

Trial 1

Variety Demonstration

Sponsored by the Australian Wheat Board

Aim: Comparing new and old varieties of crops.

Results:

Wheat	t/ha	protein %
Barunga	4.9	9.9
Bencubbin	3.4	9.1
Beulah	5.2	10.1
Condor	5.2	10.6
Federation	3.2	10.1
Frame	5.2	9.9
Goroke	5.2	10.3
Insignia	4.2	9.5
Janz	5.6	9.7
Machete	4.5	10.8
Meering	5.2	9.9
Ouyen	5.7	9.4
Rosella	6.1	9.4
Trident	5.9	10.5
Yanac	5.6	9.6
Durum		
Kronos	5.7	10.4
Yallaroi	6.2	10.1

Barley

Arapalies	4.4	10.4
Chebec	4.1	11.8
Dash	6.8	10.6
Galaxy	5.2	11.9
Galleon	5.0	10.8
Mundah	4.6	12.5
Namoi	3.9	15.1
O'Connor	5.2	11.3
Tantangara	6.8	11.0
Schooner	4.4	11.5
Skiff	6.2	10.8
Yagan	2.1	13.5

Triticale

Abacus	5.9	
Madonna	5.0	
Maiden	5.9	
Muir	5.5	
Tahara	6.3	

Oats	t/ha
Bandicoot	3.9
Bettong	4.6
Carrolup	3.9
Dalyup	6.0
Echidna	6.0
Euro	3.9
Marloo	3.2
Potoroo	5.3
Wallaroo	3.2

Field Peas

Bonza	1.0
Bluey	0.8
Dundale	1.1
Glenroy	0.9
Jupiter	0.9
Laura	1.6
Maple	1.7
Murrawet	1.6
Prussian	0.7
PSF10	1.3

Beans

Ascot	2.4
Barkool	3.2
Fiord	2.2
Icarus	2.3

Lupins

Gunguru	2.3
Kiev Mutant	1.3
Merrit	2.1
Myallie	2.2
Ultra	1.2
83A455	1.9

Linola

Argyle	0.3
Eyre	0.3
Wallaga	0.4

Fenugreek	1.2
Lathyrus	0.7

Remember : BCDS Field Day - 17th September

Note: The crops and varieties sown in the demonstrations at the Birchip sites were not replicated. The main purpose for demonstration trials is to show what the varieties look like and what the performance was on one plot at one site. If you are not familiar with a particular variety and you are planning to sow it in 1997 make sure you obtain information from your local Department of Agriculture on the results of the long term variety trials in your area.

VARIETY DESCRIPTIONS:-

Field Peas

- Bonzer** - white pea used for human consumption. Medium-short, semi-leafless pea with large smooth creamy seeds. Best suited to medium to low rainfall areas. Premium quality, yields are generally lower than other widely grown varieties.
- Laura** - white pea used for human consumption. Released in 1994. High yielding and widely adapted. Could suffer from small seeds (too small for splitting).
- Dundale** - Dun type pea. best suited to areas with medium (375 mm) rainfall.
- Bluey** - blue boiler type used in the canning trade. Short, semi-leafless pea with large creamy seed. Adapted to low - medium rainfall areas, early maturing. Market contracts are required.
- Jupiter** - blue boiler type used in the canning trade. Tall, early flowering, mid to late season maturing. Best suited to areas which receive good late winter rains. Market contracts are required when growing Jupiter. (PVR - Heritage Seeds).
- Glenroy** - Dun type pea. Semi-leafless variety, resistant to powdery mildew. Best suited to areas with an extended growing season.
- PSF10**:- purple-flowered semi-leafless variety with dun-type grain, this pea is taller and has better standing ability than Bonzer or Bluey. PSF10 is of medium-late maturity and starts to flower at the same time as Dun or 7-10 days later than Dundale. PSF10 yielded on average 5% less than Dundale in the Mallee trials sown by Agriculture Victoria in 1995. It out yielded Dundale in the Wimmera in 6 out of the 15 trials.

Faba Beans

- Fiord** - Flowers quite early, reasonably drought tolerant (compared to the other varieties) but hot weather will stop the flowering process. Susceptible to chocolate spot, Ascochyta and rust.
- Ascot** - similar attributes to Fiord (short in height and early flowering). Ascochyta resistant but susceptible to chocolate spot and rust. Ascot seed is registered under PVR.
- Barkool**:- similar attributes to Fiord, earlier flowering.
- Icarus** - mid season variety with resistance, but not immunity, to chocolate spot. Much taller than Fiord and Ascot, best suited to medium to high rainfall. Susceptible to Ascochyta and rust.

Lupins

- Merrit** - selection from Gungurru, with better Phomopsis resistance. Better drought tolerance than Gungurru and, in time, will replace Gungurru.
- Gungurru** - narrow leaf lupin - widely adapted, suited to most medium to high rainfall areas. Some tolerance to waterlogging. Moderately high resistance to Phomopsis.
- Myallie** - W.A variety released in 1996. Earlier flowering than Merrit, well adapted for medium to low rainfall areas in W.A. Taller than Merrit, low seed alkaloid levels and is resistant to phomopsis, moderate resistance to brown leaf spot.
- Kiev mutant** - broad leaved lupin with white, flat seeds. Grow poorly on deep sands and are intolerant to waterlogging. Low resistance to Phomopsis, tolerates some brown leaf spot on heavy soils (but not on sands).
- Ultra** - albus lupin. Maturity, grain size, disease resistance and harvest height are similar to Kiev Mutant. Suited for the Mallee but offers no advantage over Kiev Mutant.
- 83A455** - a NSW cultivar seed may be available in 1997. Flowers 1 to 4 days later than Merrit, is slightly taller, has lodging resistance and phomopsis resistance, but does not have strong resistance to brown

83A455 cont....

leaf spot. More suited to medium to high rainfall districts. However because of high alkaloid levels it may not be suitable for pig consumption but will be acceptable for poultry and ruminants.

Linola

Argyle - blue flower variety. Taller than Eyre and Wallaga. Extended flowering period in longer growing season areas. Lodging resistant. 15% higher yield compared to Eyre and Wallaga (1993). (unlikely to be suited to the southern Mallee and northern Wimmera).

Eyre - white flower variety. Slightly shorter season and better suited than Wallaga in low rainfall areas (unlikely to be suited to the southern Mallee and northern Wimmera).

Wallaga - blue flower variety. Susceptible to lodging, especially in high rainfall areas with high fertility (unlikely to be suited to the southern Mallee and northern Wimmera).

Lathyrus

Lathyrus or grass pea is a grain and forage legume adapted to low rainfall areas (300 mm). Suited to alkaline soils. Current varieties of Lathyrus are high in neurotoxins but new varieties low in neurotoxins may soon be available.

Fenugreek

Fenugreek is used as an ingredient in curry powder (also potential as sprouts, as are mung beans and lucerne). Information on the agronomy of fenugreek is scarce. Small areas have been planted, on-farm prices are in the range of \$350 to \$600/tonne.

Lucerne

Siriver - highly winter active. Best suited to intensive rotational grazing system and as the pasture phase in cropping rotations (released in 1980). Poor tolerance to waterlogging and saline conditions.

Trifecta - winter active, general purpose type - improved resistance to phytophthora root rot (released 1983). Moderate tolerance to waterlogging and saline conditions.

Aurora - moderately winter active. Resistant to aphids and phytophthora root rot. Good tolerance to waterlogging and saline conditions.

L69 - salt tolerant, winter active variety bred in the USA by Pioneer Hi-Bred International. Quick recovering versatile variety.

Medic

Orion - (sphere medic) early to mid season variety best suited to 350 to 550 mm rainfall zone. More tolerant to acid soils compared to other medics. Orion is tolerant to red-legged earthmite.

Sava - (snail medic) mid maturity, moderate resistance to RLEM and lucerne flea, suited to most alkaline soils in an annual rainfall region of 250mm and above producing good winter production.

Paraggio - (barrel medic) mid season variety best suited to areas with a minimum rainfall of 325 mm. Aphid resistant. Outclassed by Mogul and Caliph (and others).

Mogul - (barrel medic) mid season variety best suited to medium rainfall areas (400+ mm) with heavy soils. Excellent production, with dry matter production up to 40% better than Paraggio. Aphid resistant.

Santiago - (burr medic, smooth podded polymorpha type) mid season cultivar, best suited in areas with 325 to 425 mm rainfall, suited for a wide range of soil types. Some resistance to aphids. Very heavy seed producer and can tolerate heavy grazing.

Harberger AR - (strand medic) early maturing variety, best suited to the short season districts of the Mallee and northern Wimmera. Good winter production. Aphid resistant.

Caliph - (barrel medic) early maturing variety, best suited to the short season districts of the Mallee and northern Wimmera. More productive than Parabinga. Aphid resistant.

Parabinga - (barrel medic) early maturity, suitable for low rainfall districts with neutral to alkaline soils and has good winter production. Parabinga has moderate aphid resistance.

Wheat, Durum and Triticale Guide (Wheat quality classification for Silo group A)

Wheat	suitability in SM&NW (rainfall)	Coleoptile length*	Boron tolerance #	Rust@				CCN^			Septoria tritici@	Quality classification
				Stem	Stripe	Leaf	Resistance	Tolerance				
Barunga	✓		MT	S	MS	MS	R	MT		MS	APW	
Beulah	✓	MS		R	MR	MS	R	VI		S	APW	
Cocamba	✓	ML	I/MI	S	R/MR	MR	MS	MT		MR/MS	AH	
Condor	✓	MS	I	S	MR	S	S	I		MR/MS	AH	
Frame	✓		MT	MR	MS	MS	R	T/MT		MS/S	APW	
Goroke				R	MR	R	R	MI		MS	APW	
Janz	✓	MS	T	R	MR	R	S	I		MS	APW	
Machete	✓	VS		R	I	MR	S	I		S	APW	
Meering	✓	MS	I/MI	S	MR	MS	S	I		S	AH	
Ouyen	✓			MS	MR	S	R	MI		MS	AH	
Oxley	✓	VS	I/MI	S	R	MR	S	I		MR/MS	APW	
Rosella		ML		MS	R/MR	MS	S	MI		MR/MS	ASWN	
Trident		ML	T	R	R	MR	S	MT		S	\$3	
Vectis				S	MS	VS	S			MS	GP1	
Yanac				R	MR	MR	S	I		MS	ASW	
Durum	possibly											
Kamillaroi		VS		R	MR	R						
Kronos		VS		R	R	MS	S					
Wallaroi		VS		R	R	R	S			MR		
Yallaroi		VS		R	R	R	MR			R		
Triticale												
Abacus			MT									
Currency			MT	MR	R	R	S	T		R		
Madonna												
Maiden												
Muir			MT	MR	R	R	S	T				
Tahara	✓		MT	MR	R	R	R	T		R		

* Coleoptile length - L=long (95-110mm), ML=mod long (80-95 mm), MS=mod short (65-80 mm), VS=very short (<60 mm)

Boron - I=intolerant, M=moderately, T=tolerant

@ Rust and Septoria - S=susceptible, M=moderately, R=resistant

^ CCN - Resistance - S=susceptible (build up in eelworm), R=resistant (no build up in eelworm)

- Tolerance - I=intolerant, M=moderately, T=tolerant

Triticale is less susceptible to Take-all than wheat, Triticale is fully resistant to *Pratylenchus neglectus* (root lesion nematode)

Barley Guide

	suitability in SM&NW (rainfall)	Boron tolerance#	CCN		Barley Scald@	Powdery Mildew@	Rust@		Quality classification
			Resistance	Tolerance			Leaf	Stem	
Arapiles	✓		S	T	MS-S	MS-S	S	S	malting
Chebec	✓		R	T	MS-S	MS-S	S	S	feed
Dash			S	S	MR	R	R	S	feed
Franklin		MI	S	T	MR-S	R	MR-S	S	malting
Galaxy			S	S	MR			R	malting
Galleon	✓	MI	R	T	S	MR	MS-S	S	feed
Mundah	✓	T			S	S			feed
Namoi					MR	VS	S	MS	naked (human and feed)
O'Connor	✓				S	S			feed
Tallon			S	T	S		MR	S	malting?
Tantangara			S	S	R	S	MS-MR	S	feed
Schooner	✓	MI	S	T	MS-S	MS	S	S	malting
Skiff		MT	S	T	VS-R	MR	S	S	malting
Yagan	✓	MT	S	T	VS	MS	MS-S	S	feed

Boron - I=intolerant, M=moderately, T=tolerant

@ Leaf diseases- S=susceptible, M=moderately, R=resistant

^ CCN - Resistance - S=susceptible (build up in eelworm), R=resistant (no build up in eelworm)

- Tolerance - I=intolerant, M=moderately, T=tolerant

* Arapiles mainly recommended for the Wimmera in areas with an average annual rainfall above 375 mm

* although not recommended as malting varieties, Tallon and Skiff may be sought for malting purposes in Victoria depending on the requirements of the ABB and individual maltsters

Oat Guide

	suitability in SM&NW (rainfall)	Boron tolerance#	CCN^		Barley Yellow Dwarf Virus@	Rust@		Septoria avenae@	Quality classification
			Resistance	Tolerance		Leaf	Stem		
Bandicoot			S	VI	MR-MS	MR	MS	MR-MS	multi (naked)
Bettong	✓		R	VI	MR	R	MS	MS	multi
Carrolup			S	VI	MR	VS	S	MS	multi
Dalyup	✓		VS	VI	MR-MS	S	MR-MS	S	feed
Echidna	✓	MI	S	VI	MR-MS	S	MR-MS	VS	multi
Euro	✓		MR	VI	MR-MS	MR-MS	VS	S	milling
Marloo	✓	MI	R	MT	MR-MS	S	MS	MR/MS	multi
Mortlock	✓	MI	S	VI	MR-MS	S	MR	S	milling
Potoroo	✓		R	MT	MR-MS	MS	VS	VS	feed
Wallaroo	✓	MI	R	MT	MR-MS	S	MS	S	multi

Boron - I=intolerant, M=moderately, T=tolerant

@ Leaf diseases- S=susceptible, M=moderately, R=resistant

^ CCN - Resistance - S=susceptible (build up in eelworm), R=resistant (no build up in eelworm)

- Tolerance - I=intolerant, M=moderately, T=tolerant

Oats for What Purpose?

End Use	Rainfall Zone	
	< 375 mm	375 - 500 mm
Milling Grain	Wallaroo*, Echidna, Mortlock, Euro	Wallaroo*, Marloo*, Echidna, Mortlock, Euro
Feed Grain (sheep and cattle)	Potoroo*, Echidna	Potoroo*, Dalyup
Feed Grain (horses, pigs, poultry)		Bandicoot
Grazing and Feed grain	Wallaroo*	Wallaroo*, Marloo*
Hay - pure	Wallaroo*, Bettong	Wallaroo*, Bettong, Marloo*
- with legume (ie. vetch)	Wallaroo*, Bettong	Wallaroo*, Bettong, Marloo*, Echidna
Multi-purpose	Wallaroo*	Bettong

* tolerant to CCN (up to Sironem level 4)

- Euro oats are higher yielding than other milling varieties such as Mortlock, but Euro is lower yielding than the semi-dwarf types - Echidna and Potoroo. Euro are a quality oat.