

# CROP REPORT

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## The 2021 Season – Harvest under way in north of State

Harvest has commenced in the north of the state with small areas of canola, barley and wheat taken off. Early indications are that grain yields and grain quality are not as bad as feared considering the lack of rain in the spring. The top half of the grainbelt has had virtually no useful rain for the last nine weeks, finishing solely on subsoil moisture. Whilst it is expected there will be a range in grain yields, influenced by soil type and other factors, total grain tonnage for the region will be at least that estimated in this report.

The mild temperatures across the state to date have had a significant impact on allowing crops to fill grain. This is particularly the case in the central and northern regions where soil moisture reserves had declined to very low levels during September. The cool conditions have halted the rapid loss in grain yield potential in these regions. In the southern regions of the state where frost damage has been less and there has been more useful rainfall, grain tonnage estimates have increased from last month.

The previously reported extensive frost in the worst hit areas of the central grainbelt, and subsequent minor frost events over a larger area in September, have taken the top off the potential grain yields. The full impact will not be known until harvest as crop type, sowing date, topography, soil type, stubble load and fertiliser usage have impacted to different degrees, and the combination of all these factors makes it difficult to estimate actual final tonnage.

The southern regions of the grainbelt have continued to improve due to some useful rainfall events in September, and the cool conditions. The mild temperatures in the last month have given crops that were waterlogged during winter, time to recover. The lack of significant frost across the southern regions will help to keep average paddocks yields in most cases above average.

Whilst the variance in potential final tonnage per hectare across the state is wide, the record planting of close to 9.2 million hectares will contribute to there being a lot of grain produced in Western Australia this year and it could still end up being a record total tonnage despite the dry spring, frost in large areas of the grainbelt and severe winter waterlogging in the higher rainfall regions.

### 2021 Season GIWA October Western Australia Crop Production Estimates (tonnes)

Port zone	Wheat	Barley	Canola	Oats	Lupins	Pulses	State total
Kwinana	5,600,000	1,800,000	800,000	370,000	200,000	10,000	8,780,000
Albany	1,100,000	1,800,000	640,000	300,000	80,000	30,000	3,950,000
Esperance	1,500,000	1,150,000	600,000	20,000	50,000	60,000	3,380,000
Geraldton	2,300,000	200,000	410,000	5,000	240,000	2,000	3,157,000
Totals	10,500,000	4,950,000	2,450,000	695,000	570,000	102,000	19,267,000

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.

Oat tonnage is for grain only and excludes hay.

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

## Geraldton Zone

Harvest is now underway in the Geraldton port zone, and the small tonnage taken off so far is suggesting that the very dry spring has not had the impact on grain yield and grain quality that was initially feared. The cereals from the lower rainfall areas have been up around 2T/ha with low screenings, and the canola is yielding between 1.5T/ha and 2T/ha with mid 40's (per cent) for oil.

Wheat grain yield has been impacted more by the dry spring than canola and lupins, with pre-harvest insurance estimates well below the potential reported in August. Most wheat has filled only two grains across, and most growers expect grain yield to end up being average to just above average. The cool conditions have contributed to allowing the heads to fill grain rather than pinch off, resulting in fewer screenings than would have been the case with normal spring temperatures.

The canola and lupin crops have appeared to benefit more from the mild finish to the season than wheat. Most canola in the medium to high rainfall zones is expected to yield close to 2T/ha. The lupin crops have generally not produced as many pods as expected from the high biomass produced, although yields are expected to be in the 1.8 to 2.0T/ha range in the west and 1.5T/ha in the east.

Barley in the region went in early and has finished well. Most of the barley is grown in the southern areas of the zone and a big proportion goes to bins further south, delivered out of the actual zone.

## Kwinana Zone

### Kwinana North Midlands

The combination of the dry spring and areas of frost in the region have taken the top end potential off most crops, although on balance overall total tonnage is likely to be similar to 2020.

Some useful rainfall events in the western regions during September have contributed to holding tonnage estimates up west of the Miling line. East of here, less rainfall was received and it has only been the cool conditions that have helped slow the decline in tonnage expected from the complete lack of spring rain. Combined with the dry spring, the severe frosts have had a devastating impact on many growers in the eastern regions, cutting potential tonnage to below average. There are also areas in the south-eastern portions of the Midlands region that were hit with several frost events later in September.

Wheat and barley grain yields are going to have a large range depending on time of sowing and topography. Some crops are going to make up ground from late tillers which emerged after late rains, or recovery following frost events.

Canola and lupin crops have benefited from the mild spring and largely escaped significant frost damage. Both canola and lupins are expected to yield above average in the central and western portions of the region.

### Kwinana South

The very western areas of the zone that were impacted by waterlogging in the winter, have improved in the last month and all crops are now expected to be above average. In the eastern areas it is quite mixed with big areas to the north-east in the Goomalling-Dowerin-Cadoux region down to Tammin and Kellerberrin badly hit by frost and lack of rain. The southern parts of the zone have recovered from waterlogging and where there is minimal frost damage, all crops will be above average.

Wheat rather than canola and lupins has been impacted more by the frost and dry conditions here than in other areas of the state, and there is more recovery in barley from late tillers than there is in wheat. Most of the grain yield compensation from frost in wheat is going to be in grain size.

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## **Kwinana North East**

The Kwinana North East region has been the worst hit area for frost in the state, and combined with no spring rain, will be well down on tonnage estimates reported in August. This is also the region where most of the extra area was sown due to the early start and good subsoil moisture at seeding, and this extra area is going to have a greater impact on final tonnages than actual grain yield.

In those areas severely impacted by frost, there are some crops that will be well above average. This mostly reflects topography and soil type. Learnings from the frost this year are difficult as there are so many mitigating factors that have impacted on crops.

The effect on crops during the last big frost event in 2016 was mostly due to short season varieties sown early and big areas of the crop in the southern grainbelt being at a susceptible growth stage when the frosts hit. There were also multiple, sequential frost events which had an additive impact on crop damage. Whilst crop maturity has had a major impact on the damage due to the frosts this year, the spread in planting dates was greater and the range of varieties sown was larger, particularly for wheat. These both helped mitigate damage.

This year the frosts that had the greatest impact were shorter in duration in terms of days, but were longer in hours overnight as well as being extremely cold. The worst of the frosts were centered in the central regions rather than the south.

In the lower rainfall zones, time of sowing is critical in optimising grain yield due to heat stress in the spring. While many growers staggered planting conscious of frost, most feel they could not have changed things too much more than they did to try and mitigate frost risk.

In general, barley was hit the hardest due to early planting of relatively quick maturing varieties, but with less water use in the growing season, has recovered better than wheat through the emergence of late tillers. The wheat was hit hard by both stem frost and flower frost, with soil type, topography and time of sowing having the greatest impacts on degree of damage. The large biomass of wheat crops from the good growing season and high fertiliser use, left little moisture in the tank for recovery following the frosts. Canola largely escaped the worst of the frost damage because its indeterminate nature allowed a degree of compensation. Lupins also have escaped the worst of the damage, and where they were hit by frost, have also recovered due to their indeterminate growth habit aided by the cool spring temperatures.

## **Albany Zone**

### **Albany West**

The region is still a little way off commencing harvest with the cool weather and recent rainfall events contributing to delaying crop maturity. Conditions continue to improve for the region as the mild spring is aiding crop recovery from waterlogging.

There are going to be huge differences in grain yields within paddocks as previously reported. The good areas, away from the waterlogging, are exceptional and the worst of the waterlogged areas are very poor.

The soil profile still has reserves of moisture and where crops can access this, grain yields will be well above average.

Snails continue their march north and have been observed further north than in recent years.

### **Albany South**

Cool spring temperatures have given crops extra time to recover from the winter waterlogging. This has resulted in a slight increase in expected tonnage for all crops in the region except those in the worst affected areas. The waterlogged holes will still have an impact on average paddock grain yields, and for some growers the impact will be large.

Wheat crops will only be average as they have set mostly three grains wide rather than four wide. The barley is benefiting from late tillers and this will help to push grain yields up to average or slightly above average. Canola has recovered to a point, although getting it in the bin will be a challenge as a lot has lodged. Swathing canola has just started, and many growers are struggling to get consistent even swaths.

Waterlogged areas re-sown to barley are going well due to the slow finish to the season and most growers wished they had re-sown more of the wet areas.

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

All crops are looking very good, and the region is still set for one of the best years for a while. Useful rain in September and minimal frost damage have set the region up for some very good grain yields in all crops.

Barley and wheat crops are on track to be 20 per cent up on recent averages and canola crops are the “best ever” seen in the district.

The Lakes region is doing the heavy lifting in the Albany port zone this year, with the western and southern regions likely to be just average overall. Total tonnage for the zone is likely to be slightly more than 2020 which was one of the largest crops on record.

### **Esperance Zone**

The continued dry spring has kept a lid on potential grain yields although some recent light rainfall events will benefit some of the later crops. Swathing of barley has started and canola is not far off being swathed or desiccated. Much of the canola and cereals look better than they will probably yield as the dry finish has reduced their potential yield significantly.

The zone will easily reach the tonnage estimated in this report due to the extra area of crop sown over previous years', coupled with very good growing conditions in the west and south coastal regions and minimal frost damage in all areas.

Pulses look particularly good, as do the lupin crops. All have podded up well and with most unaffected by frost, are expected to yield above average.

The western areas of the zone have emerged out of the last three years of well-below-average rainfall to be on track for some very good grain yields in all crops. This region has had minimal frost damage for a change and combined with the gradual finish to the season, will contribute significantly to the total tonnage for the zone and could push current tonnage estimates up further than what is estimated in this report.



## Season Outlook, October 2021

Ian Foster, Department of Primary Industries and Regional Development

### DPIRD climate summary

Below average rainfall in September continued the late-season pattern of drier and warmer conditions for northern and eastern agricultural areas. Root-zone soil water storage is now well below average in these regions but remains above average for the Great Southern and western South Coast, which had near-normal rainfall.

Some frost events have occurred over central and southern cropping areas in the first part of October, although these seem less severe than in September. Daytime temperatures have been cooler than average for the first part of October.

Climate conditions in the Pacific Ocean are indicating continuing cooling, with increasing likelihood of La Nina event developing from November 2021. The negative Indian Ocean Dipole (IOD) event in the tropical Indian Ocean still lingers and leaves warmer oceans to the northwest of WA. Most climate models have neutral rainfall outlooks for November 2021 to January 2022 for the agricultural area. The exception is the Esperance region, where rainfall chances are enhanced, especially for November. See Figure 1.

Shorter-term outlooks have high pressure to the south and east of WA, consistent with a positive Southern Annular Mode in the Southern Hemisphere. Historically, this pattern brings wetter spring conditions for the eastern South Coast.

### Bureau of Meteorology seasonal outlook summary issued October 2021

- November to January rainfall is likely to be above median for the eastern half of Australia, as well as coastal areas of WA and the NT.
- Maximum temperatures for November to January are likely to be above median for much of northern and western WA, south-east Australia, and along the coastline of northern Australia. Below median daytime temperatures are more likely for southeast WA, and also southeast Queensland and eastern parts of NSW.
- Above median minimum temperatures for November to January are very likely for almost all of Australia, with roughly equal chances of warmer or cooler than median nights for southeast WA.
- The El Niño–Southern Oscillation is neutral, with cooling of the tropical Pacific towards La Niña levels likely in the coming months. This may be increasing the chances of above average rainfall for much of eastern and northern Australia. The negative Indian Ocean Dipole has weakened, but the residual pattern in the Indian Ocean typically favours above average rainfall for parts of Australia.

Additional information is available from:

[DPIRD: Seasonal Climate Information](#)

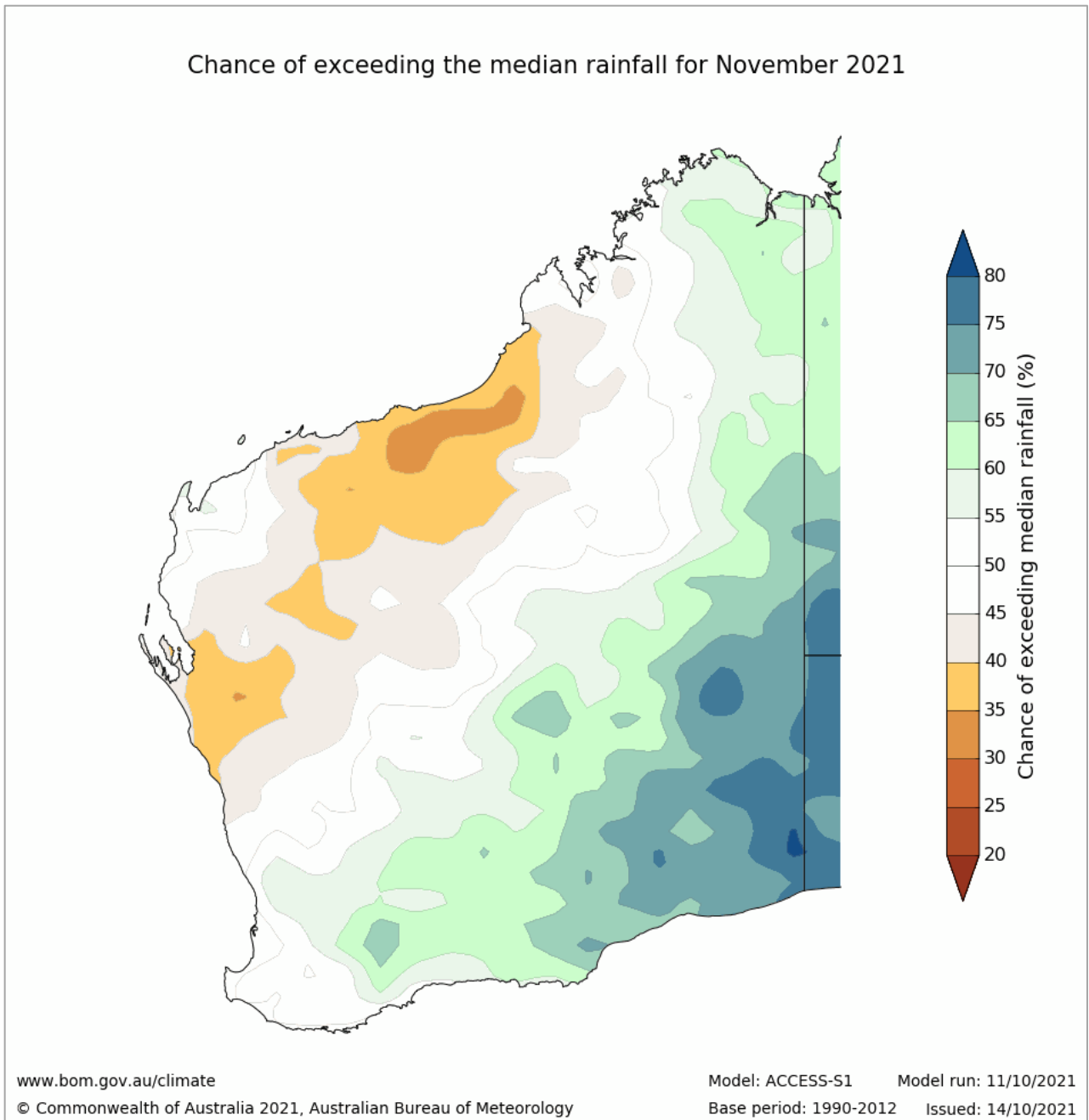
[DPIRD: Soil Water Tool](#)

[BoM: Seasonal Rainfall Outlook - weeks, months and seasons.](#)

[BoM: Decile rainfall for April to September 2021](#)

[BoM: Seasonal Outlook video](#)

[BoM: Landscape soil water balance](#)



**Figure 1. Chances of exceeding median rainfall for November 2021. From BoM, issued 14 Oct 2021.**

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