

MAC Farm Report 2019

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Key outcomes

- **Yields achieved for 2019 were close to the 30-year average, with this year's growing season rainfall also similar to the GSR average for those 30 years.**
- **High grain quality and test weights were achieved in 2019.**
- **Lamb survival rates were very good.**

Background

The performance of the Minnipa Agricultural Centre (MAC) commercial farm is an essential component in the delivery of relevant research, development and extension to Eyre Peninsula. The effective use of research information and improved technology is an integral part of the role of the farm. MAC had research trials in eight paddocks and continued to take full pedigree records and production measurements on the sheep research flock in the 2019 season.

What happened?

Where was our mid-spring rainfall? The season began with promise, with above average rainfall for May and June, then we received very much below average rainfall for July and August. Most crops had completed grain fill when we received a large rainfall event in late September of 45 mm. This rainfall helped some late crops, but not all.

Due to a good start to 2019, the whole seeding program was sown into good moisture, starting on 3 May and completed on 20 May. The fertiliser applied was 70 kg/ha of Granuloc Z (11:22:4:1).

- Wheat sown at 70 kg/ha, total 407.5 ha (Scepter 183 ha, Trojan 20 ha, Chief CL 58.5 ha, Razor CL 93 ha, DS Bennett 28 ha, Vixen 25 ha)
- Barley sown at 65 kg/ha, total 242 ha (Spartacus CL 162 ha, Compass 30 ha, RGT Planet 30 ha)
- Peas sown at 110 kg/ha, 45 ha, PBA Butler
- Beans sown at 90 kg/ha, 10 ha, PBA Marne
- Lentils sown at 60 kg/ha, 35 ha, PBA Hurricane
- Canola sown at 1.8 kg/ha, 56 ha, 43Y92
- Vetch sown at 40 kg/ha, 40 ha, Volga, RM4
- Hay - oats sown at 40 kg/ha, vetch 40 kg/ha, canola 2.5 kg/ha
- Pasture - 180 ha self-regenerated medic
- Research trials - 45 ha (DLPS, NVT, etc.)
- Lanza tederia sown at 10 kg/ha (small area established)

Livestock

Stock currently on the farm: 325 merino ewes, 124 merino ewe hoggets, 394 merino lambs and 9 merino rams. Reproduction results overall for 2019: 342 ewes mated with 37 ewes scanned dry and 434 lambs marked (including 14 April-May drop which were sold in August). Ewe and wether lambs weighed in at an average of 26.6 kg per animal weaned at 12 weeks.

Shearing of the flock was completed on 27 August at six months, with the previous shearing on 27 February. Fleece weight data are presented in Table 3.

Issues encountered in 2019

- Lack of late winter and early spring rainfall
- Wild oats and barley grass in crop
- Barley grass escaping selective herbicides in medic pastures
- Three corner jack population increase on farm

Farm improvements and equipment

- Tractor leased for 5 years
- Sheep yards built early 2019
- Sheep yard shelter to be installed early 2020
- Combi clamp purchase

Items of interest

- Variety comparisons in wheat and barley - Scepter and Vixen very similar. Razor CL performing better than Chief CL at MAC. Compass and Spartacus CL the stand out barley varieties at MAC.
- Faba beans - left a lot in the ground due to low podding height, approx. 0.5 t/ha.
- DLPS large-scale grazing

trial - very impressed with the trigonella in particular.

- Lentils performing well
- RM4 vetch new woolly pod variety
- Lanza teder established well on heavy loam
- SARDI farm manager meeting held at MAC
- GRDC Southern panel visit
- MLA "increasing weaning

weights" trial participation

Acknowledgements

MAC farm staff: Wade Shepperd and John Kelsh

MAC research staff: Jessica Gunn and Tom Flinn (University of Adelaide)

MAC administration staff: Leala Hoffmann and Dot Brace

Table 1. Harvest results, grain yields and protein (2019) aligned with paddock rotational histories.

| Paddock | Paddock History 2015-2019 | Crop 2019 | Sowing Date | Yield (t/ha) | Protein (%) | Screenings (%) |
|-------------|---------------------------|--|-------------|------------------------|-------------|----------------|
| North 1 | W-M-W-M-W | Scepter, Razor CL, Vixen (W), WI4952 (B) | 15 May | 1.75, 1.53, 1.62, 1.81 | N/A | N/A |
| North 2 | M-C-W-M-W | Scepter (W) | 14 May | 1.90 | 12.6 | 0.5 |
| North 3 | W-B-V-W-B | Spartacus CL (B) | 13 May | 1.74 | 16.1 | 4.8 |
| North 4 | W-M-W-B-M | Medic (M) | | | | |
| North 5 N | B-M-W-W/B-M | Medic (M) | | | | |
| North 5 S | M-W-M-W-M | Medic (M) | | | | |
| North 6 | W-W-B-M-O/V/C (hay) | Mulgara/Volga/Mixed (O/V/C) | 4 May | Hay 1.5 | | |
| North 7 | W-M-C-W-B | Spartacus CL (B) | 12 May | 2.08 | 16.1 | 4.8 |
| North 8 | W-M-C-W-W | Chief CL (W) | 8 May | 1.68 | 13.5 | 0.7 |
| North 9 | B/W-O-W-P-W | Trojan (W) | 13 May | 1.67 | 14.1 | 0.3 |
| North 10/11 | M-W-M-B-V | Volga/RM4 (V) | 3 May | Spray topped | | |
| North 12 | M-W-W-C-W | Razor CL (W) | 11 May | 1.97 | 13.2 | 1.2 |
| South 1 | P-W-B-V/B/O-W | Razor CL (W) | 10 May | 1.61 | 12.9 | 0.9 |
| South 2 | W-M-W-B-P | PBA Butler (P) | 7 May | 1.00 | | |
| South 3 | W-B-V-W-B | RGT Planet, Compass (B) | 17 May | 1.57, 2.04 | 15.5 | 1.2, 0.4 |
| South 4 | O/V-W-B-V-W | Scepter (W) | 14 May | 2.14 | 13.6 | 0.8 |
| South 5 | M-W-B-M-W | Scepter (W) | 13 May | 1.94 | 13.2 | 0.6 |
| South 6 | B-M-W-B-C | 43Y92 (C) | 6 May | Oil 38.6% | | |
| South 7 | M-W-B-M-W | DS Bennett (W) | 5 May | 1.30 | 13.3 | 4.8 |
| South 9 | M-M-W-B-M | Medic (M) | | | | |
| South 10 | B-V-W-W-P | PBA Butler (P) | 20 May | 0.80 | | |
| Barn | W-O-M-W-O | Mulgara (O) | 20 May | 1.20 | | |
| House | W-O-M-W-O | Mulgara (O) | 20 May | 1.20 | | |

M = Medic, P = field pea, W = wheat, B = barley, O = oats, C = canola, V = vetch

Table 2. Lambing data 2010-2019.

| | Ewes joined | Lambs scanned | Lambs born | Lambs marked | Scanning (%) | Marking (%) | Survival at birth (%) | Survival at marking (%) |
|------|-------------|---------------|------------|--------------|--------------|-------------|-----------------------|-------------------------|
| 2010 | 335 | 421 | 372 | 333 | 126 | 99 | 88 | 79 |
| 2011 | 338 | 426 | 414 | 410 | 126 | 121 | 97 | 96 |
| 2012 | 337 | 540 | 558 | 439 | 160 | 130 | 103 | 81 |
| 2013 | 350 | 534 | 531 | 448 | 153 | 128 | 99 | 84 |
| 2014 | 349 | 442 | 443 | 386 | 127 | 111 | 100 | 87 |
| 2015 | 424 | 555 | 534 | 437 | 131 | 103 | 96 | 79 |
| 2016 | 422 | 532 | 632 | 502 | 126 | 119 | 119 | 94 |
| 2017 | 366 | 428 | 458 | 361 | 117 | 99 | 107 | 84 |
| 2018 | 335 | 434 | 382 | 294 | 130 | 88 | 88 | 68 |
| 2019 | 342 | 486 | 485 | 434 | 142 | 127 | 100 | 89 |
| Av. | 360 | 480 | 481 | 404 | 134 | 116 | 101 | 86 |

*2010, 2011, 2014, 2015, 2016, 2017 all had 1 x sire failure

Table 3. Wool measurements 2019.

| Sheep class | Ewes (2013-2017 drop) | | | | | Hogget ewes (2018 drop) | | | | |
|--------------------|-----------------------|-------|--------|-------|----------------|-------------------------|-------|--------|-------|----------------|
| Date shorn | Feb-19 | | Aug-19 | | Total (annual) | Feb-19 | | Aug-19 | | Total (annual) |
| Measure | AV. | RANGE | AV. | RANGE | TOT/AV | AV. | RANGE | AV. | RANGE | TOT/AV |
| GFW (kg) | 4.2 | 2.8-6 | 3.3 | 2-6.2 | 7.5 | 3.1 | 1-5.2 | 2.7 | 2-4 | 5.8 |
| Staple length (mm) | 44.9 | 29-66 | 56.5 | 41-75 | 50.7 | 56 | 24-77 | 62.9 | 50-76 | 59.4 |
| Colour (1-5) | 1.9 | 1-3 | 1.9 | 1-3 | 1.9 | 1.8 | 1-3 | 2 | 1-3 | 1.9 |