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Crop varieties for 1979

New crop varieties recommended for 1979 include two wheats, Tincurrin and Warimba, Moore oats and the blackleg resistant Wesreo rapeseed.

Recommendations for grain crop varieties for Western Australia are based on a wide Department of Agriculture testing programme. Each year some 8,000 plots are sown on 60 trial sites throughout farming areas to compare varieties. New varieties are compared with commercial varieties, and grain quality as well as yield is considered before recommendations are finalised. Even the the smallest improvements in yield are significant, as the improvement is available to farmers at no extra cost and for all time once seed is obtained.

Current recommendations are summarised in the maps (Figs. 1 and 2). The recommended varieties are considered the best choice but acceptable alternatives or "next best" varieties are also indicated in the text.

One of the wheats recommended for the first time is Tincurrin, a soft wheat ideal for biscuit making. Seed was released to soft wheat growers in 1978 but initial recommendation is only for growing in the area bounded by Brookton, Corrigin and Narrogin. This recommendation could be modified with the adoption of a variety dockage scheme which is now under consideration in Western Australia.

The overall yield of Tincurrin in some soft wheat areas is as much as 8 per cent more than Egret and 30 per cent more than Gamenya. While its quality as a biscuit wheat is excellent, its bread making quality is poor and the variety is only for delivery to the Australian Soft W.A. grade.

Like Gluclub, the original soft wheat grown in Western Australia, Tincurrin has a clubbed head. It yields more than 40 per cent better than Gluclub.

The other wheat recommended for the first time is Warimba, a rust resistant, hard wheat bred by the Waite Agricultural Research Institute in South Australia. The Western Australian Department of Agriculture has been testing Warimba since 1974 and it has yielded well in some southern areas.

Warimba seems certain to replace Madden, particularly in mallee areas with less than 350 mm rainfall, where it has out-yielded Madden by as much as 19 per cent. In higher rainfall south coastal areas, Warimba is unlikely to yield more than Egret, but should be sown as a reserve variety because of its alternative source of rust resistance.

The new oat, Moore, is higher yielding in the west Midlands and west Great Southern as far south as Katanning. Yields are about 20 per cent more than the previously recommended variety, West, in the west Midlands and up to 8 per cent more in the west Great Southern.

Wesreo rapeseed a low erucic acid variety, also recommended for the first time, is expected to revive the rapeseed industry which several years ago was ruined by the disease blackleg. It has been bred by the Department of Agriculture for resistance to blackleg, and although it may show infection in a severe attack, good yields are still obtained.

Wheat varieties

Recommendations for wheats to sow in 1979 are given according to grades. Australian Standard White W.A. (ASW) is the main grade received at most sidings. Australian Hard WA and Australian Soft WA are produced in specific areas and are received only at sidings nominated each year by Co-operative Bulk Handling Ltd.

Northern area

The northern area (Fig. 1, area 1) lies generally north of a line through Eneabba, Carnamah and Caron. In this area, use of rust resistant varieties depends on the risk of rust. This risk is increased if rust can be found on green plants in late summer or early autumn.

Available rust resistant varieties are mostly lower yielding than susceptible varieties in the absence of rust. In years of low risk, the main sowing can be of susceptible varieties, but sowing some resistant varieties is recommended to provide future supplies of seed if required.

For conditions with low risk of rust sow: Gamenya (ASW or Hard grade) after May 15; Darkan (ASW grade) if sowing before May 15 including new land; and to provide seed for years of high risk of rust, Madden or Warimba (ASW or Hard grade). Warimba provides an alternative source of rust resistance to Madden.

For conditions with high risk of rust sow Madden (ASW or Hard grade) but avoid sowing early in May if possible as Madden can be subject to severe septoria attack. Sow Warimba (ASW or Hard grade), as smaller reserve areas sown in May; Warimba is a mid-season variety and yields could be substantially reduced with later sowing.

Alternative acceptable varieties which are mostly lower yielding are: Falcon (which is rust susceptible) for May sowing particularly on light soils; Gambee (rust susceptible) for later sowing; Eagle and Kite (both rust resistant) for early sowing, and Gamut (rust resistant) for later sowing.
West Midlands

The West Midlands area (Fig. 1, area 2) is west of the Midland railway approximately between Eneabba and Gingin, where average annual rainfall is more than 450 mm.

Septoria is a major problem in this area and the main requirement is a variety which withstands this disease. Darkan is therefore recommended for all sowings for delivery as ASW grade. Alternative acceptable varieties which are generally susceptible to septoria and lower yielding are Gamemya for late sowing and Falcon for early sowing.

Central and north central medium rainfall area

The central and north central medium rainfall area (325 to 450 mm) (Fig. 1, area 3) produces mainly ASW grade, with some Hard grade to the east and north. Gamemya (ASW or Hard grade) is recommended for sowing from May 15 onwards and Darkan (ASW grade) is recommended for sowing before May 15, including sowings on new land. Alternative acceptable varieties which are generally lower yielding are Falcon (ASW or Hard grade) for early sowing particularly on light land; Madden (ASW or Hard grade) for later sowing; and Gambee (ASW or Hard grade) for very late sowing.

Central and north central low rainfall area

The central and north central low rainfall area (Fig. 1, area 4), generally with less than 325 mm rainfall, produces mainly ASW wheat but is the major area for production of Hard grade wheat. Gamemya (ASW or Hard grade) is recommended for all sowings from May 15, and Darkan (ASW) is recommended for sowing before May 15, including sowings on new land.

Alternative acceptable varieties which are mostly lower yielding in this area are Madden (ASW or Hard grades), an alternative to Gamemya which often out-yields that variety with later sowing on
heavy soils; Falcon (ASW or Hard grades) for early sowing; and Gambee (ASW or Hard grades) for very late sowing.

Central high rainfall area
The central high rainfall area (Fig. 1, area 5) with more than 450 mm rainfall is generally west of a line from Bolgart to Brookton. Egret is recommended for early sowings (May) and Gamanya for later sowing (June). Both are for delivery to ASW grade. Alternative acceptable varieties are Bokal and for very early sowing, Darkan.

Soft wheat area
The soft wheat area (Fig. 1, area 6) is defined as lying south and west of a line joining Brookton, Corrigin, Lake Grace, Ongerup and Albany. The area is subdivided into west of the Great Southern line (6a), the original soft wheat area (6b) within the Brookton-Corrigin-Narrogin triangle, the south central medium rainfall, area (6c), and southern rust liable area (6d) within the area Katanning-Pingrup-Ongerup-Albany. The soft wheat area generally produces lower protein wheat and is eminently suited to the production of Soft grade wheat. Available markets for this type of wheat are limited at present and further development of this trade will determine expansion of production in the area.

Tincurrin is recommended for area 6b for all sowings for delivery only as Australian Soft grade to sidings receiving this grade. It is unsuitable for other grades. Egret, which is resistant to rust strains now found in Western Australia, is recommended for the main sowing in areas 6a and 6d and for early sowings before June 1 in area 6c. It should be delivered as Australian Soft grade where receival facilities are provided, and otherwise as ASW grade. Egret is also an acceptable though lower yielding alternative to Tincurrin in area 6b. It can be delivered as Australian Soft grade or ASW grade according to receival facilities available.

Gamanya (ASW grade) is recommended for later sowing from June 1 in area 6c, and Warimba (ASW grade) is recommended for the rust liable area (6d) as a reserve variety with an alternative source of rust resistance to Egret.

Alternative acceptable varieties which are mostly lower yielding than the recommended varieties are Bokal (ASW) for the west Great Southern, area 6a; Gamanya (ASW), Falcon (ASW) and Madden (ASW) for the east Great Southern areas 6b and 6c; and Eagle (ASW), Kite (ASW) and Madden (ASW) for the rust liable soft wheat area 6d.

South central wheatbelt
The south central wheatbelt (Fig. 1, area 7) has less than 350 mm rainfall and has the approximate boundary of Corrigin, Lake Grace, Pingrup, east Mt Madden and east Mt Walker. It is generally unsuitable for production of Soft or Hard grade wheat and is not considered rust liable.

Gamanya (ASW) is recommended for sowings from May 15, and Darkan (ASW) is recommended for sowings before May 15, including sowings on new land. Alternative acceptable varieties are Falcon (ASW) for early sowing particularly on light land and Madden (ASW), a rust resistant variety for later sowing.

Low rainfall south coastal area
The low rainfall south coastal area (Fig. 1, area 8) is classed as rust liable and receives less than 350 mm of total annual rainfall. The area is north of a line from Grass Patch to Pingrup and generally south of a line from Pingrup to Mt Madden to Kumarl.

Warimba (ASW grade), is recommended for the main sowing in this area, and Madden (ASW grade) is a suitable reserve variety with an alternative source of rust resistance.

Alternative acceptable varieties are other rust resistant varieties, such as Gamut.

High rainfall south coastal area
The high rainfall south coastal area (Fig. 1, area 9) which is also rated rust liable has over 350 mm rainfall and is generally south of a line from Grass Patch to Pingrup, and east of a line from Pingrup to Ongerup and Albany. This adjoins the soft wheat area (6d).

Egret is recommended for the main sowing of ASW wheat. Egret is also very suitable for very early sowing as it has good resistance to leaf spot septoria, a major disease in the area.

Warimba (ASW grade), is recommended as a reserve variety providing an alternative source of rust resistance and should be grown to provide future seed if required.

Other rust resistant varieties are also acceptable including Madden (June or July sowing only), Eagle and Kite. Kite is similar in yield to Eagle but lower yielding than Egret and Madden.

Septoria is a serious disease in the longer growing season areas and short season susceptible varieties such as Madden should not be sown before June 1.

Future changes with variety control
Wheat variety recommendations could be substantially changed by proposals for a modified system of receivals based on varieties. Serious marketing problems can arise when a higher yielding but poor quality variety becomes widely grown and lowers the overall quality of the State's wheat. One practical solution receiving close consideration is to dock such varieties if too much is grown.

A trial system of varietal control began in Western Australia in the 1978/79 season. Dockages were not actually made but growers were given notice of varieties which may be subject to dockage in future so that seed can be changed.

If the principle of varietal dockages is accepted after the trial in 1978, and if the Australian Wheat Board accepts recommendations of the Western Australian State Wheat Advisory Committee on the varieties which should be docked for low quality from 1980/81 onwards, the following
changes will apply to the recommendations for the 1979/80 season:—

**Soft wheat area**
Tincurrin (Australian Soft grade) will be recommended to replace Egret for production of Soft grade wheat in most situations in areas 6c and 6d for delivery only to sidings receiving this grade. Delivery to any other grade will then be subject to heavy dockage. Egret would still be recommended for years of high rust risk in the rust liable area (area 6d) and would remain the recommended variety for area 6a west of the Great Southern.

Where Tincurrin is recommended, Egret will be listed as an acceptable alternative but lower yielding variety for delivery either as Australian Soft grade or ASW grade according to receival facilities available.

**South central wheatbelt**
Halberd will be recommended to replace Darkan and Gamenerya in all situations on light and heavy soils in area 7. Halberd responds to early sowing, and is a medium height variety which should be suitable for new land. Gamenerya will be listed as an acceptable but lower yielding alternative.

These modified recommendations assume that Halberd will not be subject to dockage. It should be noted however that Halberd has quality disabilities which limit acceptance in the ASW grade and it is unacceptable for the Hard grade. A rise to an unacceptable level in the future may lead to the variety being docked to discourage further increase in production.

Lack of measures to counteract such quality problems in the past has been the main reason why Halberd has not been recommended to date.

**Coarse grains, legumes and oilseeds**

**Barley**
Clipper is recommended for all areas for producing two-row manufacturing and feed grades of barley. Alternative acceptable varieties are Dampier for two-row manufacturing and feed and the six-row Beecher for feed.

Dampier is lower yielding than Clipper in most areas and is not sought for overseas markets although there is some local demand. Dampier is suitable for later sowing in southern areas (Fig. 2, area 6) and in situations where severe head loss is experienced with Clipper such as where harvesting is delayed.

Dampier may lodge under adverse conditions.

Beecher yields more than Clipper and Dampier in some drier areas (Fig. 2, area 4) and although demand is low, may be more economic to produce than two-row, depending on relative prices. It is suitable for mildly saline soils.

Although Lara outyields Clipper and Dampier in southern high rainfall areas, it is a small grain variety and in some circumstances the grain will not be large enough to be accepted as feed grade. It is not recommended because of its small grain.

**Oats**
Moore is recommended for the west Midland (Fig. 2, area 2) and the west Great Southern area as far south as Katanning (Fig. 2, area 5).

West is recommended for all other areas and is an acceptable alternative to Moore.

An alternative acceptable variety in all areas is Swan, which mostly yields less than Moore and West. It has a lower groat percentage and grain protein than West.

Irwin is an additional alternative for late sowing in northern medium and low rainfall areas.

**Lupins**
Lupins are not recommended where average annual rainfall is below 350 mm except for very early sowing on light soils.

Unicrop (narrow-leaved lupin) is the main variety recommended in all areas for all times of sowing.

Marri (narrow-leaved lupin) is recommended for the west Midlands and northern areas of above 350 mm rainfall where other varieties yield poorly because of grey leaf spot disease or where the short straw of Unicrop presents harvesting difficulties. Marri is suited to the poorer sandy soils, particularly those subject to potash deficiency, and is a general replacement for Uniharvest in northern areas.

Ultra (white lupin) is recommended specifically for early sowing on the red-brown, loamy soils of the Chapman Valley and adjoining areas. The variety is noted for its large, high protein seed.

An alternative variety in all areas is Uniharvest, which generally yields less than the recommended varieties.

**Field peas**
Derrimut is the recommended brown-seeded pea for all areas. It generally outyields white-seeded varieties in grain.

Buckley is the recommended white-seeded variety for general sowing. White Brunswick is recommended for later sowing in areas of below 350 mm rainfall. An alternative but lower yielding variety is Dun (brown-seeded) for early sowing in higher rainfall areas.

**Linseed**
Glenelg is recommended for all recognised linseed growing areas. In general, these are southern areas with over 450 mm of rainfall.

A suitable alternative is Kameniza, but yield is about 10 per cent less than Glenelg.

**Rapeseed**
Only low erucic acid rapeseed varieties are recommended as high erucic acid rapeseed is not wanted on local or overseas markets. A maximum of 5 per cent erucic acid in the oil is fixed as the acceptable level for receival.

Rapeseed growing is recommended only for southern areas with over 450 mm average annual rainfall (Fig. 2, area 6 and southern part of area 5).

Wesreo is recommended as the main variety for early sowing in May to early June. Midas is a suitable alternative but is susceptible to blackleg disease and should be sown late (July to August) to avoid serious infection.