigphos Mn Deep banded
Herbicides and Insecticides	Post emergent Brodal, selective grass herbicide and alphamax for budworm
Paddock History	2002 = Failed lupin crop, 2001 = Wheat, 2000 = Wheat

Treatments: 250g Metribuzin

100 mL/ha Brodal + 100g/ha Metribuzin + 500 mL/ha Simazine

Both applied 24th July 2003

Results:



All varieties suffered due to the lack of rain after establishment delaying full germination and contributing to the low site yield.

Both herbicide treatments caused a significant visual effect on growth of all varieties lupins. Tanjil was visually more severely affected than the other varieties for both treatments. WALAN2141 had visually the same amount of damage as Kalya. This effect however, did not transfer to any discernable yield differences presumably due to the low potential yield of the site. Nor were there any interactions between spray treatments and variety.

There was a statistically significant effect of variety with Quilinock and Kalya higher yielding than the other varieties.

Summary:

- Visually, the effects of the metribuzin treatments showed that both the metribuzin and the metribuzin/brodal/simazine treatments adversely affected the variety Tanjil the most.
- The visual effect of the phytotoxicity did not carry through to express as yield differences.
- Visually, WALAN2141 suffered the same amount of damage as Kalya.
- Quilinock and Kalya were the highest yielding varieties.

Technically reviewed by: Terry Piper