Wheat for the Mallee and northern Wimmera.

Russell Eastwood, Wheat Breeder, VIDA Horsham.

Summary
Under low yield conditions (eg <1.5t/ha) Silverstar is likely to be the highest yielding variety in the Mallee. However, it is prone to high levels of screenings. Where higher yields are attained (>1.5t/ha) Frame has a considerable yield advantage over Silverstar and is less prone to screenings. Goldmark and Ouyen should also be considered by growers in the Mallee. Camm, Diamondbird and Janz are well adapted to the Mallee, but lack CCN resistance. The best bets for the Mallee are Silvestar for the very low rainfall regions and Frame, Goldmark and Ouyen for the remainder.

Notes on Varieties

- **Camm** is a new variety from Western Australia. It is a Spear type with moderate boron tolerance and good rust resistance, however it lacks resistance to CCN. Its best relative yield potential is in the Wimmera. It is likely to be classed as APW. Camm is a useful variety for growers who have CCN under control.
- **Frame** has become the standard to beat in the Mallee. Its combination of CCN resistance and tolerance, good early vigor, moderate boron tolerance, low tendency to produce high levels of screenings and good yield potential have made it a winner, despite it gaining only APW classification.
- **Goldmark** has performed better in the Mallee and northern Wimmera than expected with its slightly later maturity. A robust variety but will struggle under very low yield potential conditions. Goldmark and the herbicide Eclipse^{R} do not mix – A number of growers reported damage to their Goldmark crop in 1998 associated with herbicides, in particular sulfonylurea herbicides. The herbicide Eclipse^{R} appears to be particularly harsh on Goldmark and should be avoided.
- **Silverstar** is a variety which yields extremely well under low yield conditions. Trials indicate that where yields are less than 1.5t/ha Silverstar has averaged 9% higher yielding than Frame in the Mallee and northern Wimmera, but where yields are greater than 1.5t/ha Frame has averaged 2% higher yield. High levels of screenings continue to plague Silverstar. Growers must weight up the risk of high screenings against the benefits of an AH variety that will yield very well under tough conditions.
- **VG127*14** is currently being released. It will be available to growers in commercial tonnages in the 2001 season. It is hoped VG127*14 will make AH classification. It has the combination of good rust and CCN resistance. Its best relative yield performance is at high yield potential.
- **VI341** is currently in the process of commercialisation and will be available in the 2001 season. Targeted at the Prime Hard market (dependent on AWB limited classification), VI341 will be grown in southern New South Wales. If however a Prime Hard receival were available in the Mallee it may fit this niche. It would be the only variety capable of meeting PH which has CCN resistance. VI341 has poor early vigor and appears to have a short coleoptile.
- **VK237** is derived from a cross between Janz and Beulah. It has good yield potential across all regions of Victoria. A potential release in 1999. VK237 has large grain size, good rust resistance, CCN resistance and is likely to be of APW quality
- **VK292** is the second possible release in 1999. It has even better yield potential than VK237, is rust and CCN resistant, but has smaller grain and is also likely to be of APW quality.

Prime Hard in the Mallee?
Research in the Mallee has shown that Prime Hard wheats grown at above 13% protein have equivalent grain quality to the same wheats grown in northern New South Wales and Queensland, the traditional prime Hard regions. It is possible that Prime Hard segregations could be opened in the Mallee in the next few years. There are varieties such as Janz and a new CCN resistant release, VI341 which could meet this market.

Table 1.17 Wheat variety comparisons 1995-1998 relative to Meering.
Note: Yield estimates are Best Linear Unbiased Predictors. They have no error attached and are a conservative estimate of potential yield. Number of sites are in ( ).

Variety	Yield Birchip site 1998	Yield Mallee	Yield northern Wimmera / southern Mallee	Maximum grain quality	Relative maturity (days)	Relative grain protein (%)	Relative screenings (%)#
Bread							
Camm		105 (10)	104 (4)	APW	=		
Diamondbird	98	103 (19)	102 (7)	APW	+1		
Frame	84	105 (38)	101 (15)	APW	+1	=	+3.5
Goldmark	98	104 (38)	101 (15)	APW	+3	-0.1	+2.3
Krichauff	109	107 (29)	105 (11)	ASW	-2		
Meering	100	100 (38)	100 (15)	AH	=	=	=
Ouyen	106	104 (38)	103 (15)	AH	+1	-0.4	+3.5
Silverstar	101	103 (38)	102 (15)	AH	-7	-0.3	+5.8
VG127*14	97	105 (29)	102 (11)	APW/AH?	=	-0.2	+3.4
VK237	100	108 (19)	108 (7)	APW?	=	-0.2	+1
VK292	106	109 (19)	109 (7)	APW?	-1	+0.3	+2.4
Prime Hard?							
Janz		103 (38)	101 (15)	APW PH?	=	-0.1	+0.7
VI341	90	101 (38)	101 (15)	PH?	+2	-0.1	+0.3
Durum							
Tamaroi	100	96 (19)	94 (3)	Durum			
Yallaroi	101	93 (19)	89 (3)	Durum			

#Note: Screenings values are higher than would be expected from commercial samples. Plot harvested seed usually contains more broken grain. Also broken and small grain is not removed in the harvesting process. These values should be evaluated in relative not absolute terms.

Birchip wheat trial 1998
The advanced wheat trial at the Birchip site in 1998 grew very well for such a tough season and average a yield of 2.5t/ha. The key to this was early sowing. Frost caused some damage at the site. In Table 1.17, Frame has yielded poorly and had very high screenings. This is likely to be due to frost. Although the flowering dates shown indicate Frame is the same maturity as Ouyen and one day later than Meering it tends to be later maturing and in this case has resulted in it being more effected by frost than the other varieties. The long term data is a much better indication of relative yield potential.