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Grain Pool of W.A.

L O G I C

DEPARTMENT OF AGRICULTURE
WESTERN AUSTRALIA

Editor: Peter Nelson

August 1994

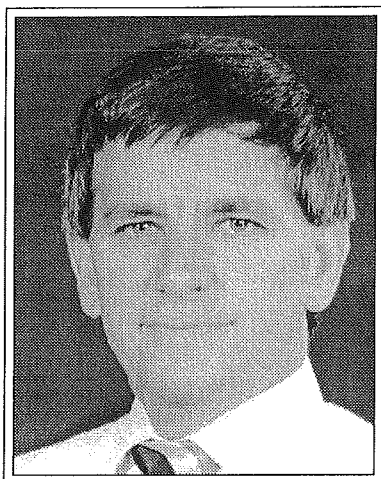
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A vigour test for lupin seed

Following the article on seed quality in the last issue of Lupin Logic, number 48, Donald Nicholas, leader of AGWEST Seed Quality has offered the following comments.



Donald Nicholas

A germination test, carried out under ideal conditions, gives the maximum viable germination that could be expected for a seed lot. A vigour test gives the tolerance level of the seeds to adverse soil conditions. For a vigour test to be of any use there must be a strong relationship between laboratory results and actual field emergence. Useful tests have been developed for crops such as peas, soybeans and lettuces. No test has been developed for lupins.

Because of the seed quality problems some farmers experienced this year, we decided to look into the feasibility of a vigour test for lupins.

One test used for peas in the United Kingdom and Tasmania soaks seed in water to leach out soluble compounds. The more soluble compounds that leak out of the seed the lower the vigour of the seed.

Other vigour tests involve germinating seed under unfavourable conditions, such as cold, or exposing the seed to heat to impair germination before conducting a standard germination test.

The search for a vigour test for lupins is now underway. Development of a vigour test is not simple or certain of success, but if a test can be developed to warn of emergence problems, it will be useful.

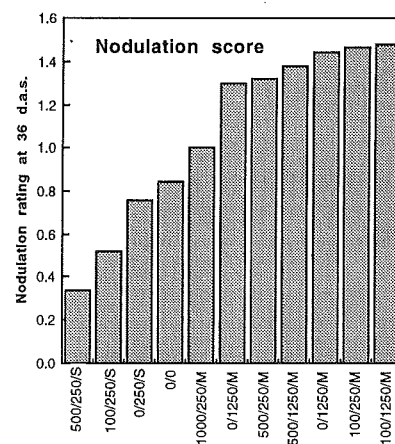
Inoculant and fungicide

Earlier this year claims were made that if a fungicide was applied to the seed, allowed to dry and then the seeds were inoculated with the Group G peat inoculum, nodulation of the young lupin plant would be unaffected and the young

seedling would be protected from brown leaf spot.

Dr John Howieson, microbiologist, tested these claims at a trial site at Yelbeni this year. The trial site had never grown lupins before, but obviously had some background bugs in the soil or else contamination occurred during the seeding operation as evidenced by the uninoculated control plots (see graph 0/0).

The inoculant used in the trial was 'Double N' inoculant and the fungicide was Rovral®.



Key:

S = Stored 14 days

M = Sown into moist soil 1.5 hours after treatment
1st rate Rovral® mL/100 kg of seed
2nd rate Inoculant g/100 kg of seed

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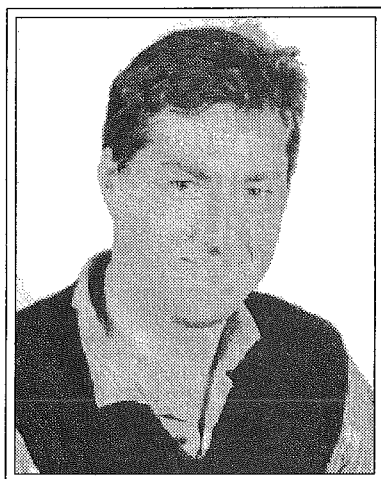
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Continued overleaf...

For example, 100/250/S = 100 mL Rovral® and 250 g of inoculant/100 kg seed and the seed stored for 14 days before seeding.

The results show that storage for 14 days (which is equivalent to many crops that were dry seeded this year) reduced nodulation, particularly in the presence of a fungicide. The results re-emphasise the recommendation that first crop lupins should be inoculated and sown into moist soil. Under these conditions the fungicide did not appear to affect nodulation.



John Howieson

Lupin flowering

The following table predicts the time of flowering for lupins when germinating at different times in three regions of the State. I emphasise *germinating*, because many crops were dry seeded this year. The prediction model is temperature driven with the knowledge that the lupin plant requires approximately 1100 day degrees from planting to flowering. The winter to date has been warm, therefore slightly earlier flowering than the dates outlined in the table may be expected. In fact, in the Geraldton area (25 July), I have already seen one crop of Kiev's that have been in first flower for one week. We would be interested to hear from you in your region whether these tables are accurate.

Planting date	Geraldton	Merredin	Esperance
April 15	June 22	July 12	July 11
April 29	July 12	August 4	August 2
May 13	August 19	August 22	August 19
May 22	August 10	August 29	August 26
May 27	August 16	September 4	September 1
June 10	August 29	September 14	September 11
June 24	September 9	September 22	September 20
July 8	September 22	September 30	September 28

AGWEST Seed Quality now in business

The lupin seed quality service will be provided this season by a business unit of the Department of Agriculture, **AGWEST Seed Quality**. The business unit, headed up by Donald Nicholas, will take over the work previously undertaken by Seed Services.

AGWEST Seed Quality will operate along commercial lines with an emphasis on servicing the needs of customers.

Some features of the service will be:

- availability of an extensive range of seed tests;
- weekday service from 8:00 a.m. to 5:00 p.m.;
- telephone (09) 368 3721;
- facsimile (09) 474 2658;
- a reply paid service for delivery of lupin samples.

Handbook of grain legumes

A very useful publication for grain legume growers is available from the Department of Primary Industries in South Australia.

The handbook is a loose-leaf folder, that is updated every two years. It is written with an Australia-wide perspective on the winter grain legumes of peas, beans, lupins, chickpeas and lentils. The handbook contains 122 pages of text and 159 excellent colour photo-

graphs. It is a valuable reference for all grain legume growers. The cost of 'Grain Legume Handbook' is \$50 and is available from PO Box 90, RIVERTON S.A. 5412. Phone 085-285273, Fax 085-285310.

Reminders

- Tissue tests for manganese. See Lupin Logic Nos. 8, 13 and 25.
- Look out for aphid activity. Budworm on albus.

Meetings

The Grain Pool of WA will discuss with growers prices, contracts and marketing arrangements of crops for the forthcoming harvest. The meetings will be held at the following locations and times:

Albus

Northampton Aug. 16 7.00 p.m.
Country Club

Nabawa Aug. 17 7.30 a.m.
Comm. Centre

Bootenal Aug. 17 7.00 p.m.
Tavern

Faba beans, chickpeas

Dongara Aug. 18 7.30 a.m.
Motel

All grain legumes

Mingenew Aug. 18 10.30 a.m.
Sports Pavilion

Dalwallinu Aug. 22 7.00 p.m.

Bencubbin Aug. 23 9.00 a.m.

Kellerberrin Aug. 30 7.00 p.m.

Naremben Aug. 31 8.00 a.m.

Quairading Aug. 31 2.00 p.m.

Broomehill Sept. 5 7.00 p.m.

Kukerin Sept. 6 10.00 a.m.