6-1996

Lupin Logic Number 71

LUPIN LOGIC

Grain Pool of W.A.

Agriculture WESTERN AUSTRALIA

Editor: Peter Nelson

June 1996

Number 71

ISSN 1035-3763

Registered by Australia Post - Publication No. WBG2760

Lupin seeding demonstration

With the huge range of seeding machinery options available today, machine selection is a complex issue. In order to directly address this, a group of Watheroo farmers with assistance from Darryl Abbott, Development Officer at Moora, have set up a demonstration site to compare six different lupin seeding systems on farm.

The demonstration was held on the 19 April at Miles Scotts' property. Over 100 farmers attended to see the performance of the machines seeding lupins into stubble. The seeding systems were:

- Great plains double disc opener.
- Case offset disc seeder.
- Forward germinator (Biomax, single disc opener).
- Two Cultitrash machines.
- Auseeder deep blade system.

The machines were seeding into a 2.4 tonne stubble. All handled dry stubble very well. But after 12 mm of rain it was a different story. Melon vines combined with wet straw caused some problems for those machines that could not cut through the vines.

Double super was applied at 120 kg/ha and the seed was sown at 100 kg/ha. Fertiliser placement varied from topdressed and incorporated with the offset discs, to deep banded with the DBS system.

The level of surface stubble retained varied greatly between machines. The Forward Germinator left most of the stubble standing providing good protection for seedlings.

In contrast the cultitrash machines buried a lot of stubble leaving the soil surface exposed.

A field walk will be held after emergence to look at the plant density, seed placement and pleiochaeta levels. During the season other critical factors will be monitored such as the simazine incorporation and plant nutrition. These factors as well as cultivation effects may become apparent through the season and the final yields will be compared between machines.

At the completion of the demonstration the farmers will have some very good site and crop specific information for these machines. Yield comparisons will have to be made very carefully as there is a huge range of variability in these seeding systems such as fertiliser placement and row spacing. The demonstration will give an indication of what machine gave the best results in this years conditions on this soil type. By monitoring the different factors affecting plant establishment, growth and disease, growers can determine which seeding system will work in their farming system.

Cucumber mosaic virus

Donald Nicholas, Manager of Agwest Seed Quality has provided data shown in the table overleaf of CMV levels and germination percentages from different regional areas. This year 76% of the samples tested had no CMV and 96% had less than 0.2% CMV. This is an excellent result and indicates that as long as other components of the CMV packages are adopted (i.e. high seeding rates, planting early and stubble retention) CMV should have little effect on the yield of the 1996 crop.

However, if you study the table closely you will see that there is still room for concern in the Esperance and Jerramungup areas both from CMV incidence and low germination percentage of the seed. It is also worth pointing out that although Lake Grace recorded 99% of samples tested with less than 0.2% CMV one grower had seed which we would not recommend as suitable for planting (0.9% CMV, 30% germination). This emphasises the need to test every year for CMV and viable germination percentage.

Only when we have genetic resistance to CMV in lupin varieties can we afford to stop testing for CMV.

Lupin Logic is published by the Grain Pool of W.A. in co-operation with Agriculture Western Australia.
Editorial address: Agriculture Western Australia, 3 Baron-Hay Court, South Perth.
Telephone (09) 368 3465, Mobile (018) 92 6657 or Fax (09) 474 3759
Grain Pool of W.A., Grain Pool Building, 172-176 St. George's Terrace, Perth W.A. 6000
Telephone (09) 481 0959 Facsimile (09) 481 3553 Toll free (008) 19 9083

Continued overleaf...

LUPIN QUALITY SERVICE 1995/96
CMV TESTING RESULTS
as at 17 April 1996

Number of samples and percentage of samples in various classes.						Germ-ination
DISTRICT	Zero	<0.2%	0.2-0.5%	>0.5%	No. of samples	%
Albany	62%	35%	4%	0%	26	72
Esperance	33%	32%	8%	27%	60	76
Geraldton	80%	18%	3%	0%	160	85
Jerramungup	78%	0%	0%	22%	9	68
Katanning	82%	18%	0%	0%	71	79
Lake Grace	91%	8%	0%	2%	53	84
Merredin	94%	4%	2%	0%	51	86
Moora	82%	17%	1%	0%	198	87
Narrogin	81%	16%	1%	2%	89	86
Northam	68%	30%	1%	1%	130	86
Three Springs	65%	33%	1%	1%	94	87
"Other"	100%	0%	0%	0%	15	82
Overall %	76%	20%	2%	2%	956	84
Overall No.	724	193	16	23	956	813

Market opportunities in Indonesia

Tony Fairbrother

Indonesia is still a likely consumer of Western Australian lupins for human consumption. Tempe, an indigenous Indonesian food, was discussed in the last issue of Lupin Logic. Lupin tempe is similar in appearance to soy tempe but has a distinctive yellow colouration.

Our team of researchers headed by David Petterson, has been developing the tempe project aiming to bring it to a commercial reality. Research at Curtin University of Technology is looking at the scientific aspects of the product while production trials and consumer testing have been done in Indonesia.

Lupin tempe has been produced in two commercial tempe factories in Indonesia using both whole grain lupin and splits. Production presented no major difficulties with the bacteria and mould growing well on the lupin substrate. Both manufacturers prefer the lupin splits over the whole seeds because the seed coats are difficult to remove and if not removed impart a bitter taste and an unsightly blemish in the finished tempe.

Consumer trials were conducted in conjunction with Gadjah Mada University and a tempe factory. Australian sweet lupin (variety Gungurru) and Albus lupin (or white lupin) tempe were tested.

The two lupin tempes were compared against soybean tempe. Most families preferred the soybean tempe. This was not surprising as the families had been raised on soybean tempe and related better to its colour, texture and flavour. The colour of fried lupin tempe is noticeably darker than fried soybean tempe, but the texture was the biggest apparent difference.

Lupin kernels do not soften during the soaking and cooking steps as do soybeans, and this results in a much firmer tempe with the lupin seeds remaining quite chewy.

While the results did indicate that the soybean tempe was preferred, they also showed that a large number of Indonesians did like lupin tempe and that they were prepared to buy the product if it were available.

Another commercial tempe factory, based in Jakarta, has developed his own tempe product using a 50/50 blend of lupin splits and soybean. The owner sold the blended tempe at his market outlet and reported that customers came back asking for more!! We were not present to verify the results but we do know that he is asking us to forward him more lupin splits.

Work in this area is near completion and we now require effective and efficient marketing of lupin seeds or splits in Indonesia.

A seminar explaining in more detail the results of the research and the potential of lupin consumption in Indonesia will be conducted on the 13 June 1996, at the Agriculture Western Australia theatrette. If you are interested please contact Tony Fairbrother on (09) 351 7991 for further information.

8th International Lupin Conference

The conference was held in Monterey, California last month. It was attended by 117 delegates representing 23 countries.

Dr John Gladstones, formerly principal plant breeder with the Department of Agriculture attended the conference and was made an honorary member of the International Lupin Association in recognition for his contribution to the lupin industry. This is the first award that the association has made since its formation in 1980.

Conference highlights

International concern was expressed about the ravages of the disease anthracnose, see lupin logic number 59. An international committee was formed to carry out cooperative research on this disease.

French breeders have developed a winter dwarf albus lupin variety which may find a place in farming systems in Europe. It is currently being field tested in England.

An American economist, who was in the market to buy lupins, forecast that lupins would be on the futures exchange in the near future. He is trying to foster lupin production in the northern mid west states of the USA.

During discussion with representatives from throughout the world, South Africa was not represented, I formed the impression that whilst there was potential for lupin development in several countries this potential has still not been realised.

I have arranged for international experts to summarise lupin production in their respective countries and the articles will appear in future issues of Lupin Logic.