

The 2024 Grain Season – Lack of stress fuelling the higher-than-expected grain yields

Grain production estimates for Western Australia have been exceeded and there is still a week or two of harvest to go in some areas of the state.

2024 will go down as a defining moment for grain production in Western Australia with the amount of grain produced from the rain that has fallen. There is no single factor influencing the incredible quantity of grain being harvested right across the state on very little rainfall. Pre-harvest estimates of grain yields for wheat, barley and canola have ended up being well below actual yields. The total tonnage for the state will easily end up being the third largest harvest on record.

Whilst there seems to be no one factor fuelling the very high grain yields, the timing and intensity of rainfall, little waterlogging, few cold temperatures in winter, low disease and low weed competition levels have meant less stress on the crops during the growing season in areas away from the Geraldton port zone, which did experience some significant waterlogging. Other factors such as more subsoil moisture reserves than first thought in some areas, the large area of crop in the low rainfall regions on fallow, and crops not producing high biomass effectively saving the moisture in the ground for later in the season have helped as well. The season effectively managed the crop canopy, restricting biomass and converting more rain than is usually the case into grain. The new varieties keep getting better with more top end yield potential and improved water and nitrogen use efficiency. This is more obvious in years like the one we have just had.

Whilst there are issues with small grain and grain weight in most regions of the state, the largest impact on grain quality has been the rainfall at the start of harvest that hung around for several days resulting in sprouted grain. Then with further rainfall events, the falling numbers have continued to decline to a point where normally "safe" varieties that have genetically high falling number indexes have dropped below the point where they can be delivered into the higher-grade segregations. This hit on price has taken the shine off a high production year for affected growers. Wheat grain protein is low across the state due to dilution from the high yields even where there are high screenings.

Barley malt deliveries are down on recent years, but due to the large area planted, the spread of that area across the regions, and high yields, there looks to be adequate tonnages to meet market requirements.

The estimated total tonnage for the state is just under 20 million tonnes, although the final tonnage is likely to be higher than this considering there is still up to two weeks of harvesting to go.

Port Zone	Wheat	Barley	Canola	Oats	Lupins	Pulses	State Total
Kwinana	4,970,000	2,247,000	1,100,000	335,000	185,000	12,000	8,849,000
Albany	1,500,000	1,980,000	820,000	230,000	90,000	15,000	4,635,000
Esperance	1,565,000	740,000	640,000	20,000	40,000	40,000	3,045,000
Geraldton	2,790,000	120,000	270,000	5,000	165,000	1,000	3,351,000
Totals	10,825,000	5,087,000	2,830,000	590,000	480,000	68,000	19,880,000

2024 Season GIWA December Western Australia Crop Production Estimates (tonnes)

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.

Geraldton Zone

The rain delays and fire bans over the harvest period have held up harvest for about two weeks meaning headers are still rolling when they would normally be finished by now. The benefit from the very high grain yields in the region for growers has been reduced by the price discounts caused by grain quality falling away from the rain over harvest resulting in sprouted grain. Grain yields in the lower rainfall eastern regions are exceptional and even with the discounts, will return a very good result for growers.

Drier, hotter Septembers are now becoming a more frequent occurrence, and when these occur, crops planted in June and managed for higher yield potentials now struggle to finish. This year was a stark example of this, with time of sowing separating the good crops from the poor crops. The earlier sown crops were able to finish well, while those sown in June struggled and yielded substantially lower.

The coastal sandplain areas are very poor due simply to lack of rain, although those regions just a little further inland have had a good year as there was not quite as much waterlogging as there was further east. It has been an expensive year to grow crops where the waterlogging was worst due to the difficulty in servicing the crop. Growers that did not achieve the very high yields on the eastern fringe of the zone or suffered downgrades from the weather at harvest have not ended with as good a result as they had hoped considering the season. The upside is there will be subsoil moisture reserves for the 2025 crop in large areas of the Geraldton zone that will, to some degree, insulate the region from a low rainfall year.

Kwinana Zone

Kwinana North Midlands and North East

Where there have been delays due to rain, there are still crops to be harvested in the region, but most growers will be finished by the end of next week. Grain yields have been very soil type dependent with crops on the deeper profiled soils handling the dry year better than those on the heavy country.

Moving across the region, right on the coast is poor due to the low water holding capacity of the soils. This improves as you move east to being very good on the north/south Moora line to a very poor patch around Miling, improving to Dalwallinu and then falling away around Kalannie. The eastern and southeastern



portions of the zone are also very mixed, with Beacon being quite good but further south to Bencubbin is below average. Further east it is a similar story with pockets of good results and pockets of poor results nearby. The one thing that has been consistent is the performance of crops on the well managed fallow versus those following cereal. The extra few millimetres of available moisture made up to 1t/ha difference in grain yield in some cases.

Less of the wheat has been discounted from low falling numbers than further to the north, although in some cases screenings have been high without the usually closely linked hike in protein, which is unusual. There has been very little high protein wheat delivered in the region, which is also unusual in a tight finish, pointing to growers shutting the gate on the season early with the dry growing season.

Kwinana South

There is still a week to ten days of harvesting to go in the region with most anticipating finishing just before Christmas. Canola crops are all harvested, with yields above expectations given the delayed emergence issues at the beginning of year, highlighting the recovery and compensation canola can achieve. Barley in the eastern areas is generally all off, however, in the western zones, growers diverted straight from canola to wheat to avoid the forecast rains. Barley malt strike rate has been good in the west but low in the east due to low retention.

Wheat yields have been good and at, or slightly above, expectations. Grain quality was anticipated to be questionable, but screenings are not proving to be too much of an issue. Yields are a little lower than expected in the far eastern areas which suffered the most from the dry spring, with most having high screenings and low grain weight.

Lupins have been average on the deeper soils and poor on the heaver soils. Lupin yields across the state have been mostly below expected. The high biomass from the warm growing conditions caused them to crash once the heat came on and this was exacerbated as you moved to the heavier "non-traditional" lupin growing soils.

Oats are all done in most areas with minimal quality issues, and most are making OAT1 particularly where sown early.

Albany Zone

Albany West

Harvest in this zone has a little way to go with barley deliveries still coming in, although most growers are now delivering wheat. Grain yields and quality have been good across the board. There has been more low protein wheat and barley than normal, mostly due simply to yield dilution from the very high final grain yields.

Barley grain quality has been good with germ end stain the main hurdle to achieving malt. The wheat quality is good as far as falling numbers go, although there is more low protein wheat than normal. This is a reflection of growers not fertilising as much as in the past due to the drier year. Crops did not bulk up as much as normal and have been very efficient in converting moisture to grain.

Interestingly, looking back at the reasons why the grain yields are so good in such a dry year, there are the obvious reasons such as lack of waterlogging and frost, but the warm winter and mild temperatures through spring delivered beautiful growing conditions, even though there was not a lot of rain.



Canola yield estimates were out more than the cereals, with most estimates being 0.3-0.5t/ha lower than eventual yields, and in some cases crops that looked to be 2.5t/ha yielded 3.5t/ha.

Albany South

Harvest would have been finished this week for most if not for the lost time in the last few weeks from rain and harvest bans. Right on the coast, the year has finished amongst the top three years ever for production. No waterlogging and no frost helped to keep whole paddock averages up because even the low-lying areas performed well. The good, even crop establishment seen early in the season has also assisted the high grain yields. The very early finish to harvest is not due to lack of grain but is more a reflection of early time of planting.

The grain yields are very high for the rain that has fallen in the growing season and many growers and agronomists may have underestimated the residual subsoil moisture from 2023 that has now obviously contributed to the final result in 2024.

North of the Ranges the yields fall away, influenced mostly from the later start and well below average rainfall. The exception is a neck of country in the Jerramungup/Gardiner area where strong growth early in the season helped to push the final grain yields up.

Albany East (Lakes Region)

Harvest has wrapped up in the eastern regions around Hyden with growers having "the best year ever". The big dump of rain in March set up the potential high yields at the start of the season and regular rain combined with warm growing conditions has fuelled the large quantity of grain produced out of this part of the zone.

Away from these very good areas, yields further west have still been higher than expected considering the lack of summer rain and low growing season rainfall. The southern areas of the zone have been very good due to the lack of waterlogging and frost.

Rain at harvest has put a dampener on price due to wheat falling out of the more premium grades, although the extra tonnes have helped make up the difference in returns.

Esperance Zone

Harvest is mostly finished, although there is still the usual shuffling of grain to dryers out of silo bags and on-farm storage and finishing off paddocks here and there. The result for most growers has been good except for the eastern areas away from the coast which have been dry all year. Growers to the west of the Salmon Gums to Esperance line have had a very good year, as have those close to the coast.

The canola and barley ended up yielding more than expected, however, the wheat suffered more from the tight finish and while still good for the rainfall, didn't really return too many unexpectedly high yields. The finish did not result in widespread blow outs in screenings for wheat, but in many cases, deliveries were close to being downgraded.

There has been more high protein wheat delivered in the region than all other zones in the state put together, which points to growers fertilising for higher yields and not getting the conditions to realise the planned-for yields. This is completely the opposite in the rest of the state where there is the unusual situation of high screenings paired with low protein, pointing to substantial dilution in protein from planned-for yields.





Department of Primary Industries and Regional Development

Season Outlook, December 2024

Ian Foster, Department of Primary Industries and Regional Development

Climate summary Seasonal Climate December 2024

Rainfall

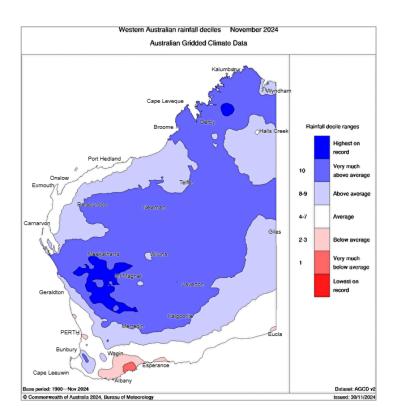
November has seen rain over much of the agricultural area, with varying disruption to harvest. Northern areas have seen significant falls (see Figure 1).

This follows seasonal rainfall (April to October) that was lower than normal for many southern and eastern cropping areas, while being well above normal for much of the north.

Forecast

Climate conditions in the Pacific Ocean are neutral despite having a few indications of weak La Nina. They are expected to remain neutral over summer. The tropical Indian Ocean is much warmer over its eastern region, including off the WA coast. This, coupled with active phases of the tropics over northern Australia, has likely contributed to November rainfall.

The Bureau of Meteorology's seasonal outlook for January to March 2025 indicates above normal seasonal rainfall is more likely over much of WA (see Figure 2). Many international climate models have a neutral to a wetter outlook for this period. This is likely coming from warmer ocean temperatures around Australia.





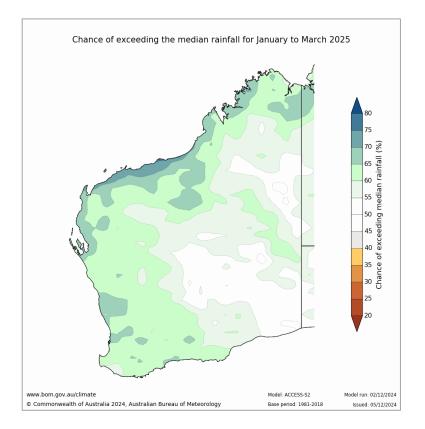


Figure 1: Rainfall deciles for November 2024. Source: Bureau of Meteorology (2024)

Figure 2: Rainfall outlook for January to March 2025. Source: Bureau of Meteorology (2024)

Temperature

Seasonal temperatures throughout winter and spring have been very much above normal. Daytime temperatures during November have been close to normal, but minimum temperatures have been well above normal. Seasonal forecasts indicate warmer conditions will persist through summer, especially for night-time temperatures.

Additional information is available from: <u>DPIRD: Weather stations</u> <u>DPIRD: Soil Water Tool</u> <u>DPIRD Rainfall to Date Tool</u> <u>BoM: Decile rainfall for April to October 2024</u> <u>BoM: Rainfall outlook for the next week</u> <u>BoM: Seasonal Rainfall Outlook</u> <u>BoM: Australian Water Outlook</u>



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