

Trial 4

Variety Demonstration

Variety description and main characteristics

Field Peas

Alma - Dun type pea. Black-spot tolerant variety. Alma is late maturing.

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.

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.

Dundale - Dun type pea. best suited to areas with medium (375 mm) rainfall.

Dun - adaptable and most commonly grown pea.

Glenroy - Dun type pea. Semi-leafless variety, resistant to powdery mildew. Best suited to areas with an extended growing season.

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).

Laura - white pea used for human consumption. Released in 1994. High yielding and widely adapted. Could suffer from small seeds (too small for splitting).

Wirrega - pea used for human consumption. White flowered and seed is smooth and rounded. Best suited to areas with more than 475 mm annual rainfall. To be replaced by Laura.

Faba Beans

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.

Aquadulce - broad bean type with very large seeds (can be difficult to sow). Best suited to high rainfall areas (>600 mm) or on irrigation. Late maturing, flowers over a long time. More tolerant to chocolate spot and water logging than Fiord. More sensitive to Simazine than Fiord.

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.

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.

Chickpeas

Amethyst - Desi type - similar maturity to Tyson. More tolerant to waterlogging compared to Tyson. Best suited to the 400 to 450 rainfall zone.

Barwon - Desi type - larger seed compared to Amethyst. Medium tolerance to dry conditions, tolerates some waterlogging. Late flowering (similar to Dooen). Resistant to Phytophthora (common chickpea disease in northern NSW). Released under PVR in NSW.

Desavic - Desi type - new release and preferred variety. Good drought tolerance, best suited to the 350 to 450 rainfall zone. Does not tolerate waterlogging. Larger seeded and taller variety than Tyson. Good seedling vigour.

Dooen - Desi type - early to medium maturing, does not have the drought tolerance of Tyson. Best suited to 400+ mm rainfall zone. Taller than Tyson, but prone to lodging.

Kaniva - Kabuli type - larger seeded than the Desi types. Matures later than the Desi types and require more rainfall (450+ mm). Very sensitive to damping off and grey mould. Premium paid for quality seed.

Norwin - Desi type - similar to Barwon, less drought tolerant compared to Tyson and Amethyst. Lower yielding compared to Dooen and Desavic.

Tyson - Desi type - early to medium maturing variety (sown in May it will flower towards the end of September). Tolerant to dry conditions suited to areas receiving less than 400 mm rainfall. Tyson can be very short which can be a problem at harvest. Small and dark seeded which can be a disadvantage.

Lupins

Gungurru - narrow leaf lupin - widely adapted, suited to most medium to high rainfall areas. Some tolerance to waterlogging. Moderately high resistance to Phomopsis.

Kiev mutant - broad leaved lupin with white, flat seeds. Grow poorly on deep sands and are intolerant to waterlogging. Low in Phomopsis, tolerates some brown leaf spot on heavy soils (but not on sands).

Merrit - selection from Gungurru, with better Phomopsis resistance. Better drought tolerance than Gungurru and, in time, will replace Gungurru.

Lathyrus

Lathyrus or grasspea 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

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

Eureka - winter active, multi-purpose. Improved resistance to aphids, phytophthora root rot and anthracnose. Released in 1994 under PVR. Good tolerance to waterlogging and saline conditions.

Sceptre - highly winter active. Resistance to aphids and phytophthora root rot. Moderate tolerance to waterlogging and saline conditions.

Sirivir - 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.

Vetch

Blanchfleur - mid flowering variety. Best suited to 350 mm rainfall zone. Better seed yield and dry matter production compared to other varieties.

Languedoc - early flowering variety, best suited to lower rainfall areas (250 mm).

Medic

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.

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.

Herald - (strand medic) not commercially available, still in trial stage.

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.

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.

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).

Rivoli (disc medic) mid season variety best suited to areas with more than 400 mm rainfall. Potential for the Mallee, must be carefully managed in the first year to ensure a seed set. Low resistance to aphids.

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.

Numbered medic lines - selected from the 18000 lines held by the National Annual Medic Improvement Program in Adelaide.

Canola

Dunkeld - best suited to 425+ mm rainfall zone. Flowers 3 days later than Oscar, on average has 3% more oil. Excellent seedling vigour and good tolerance to black leg.

Hyola 42 - hybrid variety, flowers between 5 and 14 days earlier than Oscar. Excellent seedling vigour but with low tolerance to black leg. Could be well suited to the southern Mallee.

Narendra - West Australian short season variety (flowering 10 days earlier than Oscar). Less tolerance to black leg compared to Oscar. Could be well suited to the southern Mallee.

Oscar - best suited to areas with more than 425 mm rainfall. Reasonable black leg tolerance.

PAC101 and 102- new Pacific Seeds hybrid varieties. Flowering slightly earlier than Hyola. Improved black leg resistance (similar to Dunkeld). Excellent seedling vigour. Better yielding than Hyola. Could be well suited to the southern Mallee.

Rainbow - best suited to areas with less than 425 mm rainfall (could be well suited to the southern Mallee and northern Wimmera). Flowers 3 to 5 days earlier than Oscar, good seedling vigour.

Siren - mid season variety, best suited to areas with more than 425 mm rainfall. Triazine (Simazine and Atrazine) tolerant variety. Flowers and matures later than Oscar. Siren yields 70 to 80% of Oscar.

Mustard

Lethbridge - yellow seed coated type, primarily used as a condiment mustard. Developed in Canada and not well adapted to our environment, with low seed yield, relatively high oil content, late in maturity and slow growing.

CPI 81792 - reddish-brown seed coated type, not well suited to either the condiment nor the oil market. Developed in India and the variety is well adapted to the Mallee and northern Wimmera, with reasonable yields. The line is used as a comparison for new better quality mustards

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).

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

	suitability in SM&NW (rainfall)	Coleoptile length*	Boron tolerance#	Rust@			CCN^		Septoria tritici@	Quality classification
				Stem	Stripe	Leaf	Resistance	Tolerance		
Wheat										
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	✓	ML	T	R	MR	R	S	I	MS	APW
Meering	✓	MS	I/MI	S	MR	MS	S	I	S	AH
Ouyen	✓			S	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
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	
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
Franklin		MI	S	T	MR-S	R	MR-S	S	malting
Galleon	✓	MI	R	T	S	MR	MS-S	S	feed
Namoi					MR	VS	S	MS	naked (human and feed)
Tallon			S	T	S		MR	S	malting?
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.

Results of Variety Demonstrations:

Note: the crops and varieties sown in the demonstrations at the Birchip sites are not replicated. The main purpose for demonstration trial 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 1996 make sure you obtain information from your local department of Agriculture on the results of the long term variety trials in your area.

	Sodic soil site Birchip		Sandy soil site Curry	
	t/ha	protein	t/ha	protein
Wheat				
Goroke	3.1	12.8	3.6	9.9
Vectis	2.4	11.2	3.9	8.9
Frame	3.7	12.0	4.1	10.8
Ouyen	3.5	11.6	4.0	9.2
Beulah	3.9	11.1	3.0	9.4
Meering	3.3	12.9	3.9	8.6
Trident	2.7	12.8	4.6	9.3
Barunga	3.5	11.1	3.6	11.8
Durum				
Yallaroi	3.5	11.8	2.3	9.4
Wallaroi	3.7	12.6	3.1	11.9
Kronos	3.1	12.8	2.8	8.0
Kamillaro	3.1	12.1	2.4	10.2
Canola		oil		oil
Rainbow	2.3	43.3	1.1	45.0
Oscar	2.2	42.6	1.0	45.0
Hyola 42	1.9	43.4	1.0	46.0
Narendra	2.1	42.7	1.1	44.3
Pac 101	2.8	42.8	1.4	47.2
Pac 102	2.8	43.5	1.4	46.3
Dunkeld	1.8	44.5	0.6	47.3
Siren	0.8	40.9	0.6	44.3

	Sodic soil site Birchip	Sandy soil site Curry
	t/ha	t/ha
Barley		
Namoi	2.5	1.9
Skiff	6.2	2.1
Schooner	4.6	2.7
Galleon	5.0	2.6
Arapiles	4.2	1.7
Oats		
Potaroo	5.0	2.3
Bandicoot	3.3	-
Carrolup	3.9	2.1
Bettong	2.6	3.6
Dalyup	4.8	2.4
Echidna	5.0	2.3
Euro	3.9	2.1
Wallaroo	3.9	2.1
Field peas		
Alma	3.3	2.6
Bluey	1.8	1.4
Bonza	1.1	1.1
Dun	2.8	2.4
Dundale	2.1	2.3
Glenroy	2.1	2.3
Jupiter	1.9	1.3
Wirrega	2.1	2.9
Maple pea	-	2.6
Fenugreek	1.9	-

	Sodic soil site Birchip	Sandy soil site Curry
	t/ha	t/ha
Triticale		
Muir	4.9	3.6
Abacus	4.2	4.8
Chickpeas		
Barwon	2.0	
Desavic	2.8	
Dooen	2.0	
Norwin	2.0	
Tyson	2.7	
Faba Beans		
Aquadulce	-	2.9
Icarus	-	3.4
Fiord	-	3.6
Ascot	-	2.7
Lupins		
Gungaroo	0.7	1.0
Kiev	0.3	1.0
83A455	0.5	1.7
84L439	0.7	1.4
Vetch		
Blanchfleur	1.5	1.2
Languedoc	1.1	1.9
Mustard		
Lathbridge	0.7	0.7
81792	1.4	0.6
Lathyrus	0.8	1.5

Barley Varieties

1995 Yields of Advanced Barley Lines Agriculture Victoria Trials

Results as a percentage of site mean

Variety	Hopetoun	Mallee Research Station	Rainbow	Ultima	Woomelang	Brim	Charlton
Arapiles	95	94	95	91	99	99	90
Chebec	104	102	95	103	89	88	90
Franklin	100	97	105	97	115	105	113
Galleon	106	107	100	102	99	104	92
Harrington	86	86	82	87	90	86	64
Schooner	102	97	95	100	88	98	94
Skiff	97	94	105	103	114	116	127
Tantangara	115	102	109	104	115	122	122
'9104'	102	108	101	106	95	97	108
'9409'	115	111	116	108	113	113	116
'WI2875'	93	93	92	103	85	91	96
Site Mean Yield (t/ha)	3.23	4.26	4.17	3.61	4.66	5.0	4.97
CV %	5.5	5.3	5.0	6.3	4.1	6.0	8.9

Wheat Varieties

1995 Yields of Advanced Wheat Lines Agriculture Victoria Trials

Yields expressed as a percentage of a Trial Index of seven varieties which are now common controls in all Advanced Trials in Victoria, South Australia and southern New South Wales. Varieties marked with asterisk are included in the trial index.

Yield (t/ha) Silo group A 1995

	Mean	Quambatook	Walpeup	Woomelang	Brim	Corack	Glenloth
*Trial Index		3.47	3.79	3.65	2.42	2.34	1.71
Barunga	103	106	99	108	98	108	100
Beulah	103	105	106	105	97	92	99
Frame	107	110	102	113	95	109	108
*Goroke	99	97	97	101	100	94	92
*Janz	103	104	102	108	93	105	106
*Machete	99	103	98	93	100	104	100
*Meering	102	104	101	103	104	113	108
Ouyen	107	110	106	119	105	117	112
*Rosella	108	101	109	110	110	109	120
Yanac	97	97	91	103	107	103	102
VF508*25	110	105	101	112	108	114	109
VF508*83	106	107	100	106	105	109	104
VF519	100	106	102	102	110	110	95
VF664	101	108	105	104	99	100	90
VH314	112	115	106	121	95	107	117
*Trident	109	115	103	110	107	101	108