

Eyre Peninsula seasonal summary 2017

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The 2017 season can only be described as extremely challenging, which in many districts, finished better than expected. Most districts experienced an extremely late start, with many not recording a significant rainfall event until the last week of June. This presented growers with the difficult decision of how much, if any of their crop area to sow?

Crops that were sown early on good rains, around Kimba and east of Cleve, germinated and grew quickly. However, most areas had slow, patchy germination and many dry sown crops did not germinate for more than six weeks because topsoils were so dry. Significant areas around Streaky Bay, Port Kenny, Poochera, Kielpa, Lock, Rudall and Wharminda did not receive adequate early rainfall and most growers significantly reduced the area of crop. Crops that were sown in these districts grew poorly and generally yielded well below average. Russian wheat aphid were common in crops across the region, aphids and native budworm impacted yields on canola and peas, and frosts significantly reduced yields in central Eyre districts. With these challenges in mind, growers in most districts were relieved to finish harvest with average to slightly below average yields.

Thunderstorms in January and February brought widespread rainfall and by the end of summer most soils had high levels of stored moisture. Warm, damp conditions germinated summer weeds and volunteer cereals. Multiple herbicide applications were required to control this 'green bridge' and conserve moisture ahead of the 2017 cropping season. As Russian wheat aphids were detected in the region in 2016, many growers applied insecticides to seed or paddocks to protect early sown crops. Summer rainfall also increased snail activity. Very few hot days during summer provided limited opportunities to control these by chaining/rolling, with increased baiting and stubble burning prior to seeding to reduce numbers.

Some long season wheat, feed and canola were dry sown in April. Extremely dry conditions, extending to late June halted seeding until good opening rains were finally received in early July. Dry, cold conditions restricted pasture germination, and many growers removed livestock from paddocks at the end of April to protect vulnerable areas from wind erosion and allow pasture plants to grow. Surplus stock, including weaned lambs, were sold early to reduce grazing pressure on establishing pastures. Supplementary feeding of livestock continued until good rainfall and

warmer temperatures in late August brought on good pasture growth.

Dry conditions restricted weed growth, with many growers choosing to manage grass weeds by spraytopping rather than grass-freeing pastures, to maximise paddock dry matter. Most crops had full canopy closure at the end of August and the unevenness observed early in the season was less pronounced. Frosts in late winter saw some cereal and pea crops cut for hay. Although some vetch and oat paddocks were also cut, hay yields were well below average.

Insect pests were an issue in early spring, with high numbers of aphids and native budworm impacting canola yields. Livestock grazing on medic and vetch infested with Cow pea aphid in early spring suffered from photosensitization. Stock were removed to shaded areas and paddocks were sprayed to control the aphids. Chemical control measures were generally effective against Russian wheat aphid. Disease levels were generally low in crops, due to lower biomass levels and fungicide applications.

Regular small rainfall events in September and October kept crops fresh during grain fill. Hot days in September stressed crops near Buckleboo, with moisture probe data showing crops were drawing moisture from below 40 cm in the soil profile. Strong winds in mid-October caused some damage to ripe canola and barley crops in Western and Eastern Eyre districts. Little damage was reported in lower Eyre districts as crops were not yet ripe.

Instead of windrowing more growers direct headed canola this season, as lower crop biomass provided easier paddock trafficability, the cost of windrowing was high compared to the potential crop returns and growers had increased confidence in the efficacy of desiccants.

Yields were highly variable depending on rainfall, sowing time and soil type. Peas generally yielded well, with many reports of yields above 1.5 t/ha, whilst other pulses yielded poorly. Canola yields were below average in most areas as they were impacted by poor germination and poor biomass production due to cold, dry conditions, insects and frosts. Cereal yields were generally better than expected given the season and some districts produced well above average yields. Grain quality was good with generally high protein levels, except in those few districts with high yielding crops.

DISTRICT REPORTS

WESTERN EYRE PENINSULA

Thunderstorms brought well above average rainfall for January and February, with several districts reporting their highest January rainfall on record. Most growers sprayed all paddocks at least once to control summer weeds and volunteer cereals, to manage insect pests and diseases and conserve moisture. As there were few hot days during summer to control them by chaining/rolling stubbles snail activity also increased. As a result more paddocks were baited than normal. Increased Lincoln weed growth on calcareous coastal soils resulted in higher levels of Diamond back moth than is normal for the time of year.

Despite some stored subsoil moisture, continued dry conditions during March and April dried out topsoils. Scattered showers brought above average April rainfall to districts north of Wirrulla. Although some growers began sowing following this rain, rainfall distribution was very patchy and by the end of April only very small areas of feed were sown. There were isolated reports of increased mice activity in sown paddocks, but widespread baiting did not occur. Dry conditions continued through May and June. Some centres, including Minnipa and Wudinna, reported their lowest June rainfall on record and by the end of June only around 60% of the intended crop area for western Eyre Peninsula was sown. Canola and cereal crops that were sown on sandy soils around Wudinna had patchy germination, and some emerging crops and pastures suffered sand blasting. Little crop was sown in areas around Streaky Bay, Port Kenny, Poochera and Minnipa.

Regular showers during July enabled growers to sow a few more paddocks, but very cold nights slowed the growth of crops and pastures and by the end of July most crops had not yet reached canopy closure. Crop growth was highly variable within paddocks and many growers elected to manage different zones in paddocks instead of applying uniform rates of pesticides and fertilisers across the whole paddock. Paddock feed levels were extremely low at the end of July with livestock producers selling surplus stock, including weaners, to reduce pressure on feed reserves. As large variations in weed maturity made timing of applications difficult, and growers wished to preserve as much surface cover as possible, there was little "grass-freeing" of pastures during this period.

Above average August rainfall and warm conditions late in the month produced rapid growth and evened out some of the variability seen earlier in the season. Many crops in paddocks where summer weeds were controlled had better crop vigour, more biomass and

estimated yield potential that were more than 40% higher than in paddocks which didn't.

Few pasture paddocks contained enough biomass in spring to cut for hay. Some frosted pea and wheat crops near Wudinna were cut for hay, along with some vetch and oats, but yields were less than half the average.

Russian wheat aphids were observed in many crops but chemical control measures were effective in minimising damage in most paddocks. Sheep grazing on paddocks infested with Cow pea aphid suffered photosensitization. Mice also caused issues in maturing crops and some late baiting was undertaken in crops near Wirrulla and Nunjirkompita. Adequate control during the season meant that snails did not present unusual problems at harvest.

Isolated scattered showers in October were generally too late to increase yields with above average temperatures and low soil moisture resulting in rapid senescence of crops and pastures.

Some growers in Far West districts began harvest in October with good harvest conditions enabling most western Eyre growers to finish in early December. Crop yields were highly variable depending on rainfall distribution, summer weed control and soil type, but were generally better than expected given the challenging season.

Pea crops not impacted by frost generally yielded well, with reports of 0.8 to 1.6 t/ha around Wudinna. Canola yields in the Wudinna district were in the range 0.7 to 1.0 t/ha. Lentil yields were generally disappointing between 0.5 and 0.7 t/ha. Few canola and pulse crops were sown at Mt Cooper this season.

In the Far West cereal yields of 0.7 to 1.1 t/ha were average to slightly below average. The earlier sown crops around Wirrulla/Nunjirkompita yielded 1.0 to 1.3 t/ha and there were reports of yields up to 3.5 t/ha on the loamier soils south of Wudinna. Crops on heavier soil types in districts which did not receive early rains yielded very poorly. Wheat had generally high protein and much of it achieved AH classification. In coastal districts high protein levels in barley made malt grade difficult to achieve.

EASTERN EYRE PENINSULA

Well above average January and February rainfall resulted in rapid germination of summer weeds. Most growers sprayed all paddocks at least once to minimise the impact of pests and diseases on emerging crops and pastures. Grower confidence for a good season was boosted by good soil moisture levels and many considered increasing the area of dry sown crop.

There was some difficulty sourcing seed for particular canola varieties, however most growers were able to find suitable replacement varieties. Given high levels of volunteer crops in paddocks and the presence of Russian wheat aphids most growers applied insecticide to at least some of their seed to minimise damage to early sown crops.

March and April were dry, except around Kimba which received 60 mm of rain late in the month. Feed paddocks and small areas of canola were sown during April. Although soil profiles had moisture below 40 cm, topsoils were dry by the end of April and most growers waited for opening rains to sow the majority of their crops. Paddock feed supplies were very low by the end of April, with producers feeding livestock in containment areas to allow pastures to germinate and bulk up before grazing. There was some concern regarding the amount of feed which might be available over summer and some growers sold surplus stock, but most did not reduce flock numbers significantly.

Isolated rainfall in May in the eastern Cleve Hills, and from Cowell to Port Neill resulted in large variations in seeding completion and crop development. Crops near Kimba which were sown on earlier rains were moisture stressed by the end of June and soil moisture probes showed that cereal crops were drawing moisture from below 40 cm in the soil profile. Continued very dry conditions west of Cleve from May to July restricted the area of crop sown near Wharminda, Rudall, Verran, Lock and Kielpa. In these districts, crop and pasture germination was poor and some erosion was observed on sandy rises. Rains in early July enabled growers near Darke Peak to finish seeding, but cool conditions, including a number of light frosts, slowed crop and pasture growth. Well above average August rainfall was recorded in most districts, resulting in some stored soil moisture, and by the end of August the earlier sown crops on lighter soils in the Franklin Harbour, Crossville and Buckleboo districts looked healthy with above average yield potential.

Broadleaved weed sprays were applied in early spring as the variability in crop growth evened out. Growers 'spray topped' rather than 'grass-freed' pastures to retain as much paddock biomass as possible. Low numbers of Russian wheat aphids were reported in most districts, with chemical control measures effectively minimising crop damage. Sheep grazing on medics infested with Cow pea aphid suffered photosensitization. Stock were removed from these paddocks. Turnip and cabbage aphids and native budworm also infested canola crops in early October with numbers building quickly and growers spraying to minimise crop damage. There were reports that crops near Buckleboo suffered damage from

unusually large mobs of kangaroos and mice, which were observed chewing on cereals and canola crops during grain fill. However, numbers did not increase significantly and there was minimal yield loss.

Canola and pulse crops were desiccated at the start of October to encourage even ripening, and harvest began in late October. Pea crops that were not affected by frost yielded very well (1.7 to 2.0 t/ha), however yields for canola and other pulse crops were generally disappointing due to poor seasonal growth and damage from frost and insect pests. Strong hot winds damaged ripe canola and barley crops around Kimba and Cleve in late October, with estimates of up to 20% yield loss on affected paddocks.

Widespread thunderstorms and cool conditions during November and early December frustrated harvest efforts. However, most growers finished harvest by mid-December. Cereal yields reflected the seasonal variability with crops east of Cleve having above average yields, in the order of 2 to 3 t/ha, whilst yields from districts west of Cleve were well below average. Except on exceptionally yielding paddocks, protein levels were generally high. There was some fungal staining resulting from the damp conditions at harvest. A number of growers used the late rainfall as an opportunity to sow summer forage crops such as sorghum, canola and millet.

LOWER EYRE PENINSULA

Above average rainfall was recorded in January and February, and areas from Coffin Bay to Cummins received their highest January rainfall on record. Warm, damp conditions mineralised soil nitrogen and increased snail activity during this period. Increased stubble burning and baiting of canola and pulse crops was undertaken prior to seeding to control numbers.

Summer weeds and volunteer crops germinated rapidly and most growers sprayed all paddocks at least once to control the 'green bridge' and reduce potential crop pests and diseases. Herbicide applications combined with dry conditions to the end of June significantly slowed weed growth. There was more gypsum and lime applied for improving soil condition than in recent years.

Growers with large cropping programs began to dry-sow canola, pulses and long season wheats in April but dry conditions halted seeding in most districts. A lack of profitable legume crops suitable for the region and poor profitability from growing barley meant that growers intended to sow more canola. Although there were issues with supply of some canola varieties, most growers were able to source suitable replacement varieties to fit their rotations. Continued dry conditions dried out topsoils resulting in up to 20% less area sown to canola than average.

A cold front brought rain to areas south of Edillilie in the last week of June, however this did not extend further north. By the end of June only 20% of growers had finished seeding. Districts which received isolated rains, such as near Butler, Moody and Point Bolingbroke had good crop germination and growth. In other areas emergence was patchy, with dry conditions restricting growth. Many crops took 6 to 8 weeks from sowing to germinate.

Pastures germination was slowed by cool, dry conditions and livestock producers were forced to supplementary feed stock in containment areas to protect soils and allow pasture growth to occur. Although most growers had stored hay and grain on farm these reserves were depleted by continued dry conditions and poor pasture growth, and most growers needed to source extra feed from other regions. Surplus stock, including weaned lambs, were sold.

Well above average August rainfall resulted in temporary waterlogging in paddocks near Stokes and south of Edillilie. Warmer days late in the month resulted in rapid growth of crops and pastures, and some growers applied urea to crops showing symptoms of nitrogen deficiency. By the end of August the uneven crop germination and growth was less pronounced than observed earlier in the season.

Low spring biomass resulted in much less hay being cut than normal. Sheep grazing on vetch pastures infested with Cow pea aphid suffered photosensitization and growers had to remove them to a shaded area whilst treating these paddocks.

Although a number of days above 35°C in middle of October brought October temperatures above the monthly average, regular small rainfall events kept crops green. Very early sown crops on the Tumbly Bay flats were harvested at the end of October whilst other crops were not ready for harvest until late November. Thunderstorms during November and December resulted in above average rainfall for this period and frustrated growers wanting to harvest ripe crops. Many growers scrambled to harvest high value

crops such as lentils and canola ahead of impending rain bands.

Crop yields and quality were highly variable, but generally better than landholders expected given such a challenging season. Pulse crops generally yielded poorly, with lentils and beans producing less than 1.0 t/ha and lupins 1.0 to 1.5 t/ha. Pea crops were better with some crops yielding 1.8 t/ha. Generally poor canola yields of less than 1.0 t/ha yield were reported near Cockaleeche and Ungarra. Staggered germination, low biomass and insect damage all had some impact on potential yield. However, crops near Kapinnie, Cummins, Koppio and Wanilla yielded well between 1.4 and 2.0 t/ha and oil content was generally good.

Where sowing could be undertaken early, cereal yields were around the long term average. Reports of 2.0 to 3.5 t/ha were common around Karkoo, Kapinnie and Koppio and 3.0 to 4.0 t/ha on the better soil types around Cummins. However, where dry conditions caused late sowing at Ungarra and Cockaleeche crop production was below average, with yields of 1.5 to 2.0 t/ha.

Protein levels were generally good and a high proportion of delivered wheat achieved AH and APW classification, with higher yielding crops achieving ASW. Barley quality was also good. Malting varieties generally achieved malt grade and the remainder made F1. Apart from minor sprouting on some varieties and some issues with low test weights there were few impacts on grain quality. Rain at harvest and warm conditions resulted in rapid germination and growth of summer weeds, with some growers using the opportunity to sow summer forage crops, including sorghum and millet.

Acknowledgements

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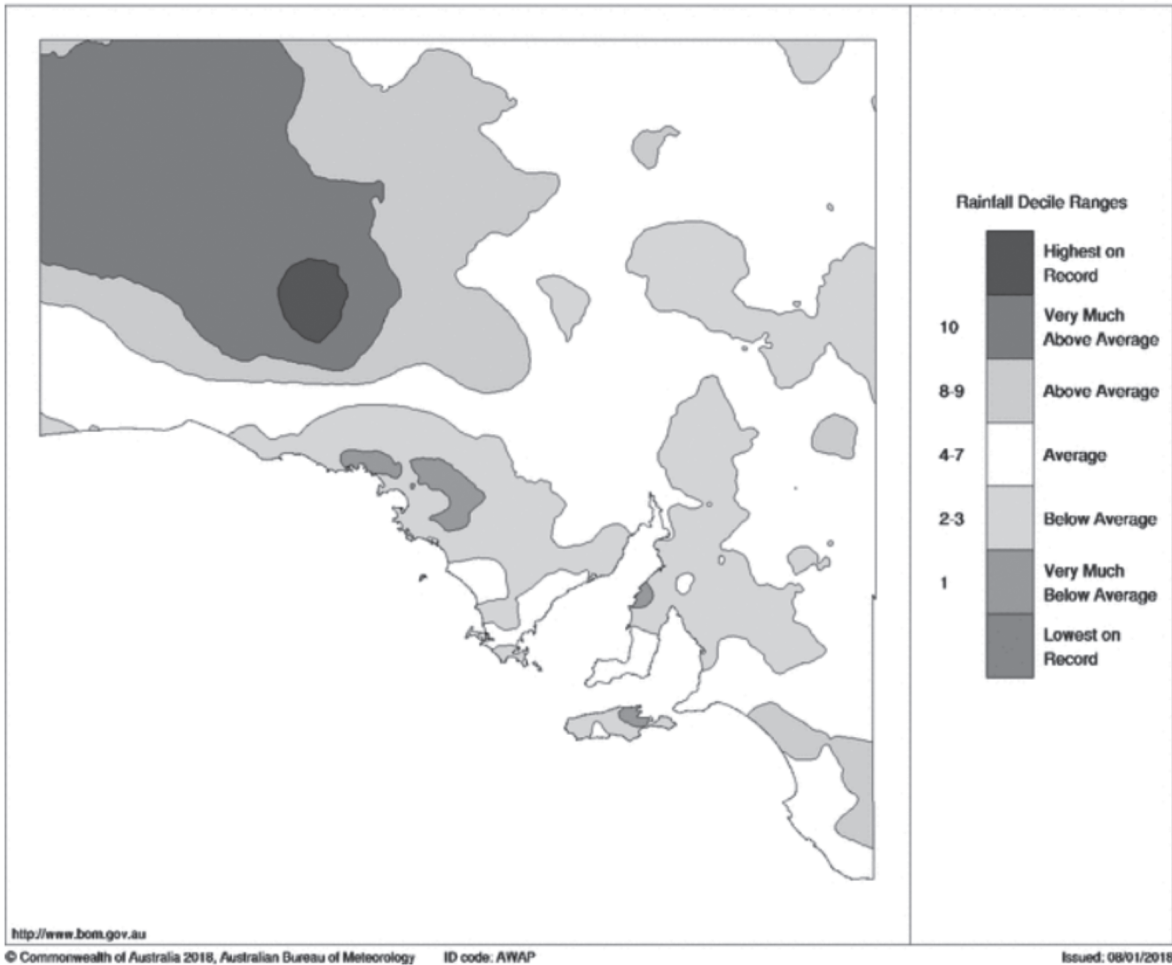


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South Australian Rainfall Deciles 1 April to 31 December 2017

Distribution Based on Gridded Data
Australian Bureau of Meteorology



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

Figure 1. South Australian rainfall deciles 1 April to 31 December 2017