

SUMISCLEX[®] BROADACRE

LUPIN SEED TREATMENT

Sumisclex[®] Broadacre is a powerful fungicide formulated to be used as a seed treatment or as a foliar spray on certain grain legumes and canola.

The product is registered as a seed treatment for lupins to control Brown leaf spot. It contains a bright purple dye to assist in assessing coverage during the application process and in clearly identifying treated seed.

Control of Brown leaf spot

Brown leaf spot is one of the most crippling and widespread lupin diseases in Australia. The fungus causes dark brown spots on the leaves and stems. Heavily infected leaves are shed.

The disease can be carried over between seasons in soil or stubble or be present on sown seed.

Treatment of lupin seed with Sumisclex Broadacre will reduce Brown leaf spot in seedling lupins. Protection of seedlings will improve survival even under cold, wet weather conditions. Strong crop establishment will result in better crop growth and increased yields.

Lupin seed can be treated immediately after harvest and stored for the following season, or treated at any time prior to sowing.

When mixing Sumisclex Broadacre with thiram, fluquinconazole or carbendazim, the efficacy of these compounds will not be reduced. Generally, these mixtures are more effective than when using Sumisclex Broadacre alone (G.J Thomas and M.W Sweetingham, *Australian Plant Pathology*, 2003, 32, 39-46).

Directions for Use **RESTRAINT:** Do not sow treated seed in poorly drained soil under cold wet conditions.

Crop	Disease controlled	States	Application rate	Critical comments
Lupins	Brown leaf spot (<i>Pleiochaeta setosa</i>)	NSW, Vic and SA only	100 or 200 mL per 100 kg of seed	Use the high rate of application where severe disease is expected, e.g. a high spore load from previous infected crops, and where other disease control measures such as stubble retention are not practised. 100 mL Rate: Dilute one part of product with three parts of water. 200 mL Rate: Dilute with an equal volume of water. Agitate diluted mixture thoroughly and apply at a rate of 400 mL of the mixture per 100 kg of seed. Agitate the mixture during application to prevent settling. Mix seed thoroughly during and immediately after application to ensure thorough coverage. This product will reduce the effectiveness of <i>Rhizobium</i> inoculum on seed. It will not reduce nodulation where adequate soil populations of <i>Rhizobium</i> persist from previous lupin crops nor where spray inoculation is practised.
		WA only	50, 100 or 200 mL per 100 kg of seed	Use the high rate of application where severe disease is expected, e.g. a high spore load from previous infected crops, and where other disease control measures such as stubble retention are not practised. Where low disease levels are expected and stubble retention is practised, the low rate may be used if seed is to be sown immediately after treatment. If seed is to be treated after harvest and then stored until sowing in the next season, apply a minimum of 100 mL of Sumisclex Broadacre per 100 kg of seed. 50 mL Rate: Dilute one part of product with seven and a half parts of water. 100 mL Rate: Dilute one part of product with three parts of water. 200 mL Rate: Dilute with an equal volume of water. Agitate diluted mixture thoroughly and apply at a rate of 400 mL of the mixture per 100 kg of seed. Agitate the mixture during application to prevent settling. Mix seed thoroughly during and immediately after application to ensure thorough coverage. At the high rate of application this product will reduce the effectiveness of <i>Rhizobium</i> inoculum on seed. It will not reduce nodulation where adequate soil populations of <i>Rhizobium</i> persist from previous lupin crops.

ALWAYS REFER TO COMPLETE LABEL BEFORE USE. NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.



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Safety to inoculant rhizobia

Legume crops are widely used in rotation to improve soil fertility. Nitrogen fixed during the legume phase can be utilised by the following cereal crop.

Nitrogen is a product of the symbiotic association between the host legume and *Rhizobium* bacteria. Inoculating the seed with rhizobia is critical for successful nodulation and hence nitrogen fixation.

The survival of *Rhizobia* spp. on chemically treated seed was investigated by Agriculture Victoria in 1997[#]. Specifically, the relative toxicity of fungicide treatments to rhizobia and the effect on nodulation of inoculated lupins was examined.

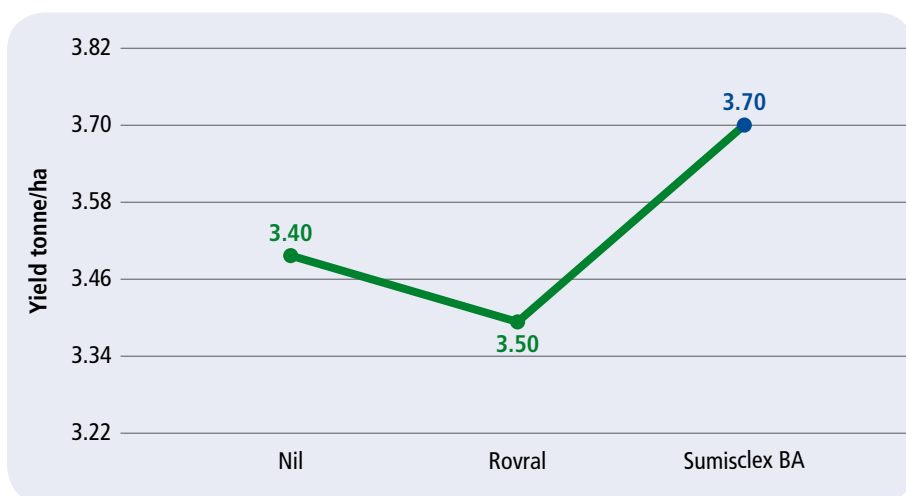
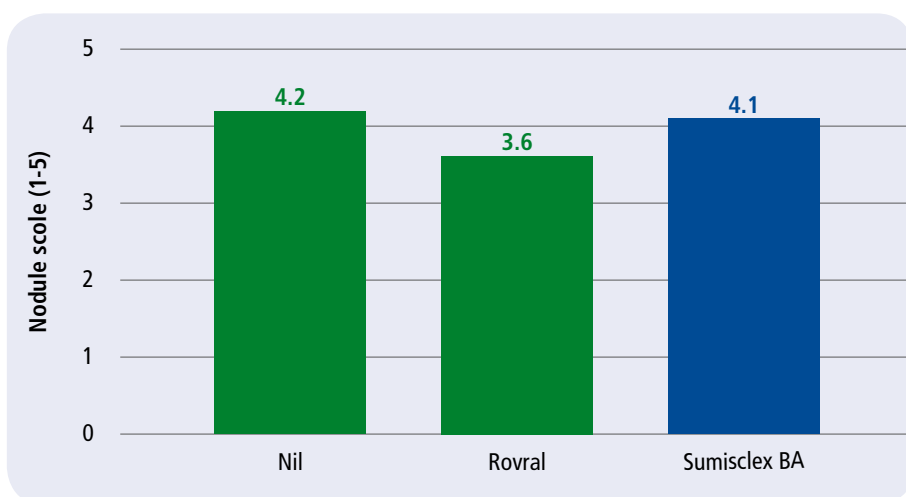
Fungicides were placed in contact with living rhizobia in laboratory screenings. In these tests Sumisclex was rated as being of low toxicity to rhizobia.

Sumisclex and Rovral[®] were also evaluated in a field trial in a paddock with no background rhizobia in order to assess effects on nodulation. Inoculated seed was treated with both fungicides.

The results depicted in the table below show that nodule score was reduced where Rovral was used and unaffected where Sumisclex had been applied.

Survival of *Rhizobium* spp. on Chemically Treated Seed. Project Supervisor J Slattery, Agriculture Victoria, Rutherglen. A final report prepared for the Grains Research and Development Corporation.

Effect of fungicide on nodulation of inoculated lupins



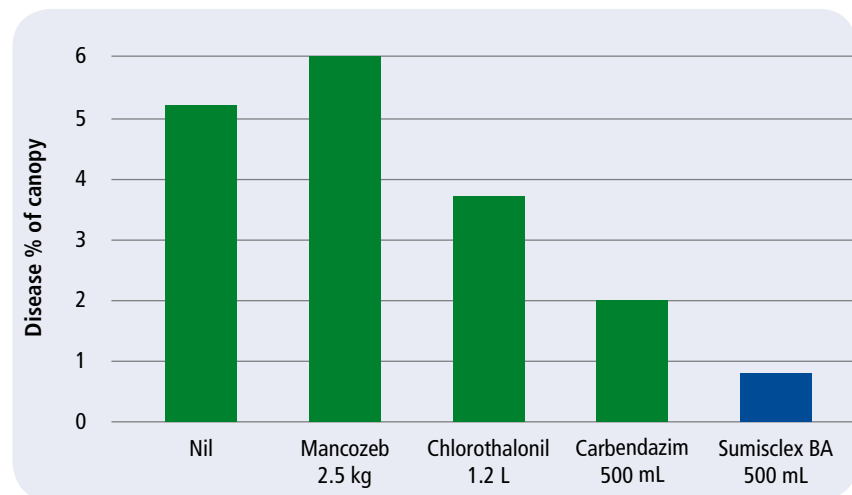
CONTROL OF GREY MOULD IN LENTILS

Sumisclex Broadacre is a premium fungicide with protectant and curative activity for control of botrytis.

Performance

Sumisclex Broadacre has shown exceptional performance in many public trials conducted on lentil crops in recent seasons. Outstanding disease control with Sumisclex Broadacre has resulted in increased yield and reduced staining of grain compared to other standard fungicide treatments.

Comparison of two spray programs for botrytis control in lentils, Hart Field Day Site SA, 2001
(Fungicides applied at pre-canopy closure and early podding)



Cost effective – Sumisclex Broadacre and the bottom line

The excellent fungicidal activity of Sumisclex Broadacre can increase yield and profitability. The economic return from using various fungicides at the Hart Field Day sites demonstrates the financial benefit of improved disease control.

Two spray program for botrytis control Hart Field Day Site – 2001

Fungicide	Disease % canopy	Yield T/ha	Economics (return/ha net of cost of fungicide)
Nil	52	2.46	-
Mancozeb 2.5 kg	60	2.17	-\$165
Chlorothalonil 1.2 L	37	2.67	+\$44
Carbendazim 500 mL	20	2.86	+\$152
Sumisclex Broadacre 500 mL	8	3.07	+\$217
LSD 5%	17	0.43	

Analysis based on prevailing grain and product prices at the time of the trial.



Crop	Disease controlled	States	Application rate	Critical comments
Canola	Sclerotinia rot (<i>Sclerotinia sclerotiorum</i>)	All states	1 L/ha Ground Application in 100 L/ha water plus Agral at 20 mL/100 L water Aerial Application in minimum 40 L/ha water plus Agral at 20 mL/100 L water	Spraying should occur before petals begin to drop and preferably prior to a rainfall event during the early – mid flowering stage of crop growth. Infection of canola stems and branches occurs when infected petals fall and lodge in the lower canopy of the plant, particularly during wet or humid conditions. The objective of the Sumisclex application is to treat as many petals as possible prior to petal drop and before pods set. Application should, therefore, take place by 30% bloom (i.e. 30% of flowers open on the main stem), at which stage the maximum number of flowers are open at one time and little petal fall has occurred. Application should not be made after mid-flowering. For aerial application to a canola crop that is directly adjacent to a downwind paddock where grazing stock may be present, use coarse nozzle settings and observe a 20 m buffer to that paddock in order to minimise drift.
Faba beans	Chocolate Spot (<i>Botrytis fabae</i>)	Vic, NSW, SA, WA and Tas only	500 mL/ha Ground Application in 100 L/ha water	Inspect crop regularly on the mid to lower leaves, where disease will occur first. Apply spray in the early stages of attack, i.e. 1-2 spots per leaflet and when weather conditions favour the disease. These are temperatures between 15 and 20°C (Tasmania 10-20°C) and moist, humid conditions (66% RH and over). If these conditions recur, repeat applications at intervals of 2-3 weeks will be necessary to protect new growth.
Lentils	Grey mould (<i>Botrytis cinerea</i> and <i>Botrytis fabae</i>)	All States	500 mL/ha Apply in a minimum of 100 L/ha water for ground application or 45 L/ha for aerial application	Monitoring of crops for disease should commence at 6-8 weeks after crop emergence. Early application of fungicide is critical in restricting the development and spread of Grey mould. The first application of Sumisclex Broadacre (or Sumisclex 500) is recommended immediately prior to canopy closure to ensure good spray penetration into the crop. Subsequent monitoring of crop and environmental conditions will help determine timing of later applications. Other critical growth stages for disease control are: - mid flowering/early pod fill - end of flowering/late pod fill Later fungicide applications may be required if conditions are conducive to disease development. Apply no more than two consecutive sprays of Sumisclex Broadacre (or Sumisclex 500). Alternate with fungicides with different modes of action. Sumisclex Broadacre (or Sumisclex 500) will not provide effective control of Ascochyta blight (<i>Ascochyta lentis</i>). For aerial application use medium to coarse nozzle settings in order to minimise drift.

When to apply Sumisclex Broadacre in a Grey mould fungicide program

Early application of fungicide is critical in restricting the development and spread of Grey mould. Monitoring should commence at 6 to 8 weeks after emergence.

The first application of Sumisclex Broadacre is recommended prior to canopy closure to ensure good spray penetration into the crop. The protectant and curative activity of Sumisclex Broadacre will have maximum effect when applied at this timing.

Subsequent monitoring of crop and environment conditions will help determine timing of later applications.

Other critical growth stages for disease control are:

- Mid flowering/early pod fill
- End of flowering/late pod fill

Management resistance

Sumisclex Broadacre is a Group 2 fungicide representing a new mode of action for use in lentils. For resistance management purposes please refer to the most recent Croplife Australia resistance management strategy for pulse crops.

KEY BENEFITS

- Protectant and curative activity
- Highly active on Grey mould
- Increased yields and reduced grain staining
- New fungicide mode of action for use in lentils
- Maximum protection at canopy closure applications

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For further information

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