

# CROP REPORT

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## **The 2023 Grain Season – Climate model predictions of a low decile rainfall year are yet to materialize for much of the state.**

It's difficult to imagine how a decile 2-3 rainfall year could produce 18 million tonnes of grain when Western Australia has only exceeded this level three previous times in history (2016, 2021, 2022). At this point in time, the Western Australian grain crop could potentially reach the totals detailed below, although if the predicted dry spring eventuates this will not be the case.

The northern and eastern fringes of the grain belt are experiencing a very dry growing season and whilst other areas of the state further west and south are still in good shape, rainfall in June has only been enough to sustain crop growth and there has been no topping up of the "bucket". Without substantial falls of rain in the back half of July and through to August, crops will fade quickly.

Good falls of rain at the start of June put the Western Australian grain crop back on track for a good year for most areas. Although total rainfall for June fell away with mostly light falls which just kept crops ticking along rather than powering ahead as was the case last year.

June was also very cold, and in terms of thermal time, it was the lowest in more than 30 years. This has resulted in very slow crop growth, particularly for those that emerged later. Crop growth this year has been half the rate compared to the same period in 2022, where crops were growing at 1.5 leaves per week. This is where the risk of achieving the current tonnage predictions lies. These later crops will be subject to a greater period of heat stress in the spring (which is something most areas haven't experienced for several years) and without adequate reserves of sub-soil moisture, potential tonnage will sweat off very quickly. The exception to this is the south coastal regions and the southwestern fringes of the grain belt that are currently too wet or do have good levels of sub-soil moisture now.

The reduced area of crop planted in 2023, and the very dry areas in the northern and eastern fringes of the grain growing regions, will likely restrict potential grain production from exceeding what is mentioned in this report. It is unrealistic to expect those areas that have missed rainfall to-date to contribute too much to the State's total grain tonnage. Whilst the good areas of the state are in some cases as good as 2022, and total grain production in Western Australia could be in the higher range historically, it is unlikely get anywhere near the last two years.

Wheat area is back up to around 55 percent of the total crop area, replacing reduced plantings of both canola and lupins. Barley area has increased slightly in the traditional barley belt in central regions of the State, although it continues to lose ground to wheat in the south. Lupin area planted is the lowest for more than 30 years and while the oat area planted is only down slightly from 2022, most will be destined for grain rather than hay. Pulse crop area has declined slightly from 2022 and there is nothing on the horizon to suggest this will change too much in the future. The majority of the decrease in crop area has gone to fallow in the low rainfall areas of the state, as well as a slight increase in pasture area from growers carrying over more stock than normal heading into the winter.

With climate models stubbornly sticking to less rain than more rain for spring in Western Australia, many growers have adopted a risk adverse approach to the season.

*GIWA gratefully acknowledges the support of DPIRD, CBH, DAS and contributions from independent agricultural consultants and agronomists in the production of this report.*

## 2023 Season GIWA July Western Australia Crop Production Estimates (tonnes)

Port zone	Wheat	Barley	Canola	Oats	Lupins	Pulses	State total
Kwinana	4,800,000	1,800,000	1,118,000	180,000	160,000	12,000	8,070,000
Albany	1,700,000	1,900,000	670,000	220,000	55,000	30,000	4,575,000
Esperance	1,620,000	900,000	550,000	20,000	35,000	50,000	3,175,000
Geraldton	1,782,000	150,000	250,000	5,000	130,000	2,000	2,319,000
<b>Totals</b>	<b>9,902,000</b>	<b>4,750,000</b>	<b>2,588,000</b>	<b>425,000</b>	<b>380,000</b>	<b>94,000</b>	<b>18,139,000</b>

*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.*

## 2023 Season GIWA July WA Crop Area Estimates (hectares)

Port zone	Wheat	Barley	Canola	Oats	Lupins	Pulses	State total
Kwinana	2,700,000	560,000	860,000	90,000	130,000	10,000	4,350,000
Albany	500,000	590,000	470,000	110,000	30,000	8,000	1,708,000
Esperance	540,000	280,000	340,000	10,000	20,000	20,000	1,210,000
Geraldton	990,000	110,000	175,000	5,000	80,000	2,000	1,362,000
<b>Totals</b>	<b>4,730,000</b>	<b>1,540,000</b>	<b>1,845,000</b>	<b>215,000</b>	<b>260,000</b>	<b>40,000</b>	<b>8,630,000</b>

## Geraldton Zone

The northern and eastern fringes of the Geraldton Port Zone were well down on rainfall in May and the situation has not improved during June. The best that these growers can hope for now is gaining enough cover to stabilise the country for the summer on the sandplain in the north, and a bit more rain to improve things on the heavy country in the east. In contrast, the west coastal strip is looking as good as last year. The country in between the good and the bad has been swinging from stressed to recovery with each rainfall event and will need a decent rain at some stage to get crops through the spring. The normal weekly cycles of winter rain have been stretching out to fortnightly this year with crop living 'hand to mouth' and up until now, the saving grace has been the cool weather which has minimised the impact on the region's drier areas.

Heat will be the enemy in the region as crop growth stages are behind where most would like them to be at this time of the year. Most of the nitrogen top ups have been completed and most growers will hold off additional application to limit costs and minimise potential losses if the season does not improve.

Across the zone, about 50 per cent of the crop is good, 25 per cent is struggling and 25 per cent is very poor.

## Kwinana Zone

### Kwinana North Midlands

Most of the region had a very good June for rainfall which kept crops growing without the stress that crops further north experienced, and not being quite as cold as further south where that cold really put the skids on those crops. The recent cold dry winds have slowed crop growth down and while grain yield potential is still good for most crops, the later development will tend to limit the top end grain yield potential.

There has been very little leaching rain which has resulted in beautiful crop growth on the lighter soils closer to the coast, where crops often struggle to pick up all the nitrogen that is applied. Nitrogen use efficiency has been exceptional due to little waterlogging and little leaching. Although once you move across to the heavier country, irrespective if it is in the east or the west, crops are struggling, which is a bit of a concern for this time of the year.

Wheat crops are not too bad, with a lot of the quicker varieties being planted due to the late start. Even so, most are 2-3 weeks behind in development compared to the last few years. Barley crops are outstanding with good leaf area, and the area planted is up from 2022.

If you don't look at the calendar, the canola looks okay, with a lower potential grain yield due to the lateness of most crops and low and variable density. Very few canola crops have started to flower, which is about a month later than previous years.

### Kwinana South

The region is ticking along just fine with the early sown crops bulking up nicely and later sown crops starting to fill in the bare areas in the last week. While mostly light and below average, repeat rainfall events during June has maintained crop growth with little stress other than the very cold mornings. The 10 or so frost events for June compared to none in June 2022, have resulted in crops being at least two weeks behind, however recent sunshine has helped improve growth.

While crops are in excellent shape once you move away from the western portions of the region, the soil profile is not 'wet' and at some stage crops are going to need a decent soaking rain to realise the current high potential. The very wet areas have dried out and improved dramatically.

Canola grain yield potential is above average across all zones and at this stage is equal to last year, with the early varieties at 30 per cent flower. Lupin crops range from 'close to flowering' down to '2-4 leaf'. The later germinating lupins have been significantly impacted by the cold as they have across the State.

Overall, most growers have a mix of good and not-so-good due to the patchy nature of rainfall events resulting in a wide range of crop growth stages.

While it is very good from west to east in the region, the "bucket" is going to need topping up at some stage to realise the current grain yield potential as crops look better above the surface than what is supporting them below the surface.

## **Kwinana North East**

Crop grain yield potential falls away dramatically in the northern and eastern fringes of the Kwinana Northeastern region of the State. These areas have missed out on rain all year and will struggle to achieve anywhere near average grain yields as they are quickly running out of growing season.

There is a lot more fallow in the region than the last few years, with growers electing to leave paddocks out rather than take the risk of 2023 being another good year. This appears to have been a good move at this stage of the season. This area of fallow in the low rainfall fringes stretches north and southeast in the State and has contributed to a several hundred-thousand-hectare reduction in crop area compared to 2021 and 2022.

Moving south away from the north and eastern fringes of the region, the crops are in very good shape and the region could still produce reasonable tonnage unless the rain cuts out completely in the spring.

## **Albany Zone**

### **Albany West**

The early sown crops got away before the cold set in and are in very good shape, with canola flowering and barley starting to run up. If anything, there is a bit of concern that they are too early. The later sown crops, which is mainly wheat, are just okay and still have a long way to go. They are not expected to reach the grain yield heights of 2022. Most growers have crops ranging from very good to a long way behind where they would like them to be, and for this reason the region's grain yield potential and outlook is for just an average season at this stage.

Rainfall in the western portions of the zone is now close to recent averages for this time of the year, although the Year-To-Date (YTD) rainfall in the eastern half is lower than normal, which is also contributing to the "average" outlook. Water use efficiency (WUE) will have to be very high to push crop yields up to where they have been recently.

The "Blotch" diseases in barley have been a real concern again this year as they were last year, which in part drove the shift to more wheat plantings in the region this year.

Some of the later sown cereal crops in the eastern areas have suffered from poor emergence on the heavier country from dumps of rain resulting in burst seed. This continued through to the northern areas of the Albany South region.

### **Albany South**

The coastal areas of the region are now "wet, wet and wet", and in some cases are un-trafficable. Small areas were left out due to becoming too wet, and the very wet areas have suffered from delayed emergence associated with herbicide waterlogging interaction.

Away from the coast the situation has improved from last month. While down on average rainfall for this time of the year and crops being behind in growth stages compared to recent years, the potential is still there for average grain yields.

The contrast is stark between crops that emerged before the dry spell in May and those that came up at the end of May and were then hit by the very cold conditions in June, as it is in regions further north. However, the split in crop growth stages could be handy if the season does turn dry and frosty in the spring.

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### **Albany East (Lakes Region)**

The majority of crops emerged in late May and then hit the wall with the very cold June. Crop development is about two weeks behind compared to this time last year, due to delayed emergence and cool temperatures. There were multiple frost events in June with about five days having minimums below 2 degrees. These cold temperatures have made crop protection and weed control treatments difficult.

Some early canola has started to flower, although hopefully with the delayed and staggered germination of other crops, there will be a bit of spread when it comes to frost risk going into spring.

If the predicted “dry” season eventuates, the region can expect frost events at the tail end of the season. However, due to the lack of rain at seeding time, with early sown crops coming up patchy and later sown crops not coming up until the next rain, there was little to be done differently in terms of frost management at seeding time.

Rainfall throughout June was evenly spread across the region, increasing with the usual gradient to the western portions of the region. Even though falls of rain have been on the lighter side of things, the slow crop growth has meant crops have not encountered any moisture stress to date.

There have been no consistent patterns with nitrogen applications. Early crops with good germinations are getting nitrogen top-ups as planned, while growers are holding off on crops that had delayed or staggered germination or don't look as though they will have the same degree of potential. It's still early in the growth phase of most crops though, with most growers playing the season from now on.

### **Esperance Zone**

The Esperance Port Zone is a mixed bag and could be split into four distinct areas based on rainfall and crop growth. Right on the coast it is now very wet, and crops are suffering from waterlogging stress and will need a period of dry weather to recover grain yield potential. Some coastal areas received in excess of 200mm for June and these areas will struggle to recover yield potential.

Further north, west-to-east from Cascades and Scaddan to Beaumont, the crops are very good and have above average grain yield potential at this stage of the season.

Northwest of the highway, the crops are okay although very slow and well behind where growers would like, and the country lacks any decent reserves of sub-soil moisture. Crops here will need a very good spring, particularly on the heavy country, to achieve anywhere near average grain yield potential. East of the highway, crops are much better and have above average grain yield potential.

The delayed crop growth for all areas of the Esperance Port Zone is a real concern, with heat shock more of a risk than frost.



## Seasonal Climate July 2023

Ian Foster, Department of Primary Industries and Regional Development

Seasonal rain from April to June remains mixed over agricultural areas, with much of the northern agricultural area and parts of the south-east being drier than normal.

Coastal parts of the south coast, as well as parts of the central agricultural area, are wetter than normal. This pattern can be seen in the estimated soil water storage in Figure 1. Although June was wet for parts of the lower west coast and south coast, it was below normal for the northern agricultural area.

July rain to date has been greatest in coastal areas and the south-west.

Some inland parts have had less than 10mm so far. Rain has come from cold fronts that have not pushed significant rain inland.

Temperatures since April have been well below normal, and this has slowed crop and pasture development. June has been particularly cold.

Climate models continue to indicate that below normal rain is more likely over coming months for most of Australia. Atmospheric pressure is likely to remain above normal south of Australia, which is associated with lower rainfall over southern WA.

An El Niño event has been declared by US authorities in the Pacific Ocean, although the event has not been announced by the Bureau of Meteorology. There are mixed atmospheric patterns in the Pacific that show the event has not fully coupled with the atmosphere.

Neutral conditions remain in the tropical Indian Ocean, despite model predictions of an Indian Ocean Dipole event. Their combined impact historically suppresses rainfall over much of Australia in winter and spring.

Considering these factors, the seasonal status remains variable across the agricultural area. While early-season rain has been good in most areas, subsequent rainfall has been light in areas away from the coast.

Seasonal rainfall outlooks continue to indicate drier than normal conditions are more likely in coming months. This brings a risk to spring conditions for crops that are currently under water stress, as well as those where development has been slow to date.

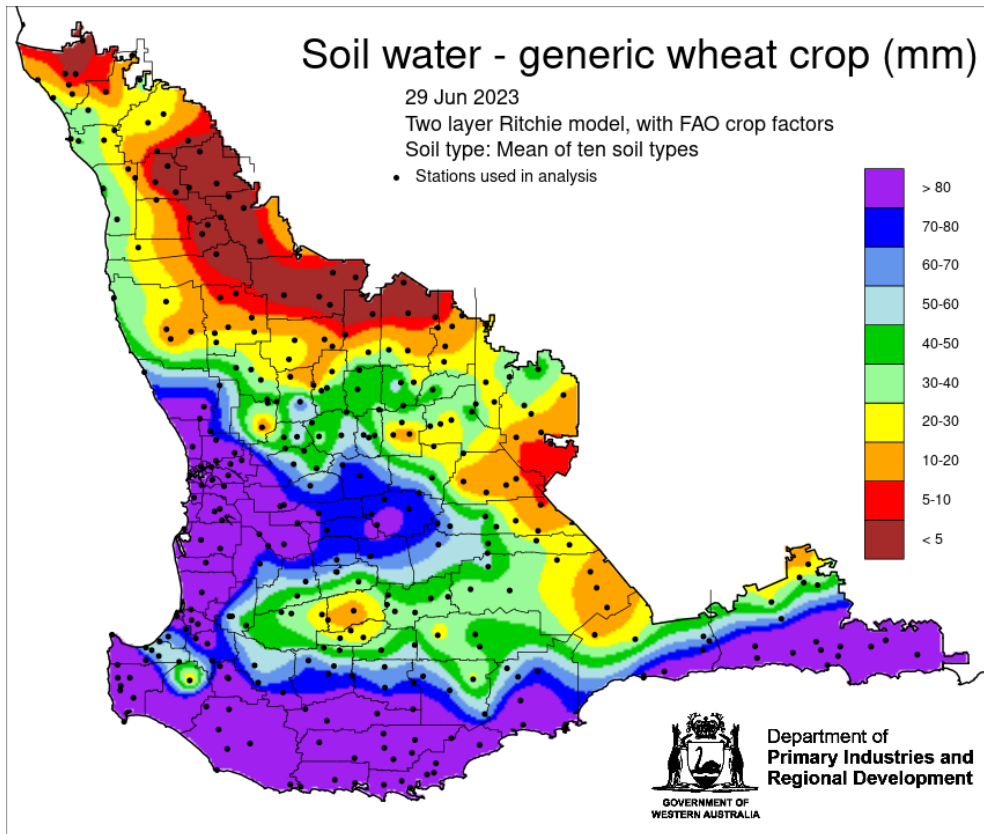


Figure 1. Estimated plant available soil water assuming a generic crop and seasonal rain to 29 June 2023. From DPIRD.

Additional information is available from:

[DPIRD: Weather stations](#)

[DPIRD: Soil Water Tool](#)

[DPIRD soil moisture probes](#)

[BoM: Decile rainfall for April to June 2023](#)

[BoM: Rainfall outlook for the next week](#)

[BoM: Seasonal Rainfall Outlook](#)

[BoM: Australian Water Outlook](#)

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