

Summary

The 2016 season

Crop yield potential continues to rise across the WA grainbelt while growing conditions during July have been close to ideal in most regions.

Combined with the early sowing of a majority of crops, crop growth stage is advanced, significantly reducing the risk of a spring drought impacting on yields as heavily as occurred in late September/October 2015. Contributing to the high yield potential is the cleanliness of crops from weeds and disease. Multiple pre-sowing weed control opportunities and strategic fungicide applications have kept these threats to very low levels.

Canola in low rainfall districts such as Latham to Dalwallinu will easily break local paddock records, and barley in the Midlands region could set a new benchmark for yields. Lupins in the Geraldton zone have produced a high main stem pod set and look to have exceptional yield potential.

On the downside, the advanced growth stage heightens the risk of frost damage across all regions including the south Geraldton region where frost is rarely a threat. Mid-season maturing varieties of wheat such as Mace sown in late April are now at head emergence to early flowering, and have heightened susceptibility to frost damage as a consequence. As an early warning of the risk, very cold temperatures were reported in the eastern wheatbelt on the morning of 1st August. Crop damage will be assessed on advanced crops and any impact will be known within 10 days. However, it is not likely to be significant. Frost damage to flowering canola is a lesser concern because the plant is able to compensate with regrowth and with a long growing season still ahead.

Paddock trafficability remains a significant issue in all western, southern and south coast districts. Widespread use of planes and helicopters has enabled nitrogen and pesticides to be applied, with appropriate timing in most cases. Waterlogging has caused significant losses in the southern Albany zone and coastal districts of the Esperance zone. Where crops are recovering from earlier waterlogging, yields may be below average at best, but prolonged waterlogging will bring more substantial losses elsewhere. Further nitrogen applications to match yield potential or to overcome some of the effects of waterlogging have been undertaken. On balance, farm production will still be above average with crops on the better drained soil types expected to have very high yields.

Disease management has been the main activity undertaken by growers during July with Sclerotinia in Canola, yellow leaf spot in wheat and a range of leaf diseases in barley the main targets.

The cold temperatures of winter limit the build-up of pests, but reports have been made of increasing aphid populations in canola and cereals. It is likely that aphid control will be necessary when temperatures warm later in August. Growers will also have to be vigilant to the emergence of Heliethus grubs in canola and lupins.

2016 WA Crop Production estimates (tonnes)

Port zone	Wheat	Barley	Canola	Oats	Lupins	Field pea	State total
Kwinana	5,469,000	1,255,000	643,000	434,000	193,000	14,000	8,007,000
Albany	1,904,000	1,305,000	479,000	329,000	61,000	9,000	4,087,000
Esperance	1,336,000	887,000	450,000	17,000	20,000	24,000	2,733,000
Geraldton	2,019,000	93,000	185,000	12,000	401,000	1,000	2,711,000
Totals	10,728,000	3,540,000	1,757,000	792,000	675,000	48,000	17,540,000
Since July 2016	0.4%	3.6%	3.2%	8.8%	0.6%	0.0%	1.7%

Note: the grain totals reported are for whole farm production. This includes on-farm seed and feed requirements as well as trade outside of the CBH network.

Kwinana zone

The Midlands

Yield potential for all crops in the Midlands region remains very good throughout.

Aphids are emerging as a problem, particularly where crops were sown without a seed dressing aphicide and/or no early control in-crop or in neighbouring pastures.

Virtually all in-crop management, with the exception of spring pests, will be complete by the 3rd week of August.

Wheat: All districts have high yield potential, though with some crops running short of nitrogen. Again, diseases are minimal where in-furrow and foliar control has been used, but yield threatening without this early management strategy. The last control measures will be needed in late August.

Canola: The second fungicide application for Sclerotinia control is being applied and control appears to have been effective. Cabbage and Turnip aphids are appearing but monitoring is needed to determine the threat level before any control measures are attempted. Almost all crops are now at 100% flower stage.

Barley: Barley crops could achieve record yields. Crops are at about the Flag -1 stage with a need for more nitrogen and disease control of powdery mildew. Most crops will have two applications of foliar fungicide.

Lupins: Showing potential for record yields in all districts.

Kwinana east

The very cold minimum temperatures experienced on the morning of 1st August (Westonia recorded close to -5°C for an extended period) are of concern for the many wheat crops at head emergence to early flowering. It will be a couple of weeks before any damage can be assessed.

Wheat: Yield potential is at the 2 to 2.5 tonnes per hectare level, well above district averages. There is some level of powdery mildew in crops and this will be monitored and controlled in the coming days.

Barley: Barley crops are close to flag leaf emergence, with no further management required at this stage.

Lupins: Lupin crop look to have the best yield potential ever seen in the region.

Chickpea and Field pea: Crops look excellent with good yield potential due to the levels of stored soil moisture.

Average rainfall for August will almost be enough to finish a very good season, but frost is a major concern to around mid-September.

Kwinana west

The season also remains on track for high yields for crops in the west Kwinana zone. The western districts remain very wet with helicopters and planes busy applying nitrogen and pesticides. In most cases timeliness of application has been good with just a small percentage of applications outside the 'ideal' window.

Wheat: Powdery mildew and yellow spot is currently needing control especially in crops without early disease management. Best control has been seen from in-furrow and early foliar applications. Some very early sown wheat, mainly Mace, is now at high risk of frost damage. Later maturing varieties such as Magenta are not as advanced. Wheat sown in mid-May and later requires a further nitrogen application to achieve maximum yield potential.

Canola: Sclerotinia is having to be controlled in crops from Brookton to Calingiri. Overall, crops are looking exceptional. In the Merredin district, yield potential is currently at up to 2.5 t/ha.

Barley: Powdery mildew is starting to be a problem with a range of azoxystrobin and flutriafol fungicides being used.

There are reports of delays in acquiring nitrogen supplies due to high demand in the last two months.

Lupins: Lupin crops are generally in exceptional condition.

Albany zone

Lakes region

Crops in the Lakes region of the northern Albany port zone region are on-track for above average yields.

Winter rainfall has not been uniform. The western districts from Corrigin east to west Kulin and Harrismith to Pingaring to Karlgarin have recorded well below average rainfall for June and July. These districts would benefit from at least average August rainfall. The eastern districts out to Mt Madden remain very wet, and a dry August would be welcomed to advance crop growth.

Wheat: Crops are at the Z30 to Z33 stage and with no disease issues requiring control at this stage.

Canola: Crops range from 50% to 100% flowering stage. Sclerotinia can be found in some crops but control has not been required to date. Aphids are building up in numbers, but the cold weather is checking their development.

Barley: Crops are generally at the boot stage. Cold weather has limited nitrogen use with yellowing of many crops apparent. Warm weather will rectify this situation. Extra nitrogen can be justified in some cases but a lot of money has already been invested in nitrogen and other crop treatments and the extra expenditure may not be justified at this stage in all crops.

Barley leaf rust has emerged as the latest disease threat requiring monitoring and/or control.

Oats: Overall crops are looking very good in all districts. Due the strong early growth from the early sowing date, early sown crops will be at the cutting stage in August when the weather risk is highest. Older varieties have leaf rust requiring control.

Lupins: Crops are almost at flowering and looking very good.

Southern Albany zone

Paddocks across the lower Albany zone are starting to dry out after below average rainfall in July. Crop growth in affected areas is improving but still has a lot of recovery ahead to achieve average yields. In the better drained paddocks, crop growth is excellent and yield potential looks to be well above average. Where the crop has been lost to excessive water, no action will be taken this season. The impact this area will have on final paddock yields will only be known after harvest. Regardless, the overall yields across the region will be above average.

Some reseeded areas with burst seed from the excessive moisture occurred in late June on small areas, averaging 20 to 30 hectares.

Of concern is the level of nitrogen required to improve the health of affected plants. Nitrogen use has increased by 10 to 15% this year in cereals and by over 50% on canola. The investment made to date makes further investment into poorer performing parts of the paddock somewhat questionable.

Wheat: Crops are generally in good condition with very high yield potential. Powdery mildew is easy to find and requires monitoring or controlling depending on the severity of the infection.

Canola: Sclerotinia is being controlled in most districts with plants at the beginning to about 25% flowering. A further nitrogen application may be needed to fulfil excellent yield potential.

Barley: Yellowing of barley crops can be seen in many districts despite adequate nitrogen and fungicide applications. Monitoring is being undertaken to minimise disease build up becoming a threat. Powdery mildew is already apparent and requires control.

Oats: Crop growth is progressing very well with high yield potential for both grain or hay production. Leaf rust is starting to appear and will require control.

Esperance zone

Yield expectations for crops in the Esperance port zone remain high throughout. The impact of waterlogging in crops from Esperance to Hopetoun and extending to about 20 km north of the highway is reducing with the below average July rainfall.

Soil moisture is overall at high levels in districts extending to the north and east of Salmon Gums. Around Grass Patch, well grown canola is showing signs of afternoon wilting and rain will be welcomed in this district at least. There are concerns that many crops have established a shallow root system with the ready availability of water. Apart from the upcoming frost risk, a shallow root system will be yield limiting if spring turns too warm and soils dry out too quickly.

Nitrogen usage is up markedly in the wider Esperance region, reportedly at about 60% higher than the average of the last three seasons. For some this is to counter the waterlogging and denitrification of soils. For others it is in response to the very high yields of 2015 and the low nitrogen soil levels as a consequence, particularly when faced with another very good season.

Wheat: Crops are generally at the Z33 to Z37 stage, just prior to flag leaf emergence.

Canola: Crops range from 50 to 100% flowering. Sclerotinia can be found in crops but the impact is low and control measures have not been needed. Aphids are now apparent and require monitoring.

Barley: Disease is the biggest risk to crop yields and most crops have already received two fungicide applications to date.

Geraldton zone

The Geraldton port zone is on track for a very good season with average to slightly better yields in northern and eastern districts, to well above average yields in all southern districts.

Wheat: Frost is now the highest risk for crops in the southern districts with crops at head emergence to flowering, far earlier than in 'normal' seasons. Frost is usually a low to nil risk in the northern half of the Geraldton zone.

Wheat diseases are apparent and needing control, principally powdery mildew and yellow spot. Where flutriafol fungicide was used in-furrow combined with a foliar fungicide application, the disease impact is minimal. Crops that did not receive the early fungicide application are having a significant impact from these diseases.

Radish is appearing in many paddocks, not at yield threatening levels but as a risk to future crops. Where new age herbicides have not been used at full label rates to combat herbicide resistance or where older herbicides have been used in spite of increasing resistance, the radish escape numbers are much higher.

Canola: Overall, crops are in exceptional condition. In the Dalwallinu to Latham districts, yields will be well above average and could reach 2 tonnes per hectare. This is for early April sown canola and good spring rainfall will be needed to achieve this. Sclerotinia remains a big issue needing control in the Geraldton port zone. Growers are applying their second fungicide spray now.

The timing is normally at 20 to 30% flowering but this year control has been needed earlier. It has been successful but where the fungicide has been applied 'late', control has not been as successful.

The main incidences where yield is threatened is where rotations are tight in conjunction with high yield potential. While canola prices remain at current levels, the cost of control is justified.

Barley: Crops are in very good condition but with the usual leaf diseases requiring control.

Lupins: Crops are looking exceptional with very high yield potential. Frost may impact on primary pod set but currently the pod set is good with 10 to 14 pods on average, with high potential for secondary and tertiary pod set.

Season Outlook

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Most cropping regions of the South West Land Division (SWLD) had well above average summer rain and an early break to winter producing good amounts of stored soil water. The exception was eastern parts of the northern cropping region, which had an average break with lower amounts of soil water.

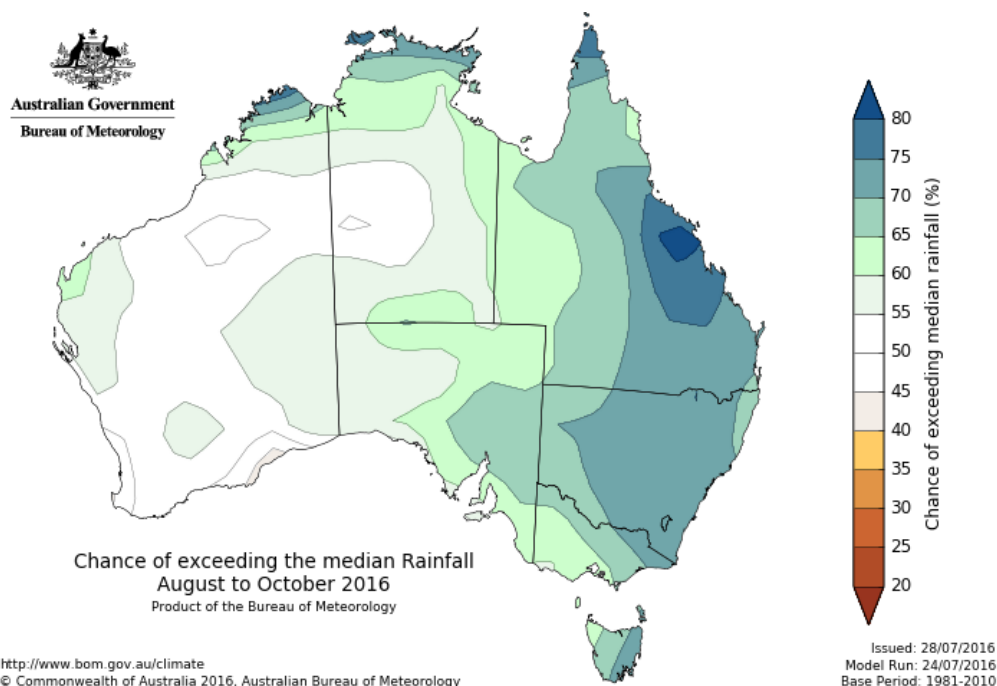
Rainfall in the past three months has been below average for much of the central cropping region, with near average rainfall for the northern, eastern and south coast regions. July rainfall was below average over southern regions and may help waterlogged soils along the south coast to dry somewhat.

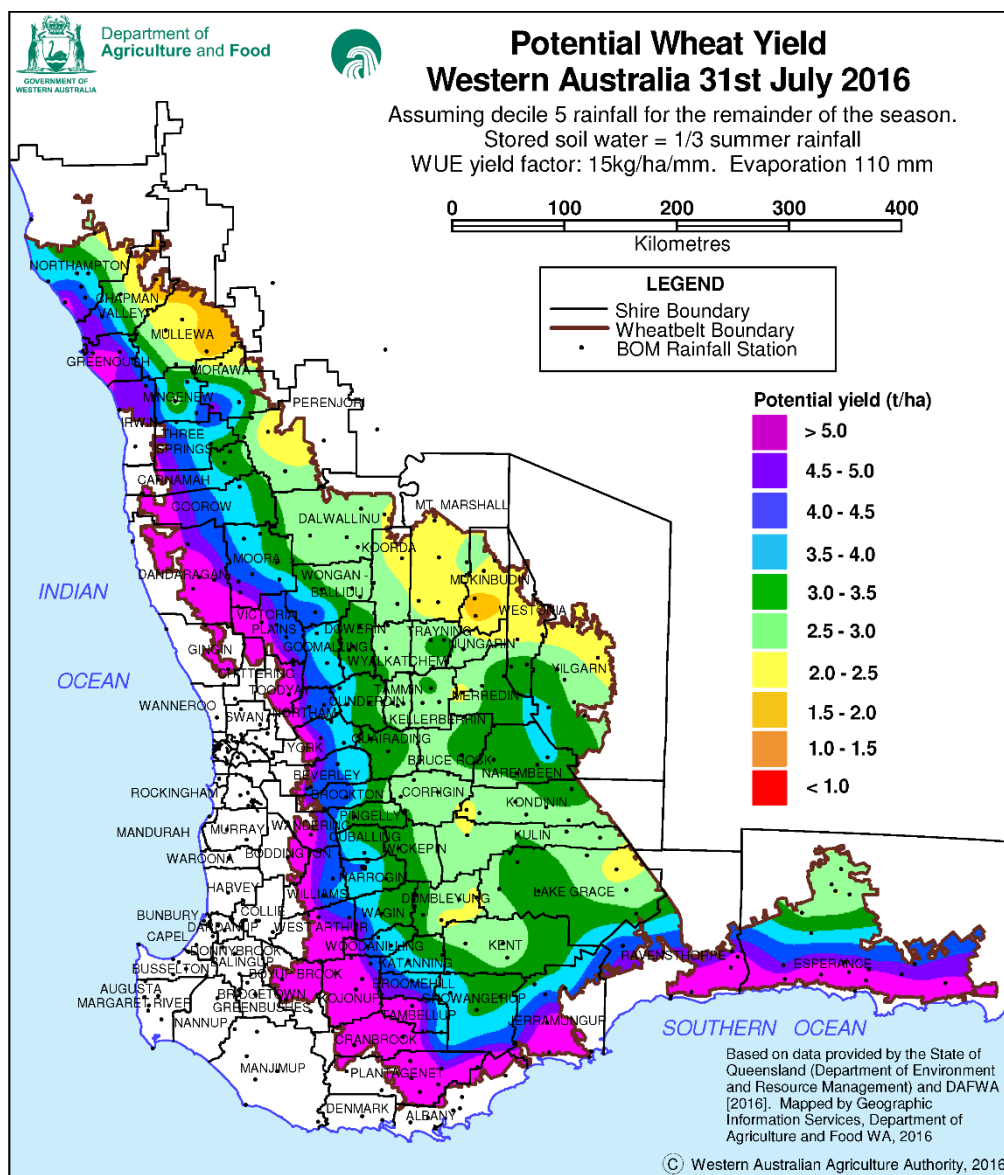
Overall, with high levels of soil water availability, modelling indicates well above average potential crop yields in many areas. The main seasonal climate risk to crop is frost, as early-sown crops are likely to flower during periods of higher frost risk. During the first week of August a frost event occurred over central and eastern areas.

Bureau of Meteorology: 3 month outlook, August to October 2016

Summary

- August to October rainfall outlook shows above average rainfall is likely for eastern and northern Australia. The western half of Australia has roughly equal chances of a wetter or drier three months. This includes the agricultural areas of WA.
- August is likely to be wetter for eastern and northern Australia.
- The current outlook reflects a strong negative Indian Ocean Dipole, a continued cooling of tropical Pacific Ocean waters, and very warm sea surface temperatures surrounding northern and eastern Australia.
- Historical outlook accuracy for August to October is moderate over most of Australia, but low in parts of central Queensland and interior WA.
- Temperature outlook for southern WA shows no preference to either warmer or cooler seasonal conditions.





The grain yield map above is based on the French-Schultz relationship, with water use efficiency of 15 km/mm/ha, and an evaporation intercept of 110mm. The effect of summer rain is accounted by adding 1/3 summer rain to the growing season rain (April to October). This yield prediction does not take any account of the impact of frost, waterlogging or disease on final crop yields.

Predicted yields using locally generated WUE and Evaporation data can be created using the DAFWA Potential Yield on-line tool. (<https://www.agric.wa.gov.au/climate-weather/potential-yield-tool>).

Additional information can be sourced from:

- **DAFWA: Seasonal Climate Information**
- **DAFWA: Potential Yield Calculator**
- **BoM: WA Seasonal Rainfall Outlook, next 3 months**
- **BoM: Month to date rainfall for WA**
- **BoM: Decile rainfall for May to July 2016**
- **WX Maps:16 day rainfall outlook**