Southern NSW Drought Resilient Mixed Farming System Trials

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Presenters: Shawn McGrath, Felicity Harris, Jeff McCormick

Project objective: Improve whole-farm drought resilience of mixed-farming systems.

Wagga Wagga Long-Term field experiment details:

Twelve self-contained farmlets have been established on Ashmont Farm, Wagga Wagga. Each "farmlet" consists of 12 (Systems 1-3) or 4 (System 4) sub-paddocks (0.2 ha). The systems integrate all components of a mixed-farm enterprise (dedicated pasture and cropping phases integrated with self-contained flocks of Crossbred ewes. Ewes are joined in confinement during January/February and lambing in June/July. The experiment has 4 defined 'systems' treatments:

1. 'Wolfe' - Traditional mixed farming

60% cropping: 40% pasture mix, incorporating a legume treatment (faba beans F) within the cropping phase and opportunistic dual-purpose crops in conjunction with a 5-year lucerne/sub clover phase L. This system focuses on crop/livestock production within dedicated phases.

- Pasture/crop sequence: L-L-L-L-L-C-DPW-B-F-C-W-B;
- 5.3 ewes per ha lucerne
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2. 'Kirkegaard' - High intensity mixed farming "Kirkegaard/CSU" treatment

60% cropping: 40% pasture mix with increased focus on inclusion of multiple dual-purpose crops DPW and vetch V within the cropping phase in conjunction with a 5-year lucerne L phase. This system has increased focus on livestock production and carries a higher whole farm stocking rate.

- Pasture/crop sequence: L-L-L-L-L-C-DPW-B-V-C-DPW-B
- 7.3 ewes per ha lucerne
- Vetch-mix (V) included vetch, oats, turnips and arrowleaf clover

3. Ley farming "O'Hare" treatment

50% cropping, 50% annual pasture with a self-regenerating ley pasture phase.

- Pasture/crop sequence: Cl-Cl-C-W
- 6.1 ewes per ha clover

4. Continuous cropping treatment

This system is 100% cropping, with no dedicated pasture phase or livestock production.

- Crop sequence: F-C-W-B-F

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Table 1. 2026 System Management

Crop Type	Variety	Grazing management
Wheat (W)	Ironbark	No grazing
Barley (B)	Neo CL	No grazing
Clover (Cl)	Bartolo & Zulu Max	Newly sown plots included in the grazing rotation from 1st of June.
Vetch Mixture (V)	Timok Vetch, Zulu Arrowleaf Clover, Yarran Oats, Raddish	Grazed pre & post lambing. Lambs grazing post-weaning.
Faba Beans (F)	FBA Barmah	No grazing
Canola (C)	PY432T	No grazing
Dual-Purpose Wheat (DPW)	Illabo	Rotational grazing during lambing*
Canola – Grazing Option (DPC)	PY525G	No grazing
Lucerne & Sub-clover (L)	Stamina GT6, Coolamon & Forbes	Rotational grazing. Newly sown plots grazed ~14 days in August.

- *The High Intensity & Traditional ewes grazed the DPW for ~35 days, whilst the Ley ewes grazed for ~46 days.

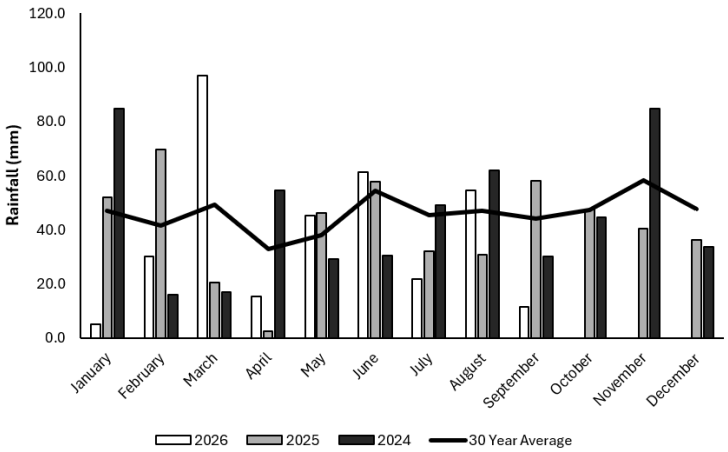


Figure 1. Total monthly rainfall at the LTFT Site 2024-2026 (Ashmont Station – 0020DE6D), and the 30-Year Monthly Average (1996-2026) (Wagga Wagga AMO).

Table 2. 2026 Crop Details

Crop Type	Sowing Date	Plant Density	50% Flowering Date
DP Wheat	7th April	167 p/m^2	23rd September
Canola – Grazing	19th April	26 p/m^2	14th August
Canola	21st April	27 p/m^2	11th August
Faba Bean	28th April	34 p/m^2	11th August
Wheat	14th May	229 p/m^2	24th September
Barley	15th May	200 p/m^2	16th September

Sheep Management:

- All ewes joined together in confinement (22nd January – 3rd March) and fed barley & fabas (90:10).
- Ewes remained in confinement for > 90 days
- Ewes commenced lucerne rotations late March, clover rotations commenced late April (supplemented by background sub clover).
- Scanning rate of 134%
- Lambed down on DPW
- Weaned 18th September (12 weeks). Weaning rate of 1.3 lambs per ewe.
- Traditional & High Intensity ewe groups spent a total of 145 days rotationally grazing pastures with 35 days on dual purpose wheat.
- Ley ewe groups spent 112 days grazing rotationally grazing pastures with 46 days on dual purpose wheat.

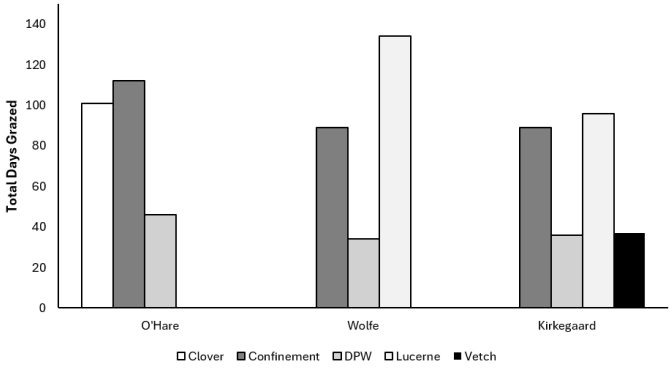


Figure 2. Grazing duration of the crop and pasture species for each farming system from 1st January, 2026.

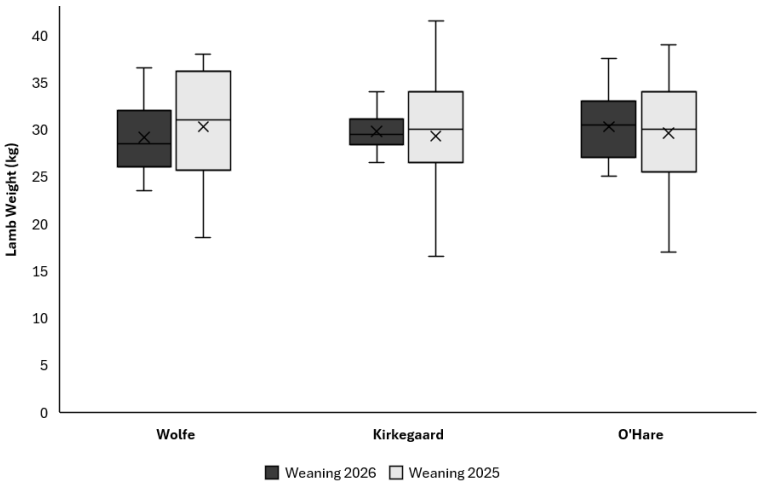


Figure 3. Weaning weight (kg) of lambs for the three farming systems in 2025 (composite) vs 2026 (second cross).

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Table 3. Mean lamb growth rates since weaning

Farming System	Head	Feedbase	ADG (kg/day)
Wolfe	7	Lucerne	0.27
Kirkegaard	10	Vetch Mix	0.31
O'Hare	9	Clover	0.28

Table 4. Optiweigh daily update for unit in High Intensity system (Figure shows High Intensity and Ley Farming systems)

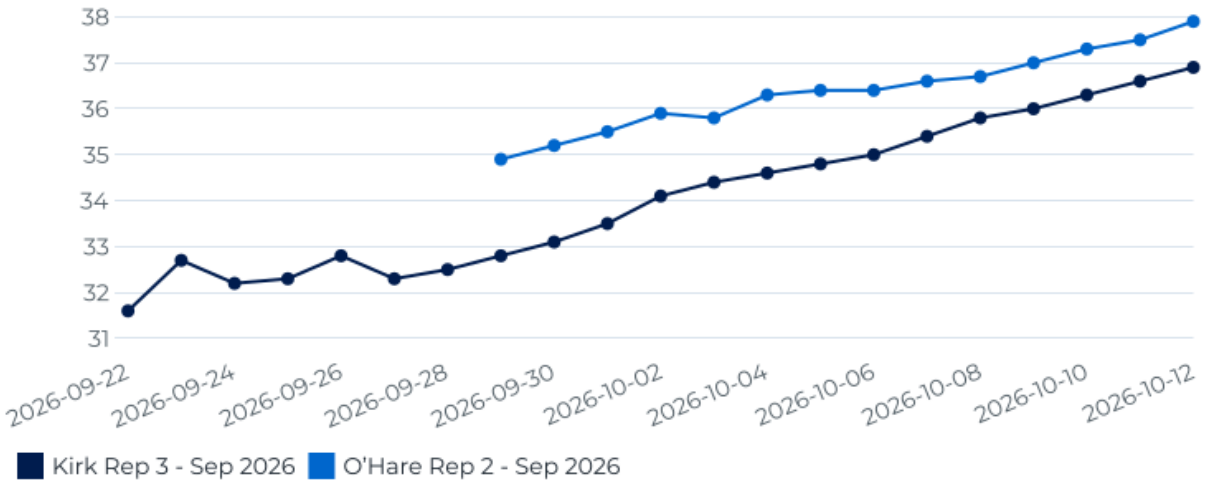
Kirk Rep 3 - Sep 2026
Second Cross, 0.5, 10 Head
Last record: 12 Oct 2026 @ 9:39 am

See more ›

Animals	Records	Average weight	14 day ADG	30 day ADG
10 (100%) **7 last 24h**	**809** **15 last 24h**	**36.9 kg**	**▲0.30 kg/day** **10 animals**	**▲0.30 kg/day** **10 animals**

MOB AVG WEIGHT

See more ›



For more information contact:
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