Liebe Group
Spring Field Day

Thursday 12th September, 2002

The Shaw property, 5 km east Buntine on Dinnie Rd

9.00 am REGISTRATION 4.30 pm CLOSE

A wealth of information including ….

- **On-site research by the Kondinin Group examining compaction, radial and tracks.**
- **Do you know what our soils are capable of holding?**
- **PR70 – an insight from the people who developed the technology.**
- **Do nutrient seed dressings increase yield?**
- **Lupin varieties – include local grower bred varieties.**
- **Clearfield wheat.**
- **Stomp vs. Trifluralin – herbicide tolerance, yield and weed control issues.**
- **A demonstration of the salt tolerance of different pasture varieties.**
- **Grass selective options for lupins including a new herbicide Aramo and other options including crop topping and brown manuring.**
- **All new and soon to be released wheat varieties (including the Carnamah replacement).**
- **Management practices in a dry season.**
- **Fertiliser strategies after a difficult season.**
- **Nitrogen timing and placement.**
- **Lupin wide rows – an alternative weed control method.**

From a Kellerberrin farm to a commodity analyst in New York and in Buntine for our Spring Field Day – Mitch Morrison, Trading Manager with AWB (Melbourne) speaking on "*Behind the scenes of hedging wheat*."

Following a request from the WOMEN'S FIELD DAY, there will be a special group for WOMEN or other people requiring less technical information.

Please contact the Liebe Office by the 3rd September if babysitting is required.

After …… *Fun, drinks and a butt of beef.*

Cost:Free for Liebe Group Members

$40 Non Members

(cost includes field day booklet, tea & coffee, morning tea, a butt of beef after event AND a wealth of knowledge!)

Lunch available for purchase

- Discounts apply for pre-registered bus tours.
- Subsidised Liebe Group membership available for first time members at the Spring Field Day.

All welcome.

For more information please contact the Liebe Group Office on 9664 2030.

Research & Demonstrations at the Main Trial Site has been conducted by:

Wesfarmers Landmark, Agritech Crop Research, CSBP futurefarm, Department of Agriculture, BASF, CSIRO and Elders

Event Sponsor: PIBA – Primary Industry Bank of Australia Limited – Investing in the growth of agriculture – A member of the Rabobank Group

Diamond Sponsors: CSBP futurefarm. AWB LIMITED

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The 2002 Liebe Group Spring Field Day

I would like to welcome you all to our Spring Field Day. The trials have come up exceptionally well considering that we again have been faced with a difficult season. Thank you to CSBP Futurefarm, AgriTech, The Department of Agriculture, BASF, Elders, Pierre Fievez and Associates, Brian Pover and CSIRO for their support and trials with the Liebe Group this season. A big thanks to Wesfarmers Landmark and agronomist Tim Borgwood for the fantastic effort he has again put in assisting with this site and many of the trials.

I would like to take this opportunity to thank the Shaw family for making the site available and for their tremendous assistance in helping make the trials a success. As you will see they have not planted their paddock around the cereal trial site due to the extreme lack of moisture. Rainfall has been extremely lacking throughout our region. I hope we can get some interesting results from the trials but let us hope that we are not faced with too many more seasons such as this.

The annual survey is about to go out soon. This is a great way for you to offer new ideas for the group and to provide us with feedback.

Please do not hesitate to catch up with myself or any of the committee during the day if you want to have a chat about anything.

I hope you all enjoy the day.

Regards,

Stuart McAlpine
R&D Chairperson
Liebe Group

SOIL COMPACTION UNDER TYRES AND TRACKS

AIM: Assess and demonstrate soil compaction under tyres and tracks.

RESEARCH COMPANY: Kondinin Group, Department of Ag WA and GRDC.

CONTACT: Peter Walsh - 08 9478 8331

BACKGROUND: This trial aims to compare the extent and severity of soil compaction damage induced by wheels and tracks of different tractors and a grain harvester.

We will be taking penetrometer profiles before and after the pass of the different tyres and tracks under test. The penetrometer is a device that measures the force to push what is basically a moisture probe into the ground. The numbers that the penetrometer produces do not mean very much, and it is very susceptible to differing moisture content within the soil.

But by taking a profile before and after the pass of a tyre or track, we are basically able to measure the change in penetration resistance of the soil.

Peter Walsh has developed a way to present the penetrometer profiles that gives a good visual indication of what is happening below the soil surface.

At the field day, we will be driving the tractors and the grain harvester over the soil and taking profiles before and after each pass. An implement will provide drawbar load to induce wheelslip in some tests. Some results will be available for discussion in the late afternoon session. A full analysis of results will be published through the Kondinin Group and Liebe Group publications.

TRIAL DETAILS:

DATE	VEHICLE	Deep rip	Drawbar load
12/9/2002	Rubber track	No	Yes
12/9/2002	Rubber track (artic)	No	Yes
12/9/2002	4WD tractor (Radial duals)	No	Yes
12/9/2002	FWA tractor (radials)	No	Yes
12/9/2002	Grain Harvester (1 pass)	No	No
12/9/2002	Grain Harvester (1 pass)	No	No
12/9/2002	Rubber track	Yes	Yes
12/9/2002	Rubber track (artic)	Yes	Yes
12/9/2002	4WD tractor (Radial duals)	Yes	Yes
12/9/2002	FWA tractor (radials)	Yes	Yes
12/9/2002	Grain Harvester (1 pass)	Yes	No
12/9/2002	Grain Harvester (1 pass)	Yes	No

PRACTICE FOR PROFIT

AIM: To test the effect of four levels of management inputs on grain yield, quality and profitability.

RESEARCH COMPANY: Agritech Crop Research and Liebe Group

CONTACT: Peter Burgess (08) 9295 6661

BACKGROUND: The Liebe Group contracted Agritech Crop Research to perform this trial in order to determine the profitability of four different management input levels – low, district, high and seasonal. This trial is intended to run over 10 seasons and is in its second year.

TRIAL DETAILS:

Sowing and maintenance
Sowing date: 20th June
Tillage type: Knifepoint (min till)
Seed bed: Friable – cloddy (5% wheat stubble)
Soil moisture: Semi-moist
Depth: 2.5 cm
Row spacing: 22 cm

Nutrition
20th June Urea applied IBS
20th June Agstar CZM banded
20th June DAP banded
24th July MOP top dressed to treatments 3 & 7 (high)

Crop Protection
20th June Chemicals applied IBS

General Comments
Site visited on 24th July. Wheat at Z12 – Z13. There were no signs of crop phytotoxicity evident in any plots and nutrition generally appeared OK. Soil moisture was a concern, however, plots were doing OK. Weeds present were Wild Oats and Barley Grass (1 – 2 leaf) in very low numbers (not worth spraying).

TRIAL LAYOUT:

No.	Treatment	Form	Rate	Unit	Timing	Date Completed	Plot No. By Rep		
							1	2	3
1	**ARRINO**						**101**	**207**	**301**
1	**LOW INPUT**								
1	Seed	S	50	kg/ha	Sowing	20/06/02			
1	nil seed dressing					20/06/02			
1	Glean (if needed)	DF	10	g/ha	IBS	20/06/02			
1	BS1000	AD	0.2	% V/V	IBS	20/06/02			
1	DAP	WG	50	kg/ha	sidebanded	20/06/02			
1	Dimethoate (for RLEM if needed)	EC	100	mL/ha	as per label				
1	Diuron	SC	350	mL/ha	Z13-Z15				
1	MCPA	EC	400	mL/ha	Z13-Z15				
1	Nil fungicide								
2	**ARRINO**						**102**	**206**	**308**
2	**DISTRICT INPUT**								
2	Seed	S	70	kg/ha	Sowing	20/06/02			
2	Premis	EC	100	mL/100 kg	with seed	20/06/02			
2	Trifluralin	EC	1.5	L/ha	IBS	20/06/02			
2	Logran	WP	35	g/ha	IBS	20/06/02			
2	BS1000	AD	0.2	% V/V	IBS	20/06/02			
2	Agstar	WG	100	kg/ha	sidebanded	20/06/02			
2	Urea	WG	50	kg/ha	IBS	20/06/02			
2	Insecticide (if needed)								
2	2,4-D Amine (if needed)	EC	1	L/ha	Post Em				
2	Fungicide (if needed)								
3	**ARRINO**						**103**	**201**	**304**
3	**HIGH INPUT**								
3	Seed	S	100	kg/ha	Sowing	20/06/02			
3	Real	EC	150	mL/100 kg	with seed	20/06/02			
3	Trifluralin	EC	1.5	L/ha	IBS	20/06/02			
3	Logran	WP	35	g/ha	IBS	20/06/02			
3	BS1000	AD	0.2	% V/V	IBS	20/06/02			
3	Agstar	WG	140	kg/ha	Sideband	20/06/02			
3	Urea	WG	80	kg/ha	IBS	20/06/02			
3	Fastac	EC	150	mL/ha	Z13				
3	Insecticide (knockdown if needed)				Post Em				
3	Dimethoate (for RLEM if needed)	EC	100	mL/ha	as per label				
3	Tigrex (if needed)	EC	500	mL/ha	Post Em				
3	Triad (regardless)	EC	500	mL/ha	Early Stem Elong.				
3	MOP	WG	80	kg/ha	Z12	24/07/02			
3	Coptrel	SC	250	mL/ha	Z57				
3	Fungicide (broad spectrum if needed)								
4	**ARRINO**						**104**	**205**	**303**
4	**ACTIVE MANAGEMENT**								
4	Seed	S	70	kg/ha	Sowing	20/06/02			
4	Trifluralin	EC	1.5	L/ha	IBS	20/06/02			
4	Agstar (5.75 units P)	WG	42.3	kg/ha	Sideband top dressed	20/06/02			
4	Urea if >40mm of moisture	WG	30	kg/ha	IBS	20/06/02			
4	Nil Urea if <40mm moisture								
							Plot No. By Rep		

No.	Treatment	Form	Rate	Unit	Timing	Date Completed	1	2	3
5	**CALINGIRI**						**105**	**208**	**302**
5	**LOW INPUT**								
5	Seed	S	50	kg/ha	Sowing	20/06/02			
5	nil seed dressing					20/06/02			
5	Glean (if needed)	DF	10	g/ha	IBS	20/06/02			
5	BS1000	AD	0.2	% V/V	IBS	20/06/02			
5	DAP	WG	50	kg/ha	sidebanded	20/06/02			
5	Dimethoate (for RLEM if needed)	EC	100	mL/ha	as per label				
5	Diuron	SC	350	mL/ha	Z13-Z15				
5	MCPA	EC	400	mL/ha	Z13-Z15				
5	Nil fungicide								
6	**CALINGIRI**						**106**	**204**	**307**
6	**DISTRICT INPUT**								
6	Seed	S	70	kg/ha mL/100	Sowing	20/06/02			
6	Premis	EC	100	kg	with seed	20/06/02			
6	Trifluralin	EC	1.5	L/ha	IBS	20/06/02			
6	Logran	WP	35	g/ha	IBS	20/06/02			
6	BS1000	AD	0.2	% V/V	IBS	20/06/02			
6	Agstar	WG	100	kg/ha	sidebanded	20/06/02			
6	Urea	WG	50	kg/ha	IBS	20/06/02			
6	Insecticide (if needed)								
6	2,4-D Amine (if needed)	EC	1	L/ha	Post Em				
6	Fungicide (if needed)								
7	**CALINGIRI**						**107**	**202**	**306**
7	**HIGH INPUT**								
7	Seed	S	100	kg/ha mL/100	Sowing	20/06/02			
7	Premis	EC	150	kg	with seed	20/06/02			
7	Trifluralin	EC	1.5	L/ha	IBS	20/06/02			
7	Logran	WP	35	g/ha	IBS	20/06/02			
7	BS1000	AD	0.2	% V/V	IBS	20/06/02			
7	Agstar	WG	140	kg/ha	Sideband	20/06/02			
7	Urea	WG	80	kg/ha	IBS	20/06/02			
7	Fastac	EC	150	mL/ha	Z13				
7	Insecticide (knockdown if needed)				Post Em				
7	Dimethoate (for RLEM if needed)		100	mL/ha	as per label				
7	Tigrex (if needed)	EC	500	mL/ha	Post Em				
7	Triad (regardless)	EC	500	mL/ha	Early Stem Elong.				
7	MOP	WG	80	kg/ha	Z12	24/07/02			
7	Coptrel	SC	250	mL/ha	Z57				
7	Fungicide (broad spectrum if needed)								
8	**CALINGIRI**						**108**	**203**	**305**
8	**ACTIVE MANAGEMENT**								
8	Seed	S	70	kg/ha	Sowing	20/06/02			
8	Trifluralin	EC	1.5	L/ha	IBS	20/06/02			
8	Agstar (5.75 units P)	WG	42.3	kg/ha	Sideband	20/06/02			
8	Urea if >40mm of moisture	WG	30	kg/ha	IBS	20/06/02			
8	Nil Urea if <40mm moisture								

STOMP VS TRIFLURALIN

AIM: To compare Stomp and Trifluralin in two different seeding systems. Also to gauge a new chemical - Cinmethylin.

RESEARCH COMPANY: Wesfarmers Landmark and BASF

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: The struggle to overcome Resistant Ryegrass in recent years has led to a huge increase in the use of pre-emergent chemicals such as Trifluralin and Stomp. While Trifluralin definitely has a price advantage, the crop safety and extended incorporation timing for Stomp has always had its attractive qualities. This trial aims to compare these chemicals under two different sowing systems, with a 0 hr and 24 hr incorporation window.

Implements used: John Ryan DBS sowing system
Knife Points and Rotary Harrows sowing system

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
28/06/02	Seeding	As per protocol	Chemicals
	Arrino Wheat	Agyield	60 kg/ha
		Urea	Nil
29/06/02	Second Timing	Knife Points and Rotary Harrows	
03/09/02	Plant Counts		
	Weed Counts		

TREATMENTS:

No.	Treatments			1	2	3
1	Untreated			4	16	38
2	Stomp 1.8L			8	17	40
3	Trifluralin 1.2L			11	18	34
4	Cinmethylin 275ml			3	19	43
5	Stomp 1.8L	Logran B 50g		6	20	35
6	Trifluralin 1.2L	Logran B 50g		15	21	31
7	Stomp 1.8L	Logran 35g		12	22	42
8	Trifluralin 1.2L	Logran 35g		14	23	36
9	Stomp 1.8L	Dual 750ml	Avadex 1.0L	2	24	39
10	Trifluralin 1.2L	Dual 750ml	Avadex 1.0L	9	25	41
11	Stomp 1.8L	Diuron 1.0L		5	26	33
12	Trifluralin 3.0L			10	27	45
13	Logran B 50g			13	28	32
14	Logran 35g			1	29	44
15	Trifluralin 1.5L	Logran 35g	Diuron 750ml	7	30	37

ADDITIONAL INFORMATION: Lack of rain and seasonal conditions may not show true reflection of trial results - trial needs to be repeated.

FLEXI-N TIMING

AIM: Compare Flexi-N timing especially late protein boost applications for wheat.

RESEARCH COMPANY: CSBP Futurefarm

CONTACT: Troy Conley

TRIAL DETAILS:

	Treatments	***Flexi-N /ha***		Total incl. basal** kg/ha		
	Boom IBS	6-8 WAS	Late application	P	N	K
1	nil	-	-	20	15	20
2	66 kg = 50 L	-	-	20	36	20
3	132 kg = 100 L	-	-	20	57	20
4	132 kg = 100 L	66 kg = 50 L	-	20	78	20
5	132 kg = 100 L	66 kg = 50 L	66 kg = 50 L @ flag	20	99	20
6	132 kg = 100 L	66 kg = 50 L	66 kg = 50 L @ ear emergence	20	99	20
7	132 kg = 100 L	66 kg = 50 L	66 kg = 50 L @ flowering	20	99	20
8	132 kg = 100 L	66 kg = 50 L	66 kg = 50 L @ soft dough	20	99	20

* IBS: Immediately before seeding** Basal 113 Agflow banded + 40 potash TD Trial size = 85.25 x 20 m

SOIL ANALYSIS	Description	P	N(Nit)	N(Amm)	K	S	OC	Fe	Salt	pH
0-10cm	Lt brn loam	25	6	4	98	9.1	0.76	433	0.056	4.5

RECOMMENDATION: For medium production 41 N, 16 P; For high production 94 N, 23 P

The site was sprayed with Trifluralin and Logran before seeding on the 12th June in dry soil conditions using knifepoints and press wheels on 9 inch spacings. The trial germinated well on small rains, but has been struggling through dry conditions ever since.

In reaction to the seasonal conditions the second application of Flexi-N was not done given the yield potential of the crop and continuing dry soil conditions the upfront Nitrogen will be sufficient to fulfil the crops needs.

ADDITIONAL INFORMATION:

There have been no visual differences between the nil, 50 l/ha and 100 l/ha, although plant tissue tests have reflected the differences in uptake of Nitrogen.

Further differences will be seen at harvest time when both yield and protein can be measured.

NUTRIENT SEED TREATMENTS AND SU HERBICIDE INTERACTION

AIM: To compare four common Nutrient Seed Dressings and their interaction with Group B Herbicides (SU - Sulphonyl Urea).

RESEARCH COMPANY: Wesfarmers Landmark

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: Nutrient seed treatments such as BSN10, Super Symcoat and Broadacre Zn have been used extensively throughout the area in recent years. The ingredients of these seed treatments are quite different. Therefore, this trial aims to find which of these seed dressings suits the pre-seeding application for which it is targeted, and also aims to see if the Zinc content in these products, can help to overcome root pruning effects associated with the use of Group B herbicides.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
17/06/02	Seeding	1.5 L/ha	Trifluralin 480
		80 kg/ha	Agstar
		50 kg/ha	Urea
19/08/02	Post-em Weeds - D-Gee, Radish and Wild Oats	1.5 L/ha	Hoegrass
		500 mL/ha	Bromicide MA
		4 g/ha	Eclipse
		0.25%	Wetting Agent

TREATMENTS:

No.	Treatment	Group B	1	2	3
1	Control		1	17	31
2	Broadacre Zn		2	19	35
3	Broadacre Zn Mo		3	18	32
4	BSN 10		4	16	34
5	Super Symcoat		5	20	33
6	Control	Glean	6	21	37
7	Broadacre Zn	Glean	7	22	38
8	Broadacre Zn Mo	Glean	8	25	36
9	BSN 10	Glean	9	24	40
10	Super Symcoat	Glean	10	23	39
11	Control	Logran	11	30	45
12	Broadacre Zn	Logran	12	28	43
13	Broadacre Zn Mo	Logran	13	29	42
14	BSN 10	Logran	14	26	44
15	Super Symcoat	Logran	15	27	41

ADDITIONAL INFORMATION: Lack of rain and seasonal conditions may not show true reflection of trial results - trial needs to be repeated.

EVALUATION OF PR70 ON ACID SANDS AT BUNTINE

AIM: To determine whether the seed inoculant, PR70, is economical on acid sands at Buntine. The inoculant will be used in conjunction with increasing rates of phosphorus to determine the effect on plant growth and yield.

COMPANY: Elders Limited

CONTACT: Brett Beard, Dalwallinu

BACKGROUND: Phosphorus is one of, if not the most, important nutrients involved in broadacre cropping. The issue is that the soil contains many different forms of phosphorus compounds, of which, a lot are not available for plant uptake. This has a lot to do with the soil type and its particular characteristics (i.e. pH, reactive iron, soil moisture). Phosphorus is not very mobile in the soil and high reactive iron soil types fix phosphorus making it unavailable to plants. PR70 is a new species of naturally occurring fungi isolated from populations found near Wagga Wagga, which colonizes the roots of wheat plants. Released by Australian Seed Inoculants, this product has been described as enhancing fertilizer uptake, plant growth and yield.

Past work indicates that this product is most effective in neutral to acid soils.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
	Soil test		CSBP
31st June 2002	Sowing	100kg	Wyalkatchem wheat
31st July 2002	Spraying	380g + 0.75%	Achieve + Supercharge
15th August 2002	Spreading/Spraying	110kg/ 200ml + 5g + 0.1%	Urea/ Lontrel + Ally + Wetter
21st August 2002	Tissue Test		CSBP

TREATMENTS (and plot number): 8 treatments in 4 reps, RCB design

Plot 1002 – 0 units P, - Pr70
1003 – 7.5 units P, - Pr70
1004 – 15 units P, - Pr70
1005 – 30 units P, - Pr70
1006 – 0 units P, + Pr70
1007 – 7.5 units P, + Pr70
1008 – 15 units P, + Pr70
1009 – 30 units P, + Pr70

There are buffer plots at either end of the trial and reps are 2 wide and 2 deep. Plot numbers go from 1001 – 1018 at the front and 2001 – 2018 at the back.

ADDITIONAL INFORMATION:

***Soil test**

Nitrate (ppm)	9
Ammonium (ppm)	3
Phosphorus (ppm)	24
Potassium (ppm)	125
Sulphur (ppm)	14
Organic Carbon (%)	0.84

Reactive Iron (ppm)	485
EC (dS/m)	0.06
pH (1:5$CaCl_2$)	4.7

*Soil K adequate.
*P applied as Double Super and drilled with the seed
*Pasture in 2001
*PR70 applied at 1L/t seed
*Still waiting on tissue test results
*Final measurements are yield data and gross margins
*Seeding equipment: Min-till small plot cone seeder – inverted T points at 8 inch spacing, with chisel tynes and press wheels
*Trial seeded dry and first rainfall of mm fell days after seeding
*Growing season rainfall -

WHEAT VARIETY TRIAL

AIM: To evaluate and compare the genetic potential of a range of new and soon to be released local and interstate wheat varieties in the region.

RESEARCH COMPANY: Agritech Crop Research

CONTACT: Peter Burgess (08) 9295 6661

BACKGROUND: In recent years a number of wheat varieties from a range of public and private institutions have been, and are about to be introduced into farming systems across Australia. Often varieties are released to growers due to commercial pressures, or from grower demand as a result of poor performance of existing varieties. Some varieties are released with only limited information on key aspects such as quality, harvestability, disease resistance and profitability.

Variety adoption is often reliant on grower experimentation to determine their regional suitability. With increased varieties becoming available, growers do not have the time or capacity to fully test all new lines. The role of Agritech Crop Research is to independently evaluate in small plot trials, new and soon to be released wheat varieties that have possible application across a wide range of WA soil types and environmental conditions.

Another aspect of this research is grower participation. This project seeks to value add small plot research by linking it to farm scale adaptive testing. Variety evaluation in close liaison with grower groups ensures growers have a full understanding of varieties and the agronomic practices required to maximize genetic potential.

TRIAL DETAILS:

Sowing and Maintenance
Sowing date: 19th June
Tillage type: Knifepoint (min-till)
Seed bed: Friable, cloddy, 5% burnt stubble
Soil moisture: Semi-moist
Rate: 75 kg/ha
Depth: 2.5 cm
Row spacing: 22 cm

Nutrition
19th June 10 kg/ha Agstar CZM banded at seeding
24th July 80 kg/ha Urea topdressed postem

Crop Protection
19th June 2 L/ha Trifluralin IBS
19th June 1 L/ha Chlorpyrifos IBS
19th June 35 g/ha Logran IBS

TRIAL

Rep

buffer	3	RAC 892	GBA 143	WAWHT2281	Mitre	Calingiri	Camm	Lang	WAWHT2549	Stiletto	WI99069	H45	Yitpi	Carnamah	Calingiri	RAC 964	Chara	Babbler	WAWHT2530	Braewood	RAC 891	GBAI 099	WAWHT2193	Wyalkatchem	RAC 951	Westonia	buffer	CVT T2 (not sown)
		301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325		
buffer	2	RAC 964	H45	RAC 951	Lang	Chara	RAC 891	Westonia	Yitpi	Mitre	WAWHT2530	WAWHT2193	GBA 143	Camm	Wyalkatchem	Braewood	WAWHT2549	RAC 892	GBAI 099	Stiletto	Calingiri	Carnamah	Babbler	WAWHT2281	WI99069	Calingiri	buffer	
		201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225		
buffer	1	GBA 143	Chara	Carnamah	Braewood	WAWHT2193	Calingiri	WAWHT2549	Babbler	H45	Camm	WAWHT2281	Stiletto	Westonia	WAWHT2530	Calingiri	RAC 964	WI99069	Mitre	RAC 891	Wyalkatchem	RAC 892	Lang	Yitpi	GBAI 099	RAC 951	buffer	
		101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125		

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LAYOUT:

CLEARFIELD WHEAT DEMONSTRATION

AIM: To demonstrate the Clearfield Wheat system, comparing the control of Brome Grass between the chemicals Monza and MIDAS.

RESEARCH COMPANY: Wesfarmers Landmark and BASF

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: Until the last few years, control of Brome Grass in a wheat crop was almost impossible. The release of Monza has now made this grass a readily controlled weed. The Clearfield Wheat system is aimed at this market, and will potentially provide control of brome grass, as well as barley grass and annual ryegrass (providing it is not resistant), radish and some of the other broadleaf weeds.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
15/06/02	Seeding		
20/06/02	Monza PSPE	25 g/ha	Monza
		2%	DC-Trate
20/07/02	Insect Control	100mls	Dimethoate
		100mls	Cypermethrin

TREATMENTS:

No.	Post Emergent Treatments		1	2	3
1	Monza PSPE	25 g/ha	1		
2	Midas	900 mL/ha	2		
3	Monza Post	25 g/ha	3		
4	Bromicide MA and Eclipse	500 mL and 4 g/ha	4		
5	Untreated		5		
	Pre-Emergent Treatments				
1	Untreated		1		
2	Stomp	1.8 L/ha	2		
3	Cinmethylin	275 ml/ha	3		
4	Trifluralin	1.2 L/ha	4		

ADDITIONAL INFORMATION: This trial was dependent on a reasonable weed burden of Brome Grass, Barley Grass, Radish and other weeds. Lack of rainfall and staggered germination of both crop and weeds has made it difficult to achieve good timing and chemical application. Lack of weeds was also disappointing.

TO INCREASE THE VALUE AND QUALITY OF EXPORT LUPINS

AIMS*:* To increase protein levels in lupins and returns to WA lupin growers.
To identify the impact of agronomic practices on protein levels in lupin varieties.

COMPANY: PIERRE FIÉVEZ & ASSOCIATES
CONTACT: PIERRE FIÉVEZ, Phone: 9385 6655

BACKGROUND: Nearly all lupins exported go into the livestock feed ration market. The protein level of lupins remains the key quality parameter for marketers. The Grain Pool of WA has offered a $3/t premium to lupin growers for each 1% protein above 32%.

Over the past ten years WA Dept of Agriculture has identified differences in protein levels between lupin varieties. The recently released higher yielding varieties such as Belara (32.8%) had lower protein levels than the older varieties such as Myallie (36.4%). GPWA has over the recent harvest also sampled all lupin deliveries for protein. The combined information will however not identify differences due to agronomic management or seasonal factors. It will also not assist with understanding the relationship between yield and protein.

In 1998, the older varieties of Gungurru, Merritt and Myallie were around 88% of the WA crop (CBH data). By 2001, it was estimated that these varieties were 34% of the crop with the newer varieties of Belara, Tanjil, Wonga and Kalya comprising 64% of the crop. This trend suggests a gradual lowering of the protein level of the lupin crop over the next few years (until varieties with better protein levels become available).

Given the higher and more consistent yield and also the anthracnose resistance of some of the new varieties, it is hard to see growers reverting to the old varieties just to achieve better protein. In the short term the best chance of manipulating lupin protein levels will come from researching the agronomy of lupin production to identify what factors will impact on protein and whether yields and other plant characteristics are affected also. Interactions between varieties and their agronomic responses as far as they affect protein levels also need to be established.

The effect of seasonal conditions on production of carbohydrate and protein in cereals is well understood. In lupins, little is known how these two components changes when seasonal conditions change. The project needs to be quite wide in its approach, given the lack of previous trial work in this area. This three year project is a collaborative effort between WA Dept. of Agriculture (Bob French) and Pierre Fiévez & Associates. The project is funded by GRDC.

TRIAL DETAILS: Experimental sites are located at Mingenew, Wubin, Wongan Hills and Miling. These sites represent a good cross section of the main lupin growing areas of WA. They also provide a range of soil types, climates and yield potentials typical of lupin production areas.

The experiments at each site have two main objectives:
Firstly, variety X time of planting X seed rate aims to identify interactions between varieties, their individual response to management and the impact of seasonal conditions and soil type. The varieties are Tanjil (standard), Wonga, Belara, Quilinock and Myallie (old check variety).
The second component is looking at nutritional factors and their impact on yield and protein. Nutrients considered to have the most likely influence on protein are nitrogen, potassium, sulphur, molybdenum, cobalt. Manganese may also be important.

A number of treatments in the nutrition trials will be sampled for plant analysis. All trials will be harvested for yield. Grain samples from all plots will be assessed by CBH in the same way as that from growers. Further grain analysis eg. for sulphur amino acids will be undertaken if considered warranted.

WODJIL LUPINS

Brian Pover, NRI, Povers Rural, Coorow

WODJIL Lupin is regaining popularity due to improved world protein prices and improved agronomic package now available to maximise yield.

CHARACTERISTICS OF WODJIL:

1. Early maturing, before Gungurru.
2. Harvest height 15% greater than Merrit.ie suits low rainfall years.
3. Tolerates aluminium toxicity and low PH.
4. Very efficient at extracting phosphorus and manganese
5. Resistant to brown leaf spot and immune to Pleiochaeta root rot.
6. Resistant to Eradu patch and CMV.
7. Susceptible to Aphids. Controllable with timely insecticide spray.
8. Susceptible to high rates of Triazine .Diuron and Eclipse can be damaging herbicides.
9. Brodal is considered a safe broadleaf weed control option.
10. Protein content is approx 7% to 10% higher than White Lupins.
11. Susceptible to Anthracnose.

MARKETS:

L.luteus lupin e.g. Wodjil is showing increasing demand in the stock feed industry , particularly the Fish, Poultry and Pig industries and is expected to reach price premiums of $50-$70 over current angustifolius varieties. In low pH soil types yields are usually higher and therefore returns justify aphid control measures.

DEPARTMENT OF AGRICULTURE WA LUPIN CVT

AIM: Lupin Variety Comparison - L2 Testing Region

RESEARCH COMPANY: Wesfarmers Landmark and AgWA

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: The poor performance of lupin varieties in the Liebe area in recent years has seen an increasing swing of farmers away from the traditional lupin: wheat rotation. The development of newer lines such as WALAN2141 may see a variety more suited to the drier Wheatbelt conditions. Plus three farmer selected lines called Mason, Waterhouse and FS1, will test a wider range of varieties that will hopefully perform in the harsher climate.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
10/05/02	Seeding	2.0 L/ha	Simazine
		500 mL/ha	Atrazine
		90 kg/ha	Big Phos TE
10/05/02	Insect Insurance	1 L/ha	Endosulfan
19/08/02	Post-em Grass	300 mL/ha	Motsa
		1%	Hasten

TREATMENTS:

No.	Treatment	1	2	3
1	Tanjil	1	26	39
2	Belara	6	27	34
3	Gungurru	9	19	41
4	Kalya	14	20	38
5	Merrit	7	18	43
6	Quilinock	8	29	31
7	Tallerack	10	30	35
8	Wonga	15	17	40
9	WALAN2141	4	28	37
10	WALAN2149	2	23	42
11	WALAN2156	11	22	32
12	WALAN2160	12	16	36
13	FS1	5	24	44
14	Mason	3	21	45
15	Waterhouse	13	25	33

ADDITIONAL INFORMATION: Lack of rain and seasonal conditions may not show true reflection of trial results - trial needs to be repeated.

SNIPER VS BRODAL EVALUATION

AIM: To compare the effectiveness of Sniper vs. Brodal with different mixing partners - and crop tolerance.
RESEARCH COMPANY: Wesfarmers Landmark and BASF

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: Sniper was introduced into the market as an option for slightly bigger Radish weeds that may have passed the traditional Brodal timing. This trial looks at both chemicals with different mixing partners, and potential crop tolerance on Tanjil, Belara, Gungurru and Kalya.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
29/04/02	Seeding		
19/08/02	Grass Spray	300 mL/ha	Aramo
		1%	Hasten
04/09/02	Treatment Application	As per protocol	As per protocol

TREATMENTS:

No.	Post Emergent Treatments			1	2	3
1	Untreated			1		
2	Sniper 33g			2		
3	Brodal Options 100ml			3		
4	Sniper 50g			4		
5	Brodal Options 150ml			5		
6	Sniper 33g	Simazine 500ml		6		
7	Brodal Options 100ml	Simazine 500ml		7		
8	Sniper 33g	Metribuzin 80g		8		
9	Brodal Options 100ml	Metribuzin 80g		9		
10	Sniper 33g	Eclipse 5g		10		
11	Brodal Options 100ml	Eclipse 5g		11		
12	Sniper 33g	Simazine 500ml	Metribuzin 80g	12		
13	Brodal Options 100ml	Simazine 500ml	Metribuzin 80g	13		

ADDITIONAL INFORMATION: Poor emergence and lack of rain almost caused this trial to be discontinued. The lack of radish emergence in the trial was also disappointing. Recent rains and late growth has meant that this trial was worth persevering with more so from a crop tolerance point of view rather than a weed control perspective.

GRASS SELECTIVE DEMONSTRATION

AIM: To demonstrate the herbicide options that may be available for resistant weeds and stressed spray conditions.

RESEARCH COMPANY: Wesfarmers Landmark and BASF

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: With increasing ryegrass resistance to a range of chemical groups, this trial will put a number of ryegrass chemical control methods to the test. This trial looks at chemical options in both cereal and pulse crops, and compares results in moisture stressed conditions.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
19/08/02	Sprayed	As per protocol	
Spray conditions were reasonable with rainfall events in the previous five days. The ryegrass was still showing signs of slight moisture stress. Spray rate: 50L/ha Boom width: 3m Boom			

TREATMENTS:

No.	Treatments - Front Replicate			1	2	3
1	Hoegrass 1.2L		Wetter 0.25%	1		
2	Achieve 200g	Hoegrass 400ml	Supercharge 1%	2		
3	Untreated			3		
4	Achieve 380g		Supercharge 1%	4		
5	Achieve 500g		Supercharge 1%	5		
6	Hoegrass 1.0L	Sertin 186 40ml	Wetter 0.25%	6		
7	Achieve 300g	Sertin 186 40ml	Supercharge 1%	7		
8	Gramoxone 1.0L		Wetter 0.2%	8		
9	Glyphosate 1.5L		Wetter 0.2%	9		
10	Sprayseed 1.5L		Wetter 0.2%	10		
	Treatments - Back Replicate					
11	Verdict 70ml	50L Water Rate	Hasten 1%	11		
12	Verdict 70ml	100L Water Rate	Hasten 1%	12		
13	Verdict 50mls	Sertin Plus 310ml	Hasten 0.5%	13		
14	Sertin Plus 800ml			14		
15	Select 250ml		Hasten 1%	15		
16	Select 250ml	AMS @ 1%	Hasten 1%	16		
17	Aramo 240ml		Hasten 1%	17		
18	Aramo 300ml		Hasten 1%	18		
19	Fusion 250ml		Hasten 1%	19		
20	Motsa 300ml		Hasten 1%	20		

SALT TOLERANT PASTURE VARIETIES

AIM: To demonstrate the tolerance of different pasture varieties and species to increasing saline soil.

RESEARCH COMPANY: Wesfarmers Landmark and the Liebe Group

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: This trial will try to demonstrate the claims of so called salt tolerant pasture varieties such as Salado Lucerne and Balansa Clover, comparing them to other common pasture varieties and species.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
17/06/02	Seeding	1.5 L/ha	Trifluralin
	Pastures	60 kg/ha	Pasture Cu, Zn, Mo
	Grasses	80 kg/ha	Agstar
		50 kg/ha	Urea
20/06/02	Insect Insurance	1 L/ha	Endosulfan
19/08/02	Radish Spray	1400 mL/ha	Bromoxynil

TREATMENTS:

No.	Treatments		1	2	3
1	Grasses	Safeguard Ryegrass	1		
2		Tall Wheat Grass	2		
3		Puccinellia	3		
4		Tall Fescue - Frado	4		
5	Lucerne	L69	5		
6		L90	6		
7		Aquarius	7		
8		Genesis	8		
9		Rippa	9		
10		Sceptre	10		
11		Super 7	11		
12		Salado	12		
13	Serradella	Cadiz	13		
14		Santorini	14		
15	Clover	Frontier Balansa	15		
16		Nitro Persian	16		
17		Prolific	17		

ADDITIONAL INFORMATION: This trial was sown down near the salt, and then replicated up at the main trial site. This was done to try and establish how the different pastures would perform both with, and without saline soil. The dry conditions have clouded results with delayed germination and stressed plants.

PASTURE HERBICIDE TOLERANCE

AIM: To further herbicide tolerance work on common varieties and species of pastures, with a big focus on Raptor.

RESEARCH COMPANY: Wesfarmers Landmark and BASF

CONTACT: Tim Borgward 0429 960 284

BACKGROUND: The poor performance of pulse and canola crops in recent times has made it difficult to find a suitable break crop for wheat. The renewed interest in sheep and cattle with improved prices has led to a renewed focus on different pasture species and varieties. With the new pasture varieties however, has come a lack of tolerance to commonly used chemicals. The release of Raptor has been somewhat of a breakthrough on radish but finding suitable mixing partners for capeweed and double-gee has been difficult. This trial aims to give a visual demonstration of different chemicals with different mixing partners.

TRIAL DETAILS:

DATE	JOB	RATE/HA	PRODUCT
17/06/02	Seeding	1.5 L/ha	Trifluralin 480
20/06/02	Insecticide PSPE	1.0 L/ha	Endosulfan
14/08/02	Herb Tolerance Application	As per protocol	As per protocol

PASTURE VARIETIES:

No.	Varieties	Species	1	2	3
1	Cadiz	Serradella	1		
2	Santorini	Serradella	2		
3	Dalkeith	Sub Clover	3		
4	Frontier	Balansa	4		
5	T. Glanduliferum	Trifolium	5		
6	Casbah	Biserrula	6		

HERBICIDE TREATMENTS:

No.	Treatments					
1	Bromoxynil	1400 mL				
2	Raptor	45g			Hasten	0.5%
3	Raptor	35g			Hasten	0.5%
4	Untreated					
5	Raptor	30g	MCPA 500	250mls	Hasten	0.5%
6	Raptor	30g	AMS	2.0%	Hasten	0.5%
7	Broadstrike	25g			Hasten	0.5%
8	Broadstrike	15g	Diuron	150ml	Hasten	0.25%
9	Bromoxynil	1400mls				
10	Raptor	25g	Broadstrike	7g	Hasten	0.5%
11	Broadstrike	15g	Bromoxynil	750mls	Hasten	0.25%
12	Raptor	25g	Bromoxynil	500mls	Hasten	0.25%
13	Raptor	25g	Spinnaker	15g	Hasten	0.5%
14	Untreated					
15	Untreated					
16	Raptor	30g			Hasten	0.5%
17	Broadstrike	25g			Hasten	0.5%
18	Raptor	15g			Hasten	0.5%
19	24-DB Buttress	750mls				

ADDITIONAL INFORMATION: The original plan for this trial was to incorporate some form of grazing into the trial scenario. The last four treatments were set up so that the treatments would act as a sweetener for capeweed and radish to demonstrate the advantage for preferential grazing of weeds. The lack of growth of the pastures throughout the majority of the trial, the delayed emergence and lack of rainfall has again contributed towards a difficult end result. In the end the sheep were left out and the trial was treated as a straight herbicide tolerance trial.

BEHIND THE SCENES – HEDGING WHEAT AT AWB LIMITED

The service of offering prices to growers, managing the associated exposures and fulfilling commitments to buyers is the daily challenge of AWB International, through the National Pool, and also for AWB's Trading Division in a range of commodities in the domestic market.

AWB's National Pool has a much different risk profile to AWB's cash commodity books (run by the Trading Division), however many of the tools used to manage the risks are similar.

AWBI has a key role in price determination well in advance and beyond harvest. Managing commodity price forecasts, crop quality profiles, export sales expectations, currency fluctuations and the supply chain costs are the major risks that are managed by AWBI. The price risk management approach of the National Pool relies on securing daily information from a worldwide network and regularly reviewing and modifying strategies on market forecasts to achieve the most accurate expected pool return possible for growers.

AWB's Trading team manages a smaller yet potentially more volatile portfolio of commodities. Utilising many of the same techniques, Trading transmit daily cash prices for wheat, canola, sorghum and barley to marketplaces across Australia. The ability to derive prices and hedge the risk exposures varies, however the risk management approach relies upon an excellent understanding of the factors impacting on local basis, international basis and the substitutability of many grains and grades within the domestic market.

At the Liebe Group Spring Field Day, AWB's General Manager of Trading, Mitch Morison, will be comparing and contrasting the key factors that differentiate the approach of AWBI to AWB Trading in managing these exposures and will present his views on the price outlook for 2003 and how to take advantage of the current market circumstances.

SOIL CHARACTERISATION FOR WATER HOLDING CAPACITY

Neal Dalgliesh, Peter Carberry and Dean Hargreaves

Queensland-based CSIRO researchers are linking with the Liebe and Mingenew-Irwin farmer groups in WA to explore ways to better handle the vagaries of climate, markets and the production environment. Funding for the two-year project is provided through FarmBis, an initiative of the Department of Agriculture, Fisheries and Forestry. Project use of the internet, as a core communication tool, is enabling farmers and researchers, from opposite sides of the continent, to explore issues of interest through on-line, real-time Net meeting sessions, which combine the skills of the researchers in soil monitoring, systems simulation and seasonal climate forecasting, with the farmers' expert knowledge of their own systems and environment.

Although the project has only been operational for a few months, two on-line meetings have already been held to share information about local soils and seasonal yield potential with members of the Liebe Group. In addition two field visits have been made to WA to meet local farmers and gain a better understanding of the issues. A key component of these visits has been the setting up of six on-farm sites at Buntine, Wubin, Maya, Dalwallinu and Goodlands, established to learn more about the soils and to measure properties essential to successful crop simulation.

What has been found?

Soils ranging from deep sand, to sand over gravel and red sandy loams have been characterised for water holding capacity. Plant available water capacity can be shortened to PAWC or more simply, the bucket size of the soil. PAWC indicates the ability of a soil to hold water which a crop can extract. PAWC for soils in the Liebe area ranged from 88mm in the deep sand (at Buntine) to 121mm in the heavier soils (at Goodlands) to a depth of 180cm (Fig 1 and 2) – these values represent the water held in the soil between a drained upper limit (DUL) and a lower limit to water extraction.

Fig. 1

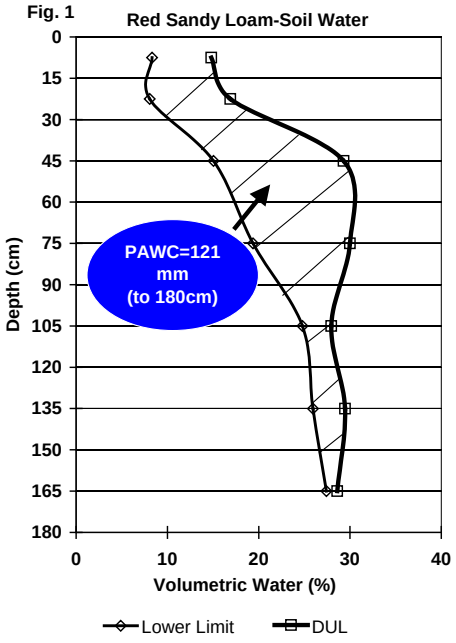
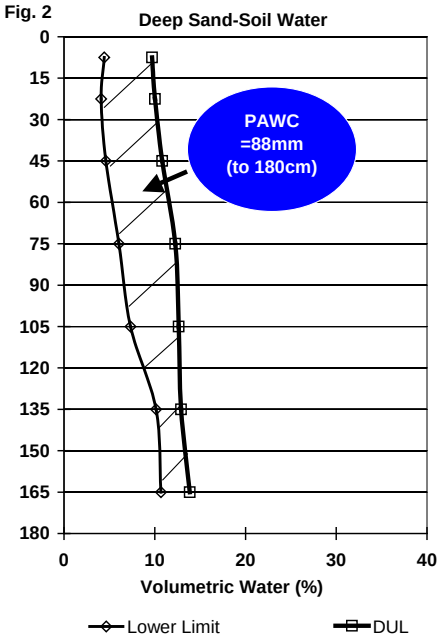


Fig. 2



Whilst PAWC indicates the quantity of water able to be stored in a particular soil, it is also necessary, for successful simulation, to know how much water is in the bucket at the start of the season. Figures 3 and 4 show the amount of water that was stored in the two example soils during the 2001-02 summer fallow. Because of the ability of clay soils to more effectively hold water (and in this case, an extra early rainfall event), a substantial amount has been stored in the clay (Fig 3), compared to the deep sand, where crops are more reliant on in-crop rainfall due to the reduced ability of the soil type to hold water (Fig 4).

Generally West Australian farmers haven't measured stored water, but this example at Liebe, in the current season, highlights the advantages of having stored water available for crop growth, and the power of knowing about soil water when making management decisions, particularly when linked with seasonal climate forecasting.

Fig. 3 Red Sandy Loam-Soil Water for wheat

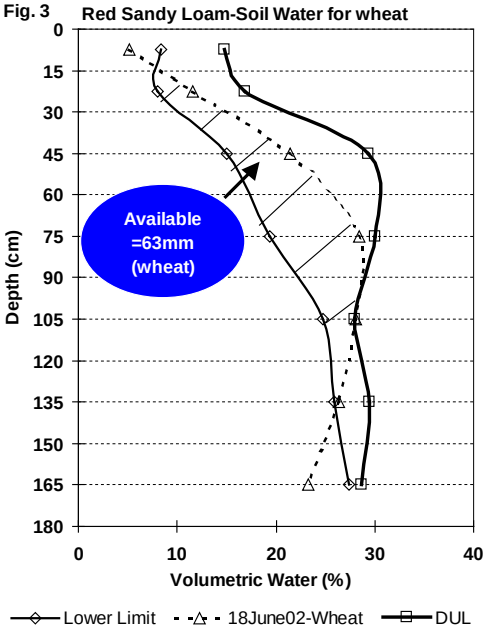
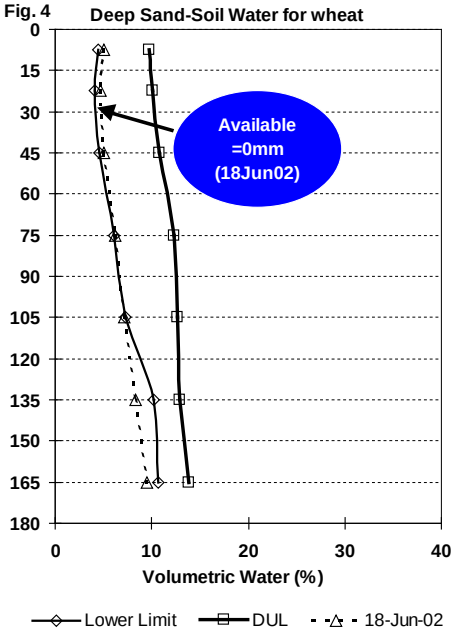


Fig. 4 Deep Sand-Soil Water for wheat



Although preliminary simulations of the crops being grown in the Liebe area have been done, it is now that the soil information is coming together that the power of the models to look at issues of interest to farmers and researchers, at the paddock scale, will come to the fore. This will be the next component of the project.

GRAIN POOL OF WA MARKET UPDATE

Peter Scott, Geraldton

Canola prices again rallied during the month of August, following the Stats Canada production report, which predicted a fall in Canadian canola production to 3.2 million, which is below earlier predictions of 3.5-4 million tonne. In past seasons Canada has produced up to 7 million tonnes of canola and therefore any fall in production this season will come directly out of the export market.

The sustained rally in canola values has boosted the 2002/03 canola pool estimate with an increase of $20/tonne to $450-$470.

However, the canola soybean difference has blown out to an excess of US $81/tonne and the lower soybean prices will make soybeans more attractive to international crushers and could place pressure on the physical canola market.

Soymeal has not rallied as strongly during August as oil and beans, with the rise attributable to crusher demand for oil rather than meal. This has placed a negative tone on the export protein complex.

If the dry conditions experienced this season in WA continue, it could be expected that domestic demand for lupins will strengthen as livestock farmers and feed mills try to shore up supply. This eventual price paid for lupins will be capped by the cost of substituting for other feed grains or the importation of soymeal.

Although the 2001/02 feed barley tonnage is largely sold, better than expected prices have been achieved for the last quarter due to reduced competition from alternate sources of new crop.

The continued problems with new crop availability and quantity from Canada have enabled the Grain Pool to establish higher price levels for malting barley in China, which is delivering improved equity returns.

During August Canada revised their pea production estimate downward to 1.5 million tonne, a substantial decrease from 2001 production of 2 million tonne. This is the smallest pea production since 1996 and should keep pea prices firm throughout harvest.

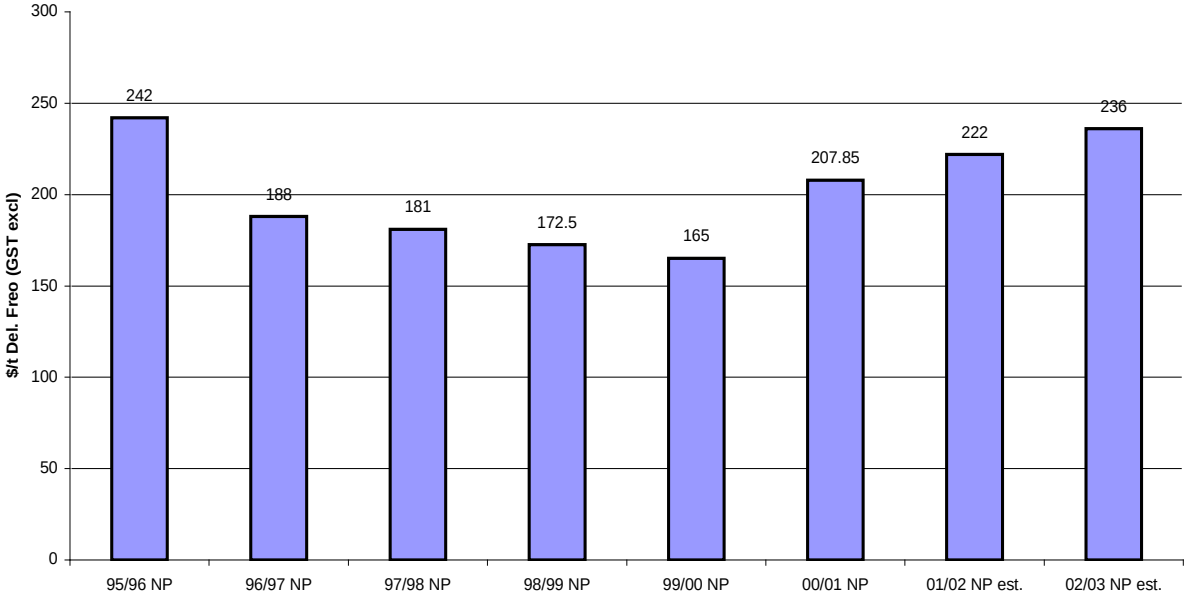
Cash and pool prices are also updated regularly on the Grain Pool website at **www.gpwa.com.au.** Information regarding quality assurance, receival standards, canola calculator, and details about the proposed merger of The Grain Pool of WA and CBH is also freely available to anyone connected to the Internet.

WHEAT MARKET UPDATE

Ruth Atterby, Regional Manager AWB Northam

National Pool (NP) Returns 1995/96 to 2002/03

APW 10% protein, 5% sscreenings, 12.5% moisture



AWB Limited's National Pool estimate for the 02/03 season is almost at record levels, having risen dramatically since wheat futures began rallying at the end of June this year. The National Pool estimate for APW has risen by $42/t since June, and is now estimated at $262/t FOB. On a delivered port basis, taking into account finance and underwriting costs, the current estimate is approximately $6/t below the excellent return achieved by the National Pool in 1995/96. With the introduction of Golden Rewards for moisture this year, another $7.50/t (est.) can be factored in for deliveries at 10% moisture.

As a result of reduced production forecasts for the US, Canada and Australia, wheat futures have reached a 4-5 year high recently. This world wheat market strength, combined with the exchange rate remaining historically low, has boosted the National Pool estimate as well as opportunities to secure definite returns using the Multi V and Basis Pool contracts. Remember the National Pool is an estimate and is subject to change if wheat market or exchange rate conditions change.

Current pricing opportunities can be used to secure returns for the 03/04 season as well. Multi V prices for the 0304 season are currently (3/9/02) equivalent to just below the 02/03 National Pool estimate.

TRIALS AND DEMONSTRATIONS IN THE LIEBE AREA

This is a current list of Trials and Demonstrations in the Coorow, Perenjori and Dalwallinu Shires.
Please fax through details of trials or on farm demonstrations on your property.
Include things that have gone wrong ... and things that have worked well.

This information will form the bulk of the *local* R&D Results publication that will be distributed to Liebe Group Members in February 2003. It can also be used by all farmers in the Liebe area, and surrounding areas, as a trials database. This database can be a useful reference for you to identify local research relevant to you - especially when considering the adoption of new technologies.

Please make this list as comprehensive as possible and fax your information through to the Liebe Office on 9664 2040.

FARMER	LOCATION	TYPE	TITLE	COMPANY	CONTACT
WHEAT					
M. Shaw	Buntine	Trial	Practice for Profit	Liebe Group	S. McAlpine
M. Shaw	Buntine	Trial	Wheat CVT	Agritech	P. Burgess
M. Shaw	Buntine	Trial	PR70	Elders	B. Beard
M. Shaw	MTS, Buntine	Trial	Liquid v Granular N with timing	CSBP	T. Conley
I. Stanley	Kalannie	Trial	Wheat CVT	Ag Dept	J. Milligan
B. Nixon	Kalannie	Trial	Agronomic Noodle	Ag Dept	Raphaele
B. Nixon	Kalannie	Trial	PR70	Elders	B. Beard
S. Hathway	Kalannie	Trial	Clearfield	Elders	B. Beard
M. Shaw	MTS, Buntine	Trial	Zn Seed Treatments v SUs	Wesfarmers	T. Borgward
M. Shaw	MTS, Buntine	Trial	IT	Wesfarmers	T. Borgward
M. Shaw	MTS, Buntine	Trial	Cinmethylin (establishment)	Wesfarmers	T. Borgward
	Dalwallinu	Trial	Liquid P	Summit	Andrew
R. Birch	Coorow	Trial	Potassium	Summit	P. Jefferies
R. McCreery	Kalannie	Demo	Durum	Ag Dept	
S. Hathway	Kalannie		Clearfield v Midas Control	Elders	B. Beard
BARLEY					
M. Shaw	M.T.S, Buntine	Trial	Agronomic Trial	Agritech	P. Burgess
I. Stanley	Kalannie	Trial	Variety Trial	Ag Dept	J. Milligan
N. Diamond	Buntine	Trial	Variety * Soil pH	Ag Dept	B. Paynter
LUPINS					
M. Shaw	M.T.S, Buntine	Trial	Varieties	Wesfarmers	T. Borgward
Ian Stanley	Kalannie	CVT	Variety Trial	Dep of Ag	J. Milligan
M. Shaw	MTS, Buntine	Trial	Wide row spacing	Dept of Ag	M. Collins
CANOLA					
Bob Nixon	Kalannie	Trial	Variety	Elders	B. Beard
PASTURE					
M. Shaw	MTS, Buntine	Trial	Variety * herbicide	Wesfarmers	T. Borgward
N. Diamond	Buntine	Trial	Pasture legumes * soil pH	Ag Dept	D. Fedorenko
K. Carter	Wubin	Trial	Grazing subtropical grasses on salt land.	Ag Dept	T. Wiley

R. McCreery	Kalannie	Trial	Subtropical legumes	Ag Dept	G. Moore
PULSES					
M. Shaw	MTS, Buntine	Trial	Sniper vs. Brodal	Wesfarmers	T. Borgward
M. Shaw	MTS, Buntine	Trial	New Grass Selective	Wesfarmers	T. Borgward
D. Falconer	Coorow	Trial	Lentil Variety	Ag Dept	M. Harries
D. Falconer	Coorow	Trial	Chickpea S4	Ag Dept	M. Harries
LIVESTOCK					
G. Mason	Perenjori	Trial	Woolpro	Ag. Dept	L. Rogers
MISC.					
R. Fitzsimons			Melaleuca Search Project		
P. Fryer	Muresk	Honours	Feasibility Study Development		
Gavin Broun	Coorow	Research	Wild Radish Emergence	U.W.A.	M. Walsh
Gayle Cail	Kalannie	Research	Wild Radish Emergence	U.W.A.	M. Walsh
Blayn Carlshausen	Wubin	Research	Wild Radish Emergence	U.W.A.	M. Walsh
P. Taylor			Oil Mallee Project		
B. King	Latham	Trial	Herbicide tolerance of the Melaleuca's	Dept of Ag.	M. Clarke
Ian Syme	Buntine	Trial	Raised Bed Farming	Dep of Ag	G. Hamilton
M. Clarke			Rapid Appraisal		
Mike Dodd	Buntine	Trial	Tree species	CALM	J. Carlslake

Please add your information to this list ... fax to Liebe Office on 96642040