

Eyre Peninsula seasonal summary 2019

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Key messages

The 2019 cropping season on Eyre Peninsula brought mixed fortunes across the region, with some districts yielding well and yields in other districts severely impacted by continued dry conditions or weather events including frost and wind damage. Hot and extremely dry conditions over summer meant soil profiles contained little stored soil moisture at seeding. Producers in all Western and Eastern Eyre districts needed to supplementary feed livestock as paddocks contained very low levels of paddock feed. Although rain in May allowed most farmers to begin seeding it was an extended affair with those with non-wetting sandy soils waiting to ensure adequate soil moisture for germination before sowing. There was a general decrease in the area of canola and pulse crops replaced mainly with barley. Crop and pasture germination was good and areas that were bare in 2018 generally covered well with sufficient surface cover for erosion protection. The exception to this was in districts west of Ceduna and around Arno Bay and Franklin Harbour where continued drought conditions resulted in poor growth on crop and pasture paddocks.

Continued warm, dry conditions across the region during winter saw rapid development of crops and pastures, and many crops were out in head by mid-August. Soils contained little stored moisture and crops in Central and Eastern Eyre districts were beginning to show signs of moisture stress at this time. Dry conditions and cool nights resulted in severe frost damage to cereal and pea crops in Central and Eastern Eyre districts during August and September. High demand for hay because of drought conditions in eastern Australia, coupled with high prices made it profitable to cut frosted crops (and those suspected of being frosted) for hay. Unfortunately due to dry seasonal conditions some frosted crops near Kimba and Darke Peak had insufficient biomass to cut hay and many of these crops were grazed with livestock. However, growers were hesitant to put livestock into sandy paddocks with low biomass due to the potential erosion risk.

Rainfall in late September helped to fill grain on sandy soils, but was too late to benefit crops on heavier textured soils in Central and Eastern Eyre districts. Strong winds on 20 November caused high grain losses in unharvested crops. Many growers estimated yield losses at 0.5 to 1.0 t/ha, and on crops with high yield potential on Lower Eyre Peninsula losses were estimated at up to 2.5 t/ha.

Most farmers completed harvest quicker than normal in Western and Eastern Eyre districts due to generally below average yields. Many growers reported that the final yields were around 10-15% less than what they had estimated before harvest. The exception to this was in a coastal strip from Haslam to Mt Hope which had good rainfall during the season and realised exceptional hay and grain yields. Yields were very poor in droughted districts north and west of Ceduna and around Kimba, Franklin Harbour and Arno Bay. Crops south of Lock which weren't frosted yielded around the long term average. Grain quality was good with high protein and good test weights.

DISTRICT REPORTS

Western Eyre Peninsula

Summer

Summer rainfall was average in coastal districts and below average inland. January temperatures were well above the monthly average with all observation stations recording their hottest January day on record (24 Jan).

Biomass in stubble paddocks was less than normal and whilst livestock were maintained in good condition, to protect vulnerable soils from wind erosion most growers moved them into containment feeding areas until pastures established.

Autumn/Winter

Hot dry conditions with below average rainfall continued into autumn resulting in little pre-seeding nitrogen mineralisation. Very strong winds on 5 and 15 April raised dust across the region from paddocks with exposed soil. Low stored soil moisture and concerns of potential herbicide carryover, as well as good prices for feed grain led some farmers to increase their area sown with barley and reduce the area of canola and pulses.

Storm events (21 and 30 April) brought rain and resulted in most districts recording close to average April rainfall. Good rains fell in most districts in May, with coastal districts from Ceduna to Elliston receiving above average and Nundroo receiving well above the monthly average. Seeding was completed by the end of May in many districts. Good surface soil moisture and warm soils promoted rapid germination and growth and most farmers were able to reduce or stop supplementary feeding stock as pastures grew.

Cold fronts in June brought scattered showers and most districts recorded close to the monthly average rainfall. Crop and pasture growth was slowed by cool temperatures with a number of light frosts in inland districts. At the end of June early dry-sown cereal crops were at mid-tillering, but those sown toward the end of May were only at 4-5 leaf stage.

Pre-emergent and knock-down herbicides gave good grass weed control. The growth of some pulse crops and medics was impacted by herbicide residues, carried over due to dry conditions. Many farmers chose to spray-top pastures instead of selectively removing grasses to maintain maximum cover. Rhizoctonia was more prevalent than normal during winter, perhaps due to low soil nitrogen levels from poor medic stands in 2018. Manganese deficiency in barley crops was also common.

Late winter rainfall was below average to very much below average in most districts. Above average July temperatures resulted in rapid crop and pasture growth, and some crops were in head by August. At the end of winter soil profiles had little stored moisture and crops in all districts were showing signs of moisture stress. Growth was slowed by cool August temperatures with numerous frosts recorded in inland districts in mid to late August. Poor autumn and winter rainfall between Ceduna and Penong and around Kyancutta resulted in low crop biomass and yield potential. Where better rainfall was received crops maintained better yield potential with crops near Nundroo, Mudamuckla and south from Wirrulla to Wudinna maintaining slightly below average yield potential, and paddocks near Minnipa, Mt Damper and in the coastal districts around Streaky Bay, Mt Cooper and Elliston had high biomass and above average yield potential. Crops on dune/swale paddocks in Central Eyre districts, began to hay off on the heavier flats, which resulted in some growers cutting crops for hay.

Spring

Dry conditions and cold nights resulted in a number of heavy frosts in early September. The worst affected areas were cut for hay. Widespread storms late in the month resulted in average September rainfall in most districts and well above average rainfall in the Minnipa, Wudinna and Warramboe area.

Harvest commenced slightly earlier than normal in mid-October, with most farmers finishing in early December. October was hot, dry and windy and some districts observed their hottest October day on record. These conditions continued throughout harvest with very much below average rainfall during this period and a number of hot windy days above 40°C resulting in harvest bans.

Yields were highly variable depending on rainfall distribution and extreme weather events. There were widespread reports of frost damage impacting yields in most inland districts. Many pea crops around Wudinna were affected by frost and cut for hay, but those unaffected by frost yielded close to the long-term average. Canola yields were over 2 t/ha around Mt Cooper and 1.2 to 1.5 t/ha near Wudinna. Very strong winds on 20 November resulted in grain loss of up to 1 t/ha on some cereal crops. Fortunately the majority of crops on Western EP were harvested before this date.

Crop yields west of Ceduna to Penong were very poor with reports of some paddocks not harvested. The coastal strip from Haslam and Elliston yielded exceptionally well with reports of cereals yielding more than 2.5 t/ha. Inland crop yields were below average to average depending on rainfall distribution, with crops between Nunjikompita and Wirrulla yielding 0.5 to 0.6 t/ha. Crops that weren't frost affected south of Wirrulla to Wudinna had average to slightly below average yields (0.8 to 1.2 t/ha), and whilst barley crops near Wudinna yielded well (1.8 to 2.0 t/ha) yields on crops south east of Kyancutta were poor. Overall grain quality was generally good with high protein, good test weights and low screening percentages.

Pasture paddocks contained little feed at the end of the year and most livestock producers were supplementary feeding stock.

Eastern Eyre Peninsula

Summer

The growth of summer weeds which germinated after December rainfall was halted by hot dry conditions and very dry soils after harvest. Dams in the Cleve Hills dried up with many farmers needing to cart water for livestock over summer and autumn. Drought conditions in 2018 combined with a dry summer meant paddocks contained little biomass and most producers supplementary fed livestock.

Autumn/Winter

Very dry conditions extended into autumn. The only significant rainfall for April came from a cold front bringing widespread rains of 10-20 mm on 30 April. The northern part of the district received above average May rainfall which enabled seeding to commence, however rainfall was below average in the southern area.

Dry conditions in 2018 increased the risk of herbicide residue carryover resulting in a reduction in the area of canola and pulses sown and an increase in the area sown to barley.

This gave growers the option to either graze, cut hay or harvest grain depending on how the season progressed. Farmers with non-wetting sands waited for good opening rains to ensure sufficient moisture for good germination before sowing the majority of their crop. On sands that were drifting growers increased seed and fertiliser rates to improve plant densities and erosion protection. Warm days in the first half of May resulted in rapid germination of crops and pastures. Pre-emergent and knockdown herbicides provided good early weed control. Good early germination of medic pastures generated considerable bulk prior to cold weather which allowed most livestock producers to reduce or stop supplementary feeding in June.

Red legged earth and Bryobia mite numbers were higher than normal in some districts and damaged emerging crops and pastures. Other insect pest numbers were generally low, perhaps due to the high proportion of seed treated to protect early crops against the threat of Russian wheat aphid.

Rains in mid-June kept topsoils damp but subsoils in most districts were dry requiring good winter and spring rainfall to maintain crop and pasture growth and yield potential. Dry sown crops established quickly and were at mid-tillering by late June, but later sown crop growth was slowed by cold and dry conditions.

Late winter rainfall around Kimba and Franklin Harbour, as well as near Arno Bay was well below average. Severe frosts caused damage to crops in the Lock, Tuckey, Darke Peake and Mangalo areas in August, particularly barley, and those crops with sufficient biomass were cut for hay.

Continued dry conditions resulted in crops starting to hay off in early August near Cootra, Kimba, Tuckey, Cleve, Cowell and Arno Bay. Pulses appeared to be less affected by the dry conditions than cereal crops. Crops were still healthy in districts where better rainfall was received i.e. near Lock, Mardinga, Wharminda, Port Neill and the Cleve Hills, but dry soil profiles required good spring rainfall for crops to realise potential yields.

To maintain surface cover for as long as possible growers opted not to spray out grasses in pastures, choosing instead to spray-top paddocks in early spring to prevent grass weeds from setting seed. Rhizoctonia damage was higher than normal which might result from grasses left in pastures during recent dry seasons. Other crop disease levels were generally low.

Although livestock were generally in good condition, and most producers had already reduced stock numbers to core breeders to reduce pressure on

feed supplies, relief from supplementary feeding of livestock was short lived with some farmers in the Arno Bay, Kimba and Franklin Harbour districts needing to recommence feeding in late winter due to low biomass in pasture paddocks. Some growers turned livestock onto failed crops on heavier soils type in August, however on sandier soil growers were reluctant to do this because of poor surface cover and the risk of exposing vulnerable soils to wind erosion.

Spring

Although September rainfall was average to above average, apart from in the Franklin Harbour district, with very much below average rainfall, strong winds and warm temperatures in October caused rapid senescence of crops and continued to erode areas of exposed soil. Late September rainfall whilst possibly helping fill grain on some sandier paddocks in the Cleve Hills, Darke Peak, Kielpa and Wharminda districts was generally too late to benefit crop yields. This rain also resulted in regrowth on some later sown barley crops causing uneven ripening and delaying harvest of those paddocks.

Cold nights combined with dry conditions in early September resulted in moderate to severe frosts near Kimba, Lock and Tuckey and many farmers cut affected crops for hay. Harvest began around Kimba in early October and farmers in other districts began to reap early crops by the end of the month. Very strong winds on 20 November caused grain to be threshed out of the heads of standing cereal crops resulting in yield losses of up to 1 t/ha.

Yields in all districts were below average, resulting in a quick harvest. Pulse crops generally yielded well, except on the heavier soils types which were affected by moisture stress. The small area of canola sown only yielded 0.5 to 0.8 t/ha. Yields varied from 0.1 to 2 t/ha, depending on soil type, time of sowing, frost damage and where rain fell. Crops in the Kimba/Buckleboo districts were severely affected by dry conditions. Yields were also poor in the Cleve, Arno Bay and Cowell districts which had poor rainfall all year, with reports of cereal crop yields in the 0.2 to 0.5 t/ha range. Crops on lighter textured soils yielded better (in the range 0.8 to 1.5 t/ha), whilst in the Cleve Hills and Darke Peak districts which received more rainfall, cereals yielded 1.2 to 2.0 t/ha. Grain quality was generally extremely good with high protein and low screenings.

Lower Eyre Peninsula

Summer

Stubbles from a good 2018 season on Lower Eyre Peninsula provided high amounts of quality feed and livestock retained excellent condition. Summer weeds germinated with harvest rains and most farmers began spraying immediately after harvest.

Although many soil profiles contained moisture in deeper subsoil layers over summer, surface and subsurface layers were extremely dry stalling weed growth during late summer.

Autumn/Winter

Autumn rainfall was below average to well below average. Paddock feed supplies had severely reduced at this point and most farmers were supplementary feeding stock.

Farmers began dry-sowing vetch or cereals for feed in mid-April, to allow pastures to get well established before grazing. Those with large cropping programs also sowed some canola and pulses dry but most waited until a cold front on 30 April brought the first significant rainfall for the year.

A large amount of lime and gypsum was applied during this period to ameliorate soil constraints. Mice, snail and insect pest numbers were generally low. Most farmers also treated a portion of their seed with insecticide to protect early growth from Russian wheat aphid.

Good rains followed the April break with well above average May rainfall in most districts. June rainfall was below average for coastal districts from Port Lincoln to Port Neill. Seeding was finished by the first week of June in most districts. The dry start combined with low stored soil moisture also saw a slight reduction in the area of canola and a corresponding increase in the area of barley sown.

Good soil moisture and warmer temperatures in May resulted in good crop and pasture germination and growth. Pre-emergent and knockdown herbicide applications were very effective and most crops had low grass weed numbers. Red legged earth mite, Bryobia mite and Lucerne flea caused some damage to emerging crops and pastures. There were also reports of Cabbage and Turnip aphids in canola as well as Cow-pea aphids in vetch crops, however these were isolated and in low number.

Crop growth stage varied with time of sowing. By mid-June early sown crops were at mid-tillering, whilst those sown later in cooler conditions were only at 4-5 leaf stage. By the end of August many cereal crops were at head emergence with good yield potential with pulse crops and canola crops flowering. A number of leaf diseases were reported in cereal crops including net blotch and scald in susceptible barley varieties and Septoria in wheat. However these were effectively controlled with fungicide applications.

With good growing conditions, many growers applied early nitrogen to cereal crops. Given limited stored soil moisture and predictions of a drier than average spring, growers were cautious, applying

lower nitrogen rates than normal with preparations to apply more if good seasonal conditions continued.

July and August rainfall was below average to very much below average across the district. Whilst warmer days in August resulted in rapid growth of crops and pastures, cold nights resulted in a number of frosts in inland districts.

Spring

September rainfall varied considerably across the region from below average in the south to above average in the Kapinnie, Cummins, Ungarra and Tumby Bay districts. Late September rains helped fill grain on all but the earliest crops and maintained above average yield potential in most districts. The exception to this was around Butler and Port Neill where patchy rainfall at the start of the season resulted in delayed crop growth.

A number of frosts reported in early September caused some damage to crops. High biomass levels, suspected frost damage and weed control opportunities combined with good demand and hay prices, meant that more hay was cut on lower EP than normal. Cereal paddocks cut in mid-September regrew quickly providing extra grazing opportunities for livestock. Growers also baled cereal straw after harvest as an alternative supplementary feed option for livestock producers in droughted parts of the region.

Below average October rainfall combined with warm days, including hot north winds and the hottest October day on record, resulted in rapid crop senescence. Farmers commenced windrowing canola in mid-October and harvesting earlier sown crops in the last week of October. Very strong winds on 20 November threshed grain from the heads of cereal crops. Crops with the highest yield potential were generally worst affected with some growers estimating losses up to 2.5 t/ha.

Most growers had finished harvest by the end of December. Canola yields were better than the long term average (in the 1.8 to 2.2 t/ha range) with generally high oil content. Peas and lentil crops yielded 1.5 to 1.8 t/ha with many bean crops yielding more than 1.8 t/ha. Except for those crops impacted by wind damage or frost, cereal yields were generally average to slightly above average in the range 2.5 to 4.5 t/ha. Grain quality was generally good with high protein and grain weights.

Acknowledgements

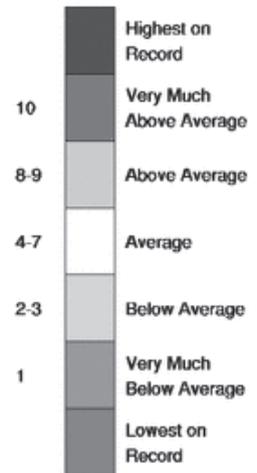
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South Australian Rainfall Deciles 1 April to 30 November 2019

Distribution Based on Gridded Data
Australian Bureau of Meteorology



Rainfall Decile Ranges



<http://www.bom.gov.au>

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Figure 1. April to November rainfall deciles, 2019.



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