



Department of
Agriculture and Food



Research Library

Lupin Logic

10-1996

Lupin Logic Number 75

Follow this and additional works at: <https://researchlibrary.agric.wa.gov.au/newslupin>



Part of the [Agribusiness Commons](#), [Agronomy and Crop Sciences Commons](#), [Horticulture Commons](#), and the [Other Plant Sciences Commons](#)

Recommended Citation

(1996), *Lupin Logic Number 75*. Department of Agriculture and Food, Western Australia, Perth. Book.

This book is brought to you for free and open access by Research Library. It has been accepted for inclusion in Lupin Logic by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au.

IMPORTANT DISCLAIMER

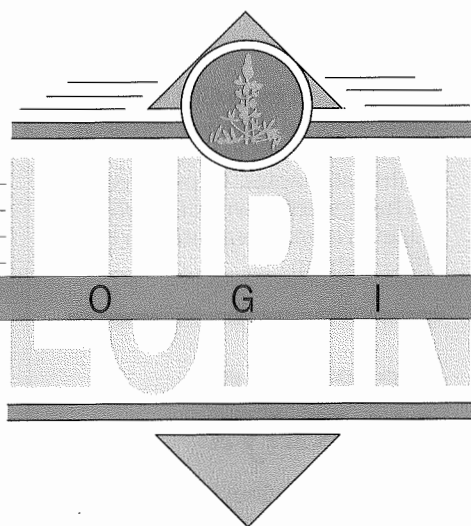
This document has been obtained from DAFWA's research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA's archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, policies or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA's research library website, DAFWA's main website (<https://www.agric.wa.gov.au>) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA's research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.



Grain Pool of W.A.



Editor: Peter Nelson

October 1996

Registered by Australia Post - Publication No. WBG2760

Number 75

ISSN 1035-3763

Anthracnose arrives

Mark Sweetingham, Senior Plant Pathologist, Agriculture Western Australia

Anthracnose is caused by the fungus *Colletotrichum gloeosporioides*. It was first recorded on lupins in south-eastern USA in 1939. In recent times it has become the most damaging lupin disease in the world.

On 3 September anthracnose was reported in two *L. albus* (Kiev) crops east of Mingenew.

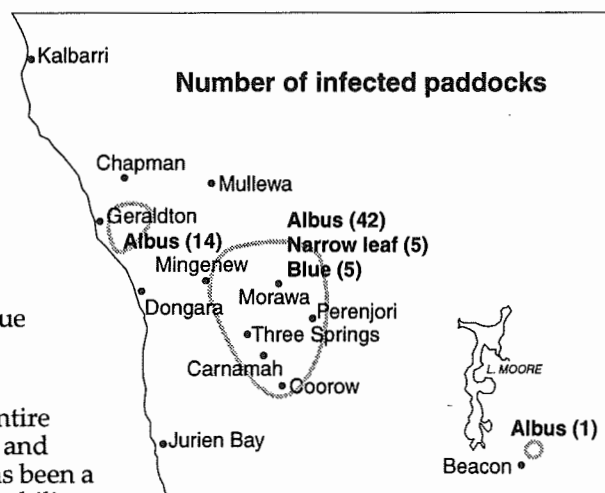
As of 2 October surveillance has established that there are 67 infected paddocks on 52 properties. Albus crops account for 57 infections, with 5 on narrow-leafed lupins and 5 on sandplain blue lupins.

This outbreak is a serious threat to the entire lupin industry in WA and consequently there has been a rapid and extensive mobilisation of resources within Agriculture Western Australia.

Seed source

The strong linkage to Albus crops is consistent with the outbreak starting and spreading from infected seed. Evidence from the large number of properties infected in 1996 suggests the current outbreak probably originated from seed imported in 1993 or earlier.

The geographical distribution of the outbreak fits with the spread of rain-splashed spores over relatively short distances. There is evidence of longer distance spread by animals and farm machinery into nearby narrow-leafed and sandplain blue lupins. The location of infected crops are shown below.



Also, John Gladstones had collaborated with a lupin breeding program in the USA to get anthracnose resistance into the variety Illyarrie. The USA program closed down in the early 1980s.

In August 1994 anthracnose was found in breeders' plots at Chapman Valley, Mullewa, Goomalling and South Perth. At each site the infection had started in a single breeding line of Albus lupins from Germany. The disease was eradicated by removing and destroying all infected plants and adjacent plots as described in *Lupin Logic* No. 59. The areas were fenced off and regular inspections in 1995 and 1996 have shown no disease on the sites or in nearby lupins.

Anthracnose strains

In 1994 we began investigations which showed the existence of two distinct strains of the lupin anthracnose fungus. VCG-1 occurs in North America and Europe. VCG-2 occurs in South America and is the same strain responsible for the recent devastation of perennial lupins grown in the pine forests of New Zealand reported in 1993.

There is strong circumstantial evidence that VCG-2 was introduced into Europe from Chile in Albus seed in the early 1980s.

Past experiences

Until recently the threat from anthracnose was not considered great. The fungus had been recorded on sandplain blue lupins near Busselton in 1960 and its lack of spread into commercial plantings was believed to indicate that the disease was not adapted to Western Australian conditions.

Lupin Logic is published by the Grain Pool of WA in cooperation with Agriculture Western Australia.
 Editorial address: Grain Pool of WA, Grain Pool Building, 172-176 St Georges Terrace, Perth WA 6000
 Telephone (09) 481 0959 Facsimile (09) 481 3553 Toll free (008) 19 9083 Mobile (018) 92 6657

So it seems that the VCG-2 is a highly virulent strain and can cause severe disease on Illyarrie (which may prove to be resistant to VCG-1). All 1996 infected crops tested so far have been caused by VCG-2.

Disease symptoms

See enclosed flyer.

Quarantine

Realising the threat posed by the new strain, quarantine restrictions were placed on the importation of lupin seed into Western Australia at the beginning of 1995 and efforts were made to expand this to an Australia-wide restriction.

Action required

Several Albus crops developed very severe anthracnose in 1996 that would have yielded nothing had they not been destroyed. The unusually wet season undoubtedly favoured severe disease. However, many of the infected paddocks have only a low level of infection. It is possible that the latter situation exists in paddocks where the surveillance teams or growers failed to find anthracnose.

It is strongly advised that all Albus seed in Western Australia is delivered and not retained for sowing. Similarly all narrow-leaved lupin seed from infected and neighbouring properties should be delivered and new seed sourced for 1997 plantings.

As well as removing infected seed, containment and possible eradication will involve crop rotation to exhaust infection levels in lupin trash, fungicide seed treatments and continued destruction of blue lupins in the high risk areas.

Future work

Pathologists at Agriculture Western Australia and CLIMA,

with support from GRDC are embarking on detailed research on the disease to produce control strategies. Lupin breeders have started work on producing resistant varieties to the VCG-2 strain.

Release of 460 Kalya

Kalya (previously known as 851-460) will be officially released at the JERAC Expo. Full details about its performance and attributes will be found on the enclosed sheet prepared by Wallace Cowling, Agriculture Western Australia.

In brief, Kalya is a high-yielding and aphid-resistant lupin variety that has performed well in the low L2-L4, medium M1-M5 and high (apart from H3) rainfall areas.

Seed (which is provisionally protected by plant variety rights) will be available from the listed seed growers.

Seed testing

The extended mild growing season has seen several flights of aphids into lupin crops. Many crops have set pods on 3rd and 4th order laterals. Aphids may transmit CMV into the seeds of these later pods. CMV symptoms may not be evident in the crop. To ensure viable disease-free seed is available for the 1997 lupin crop you should have your seed tested.

Remember if you are farming in areas near anthracnose infected crops you should obtain new narrow-leaved lupin seed this year. Before buying any seed you should ascertain its quality through a seed test.

The seed testing laboratory will receive samples for testing from 21 October. The samples to

be tested (1 kg) must be a representative sample/s of your seedlot/s. The samples should be forwarded to:

AGWEST Seed Quality
Agriculture Western Australia
3 Baron-Hay Court
SOUTH PERTH WA 6151

Testing includes CMV test, germination percentage and 1000 seed weight. Cost \$150.

For further information contact Donald Nicholas.

Phone: (09) 368 3721
Fax: (09) 474 2658

An alternative seed testing service is being provided by:

South Australian Research and Development Institute (SARDI)
PMB 1
GLEN OSMOND SA 5064

Testing includes CMV test, germination percentage and 1000 seed weight. Cost \$150. For CMV only, cost \$100.

For free CMV sampling packs and further information contact Evita Alberts.

Phone: (08) 303 9371
Fax: (08) 303 9393

Pool payments

The lupin indicator price is at a near record high. Lupin growers could now expect a gross pool return of \$210/tonne.

The lupin price forecast has improved on the back of a tight supply/demand protein market. Protein prices have risen on the back of a global shortage of protein materials, caused by a marked decline in plantings and adverse weather in the United States.

Budworm

Monitor crops carefully this month. Access Pestfax by dialling 1902 990 506 Document No. 24001.

DISCLAIMER

Articles submitted, information provided and views expressed in this publication are those of the contributing authors and not those of the publishers.

No representation is given, assurance made or responsibility taken as to the accuracy, completeness, appropriateness or validity of any information contained in this publication and neither the publishers nor their officers and employees will be liable on any account whatsoever (including negligence, defamation or otherwise) for any loss or damage arising as a result of the inclusion of or any reliance on any such information (except in so far as any liability cannot be excluded by law) and both contributors and readers must make and rely wholly on their own enquiries and judgement.