Confinement Feeding and Deferred Gazing

Meat Livestock Australia/Facey Group
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KEY FINDINGS

- Ewes that were placed into confinement were able to maintain a higher condition score between scanning and weaning and had reduced ewe deaths.
- Confinement feeding improved labour efficiencies while ewes were in confinement.

BACKGROUND

Confinement feeding has been gaining traction in the South West of WA, driven by the inconsistent timing of an autumn break and the decline in growing season rainfall. These seasonal changes have produced a challenge for producers to balance pasture management and livestock nutrition in autumn while maintaining a profitable livestock enterprise. The increasing regularity of dry autumns results in delayed pasture germination and an increased risk of pastures being overgrazed, resulting in inadequate feed availability leading up to and over the lambing period. This is when ewe nutrition and pasture availability can strongly determine lamb survival and lifetime ewe performance.

Confinement feeding, although similar to feed lotting, differs in its aim to maintain the body condition score of sheep rather than increasing body weight. Innovative producers in WA have experienced great success with supplementary feeding pregnant ewes in confinement. This provides targeted nutrition while deferring grazing of pastures until feed on offer and ewe nutritional requirements over the critical lambing period can be matched. This strategy can optimise pasture resource allocation, ewe nutrition, and ewe and lamb survival.

AIM

This project aims to demonstrate the possible production and economic benefits of implementing a production system that involves supplementary feeding pregnant ewes in confinement before lambing onto deferred pastures.

FLOCK DETAILS – Confinement Ewes

Host:	Tom Wittwer
Ewe Breed:	Merino
Ram Breed:	Merino
Number of Ewes Confined:	4047
Lambs Produced:	Merino Lambs
Into Confinement:	13/04/2023
Out of Confinement	10/05/2023
Pasture Variety:	Kraken Barley 30kg/ha Illabo Wheat 30kg/ha Dalkeith Clover 80kg/ha Brecker Underworld Nodulaid Group C 0.5kg/100kg of seed Alosca 8kg/ha

Sowing Date:	13/04/2023
Fertiliser:	Pre-seeding 3/1 Super potash 100kg/ha 14/05 – Urea 50kg/ha
Pesticide:	01/06 – LE-MAT 100ml/ha
Herbicide:	01/06 – Select 900ml/ha

FLOCK DETIALS – Pasture Ewes

Host:	Tom Wittwer
Ewe Breed:	Merino
Ram Breed:	White Suffolk
Number of Ewes Confined:	1850
Lambs Produced:	Crossbred lambs
Pasture Variety:	Already established pasture consisting of clover, capeweed, and oaten stubble
Pesticide:	01/06 – LE-MAT 100ml/ha
Herbicide:	01/06 – Select 900ml/ha

METHODOLOGY

This project looks at following multiple farmers within the Wickepin region who are already implementing a confinement feeding system. Due to the early and abundant rainfall in April, some host farmers found that they had enough pasture, and did not use a confinement feeding system. For this reason, Facey Group only collaborated with one host farmer to run a Producer Demonstration designed project. Facey Group monitored the results of the host farmer's practices as he placed a flock of Merino ewes (n=4047) into confinement (confinement ewes) on April 13. On the same day, a pasture of Kraken Barley, Illabo wheat, and Dalkeith subclover was seeded into lambing paddocks. We also monitored a flock of Merino ewes (n=1850) that did not go into confinement (pasture ewes) and were rotated through already-established pastures and residual stubbles.

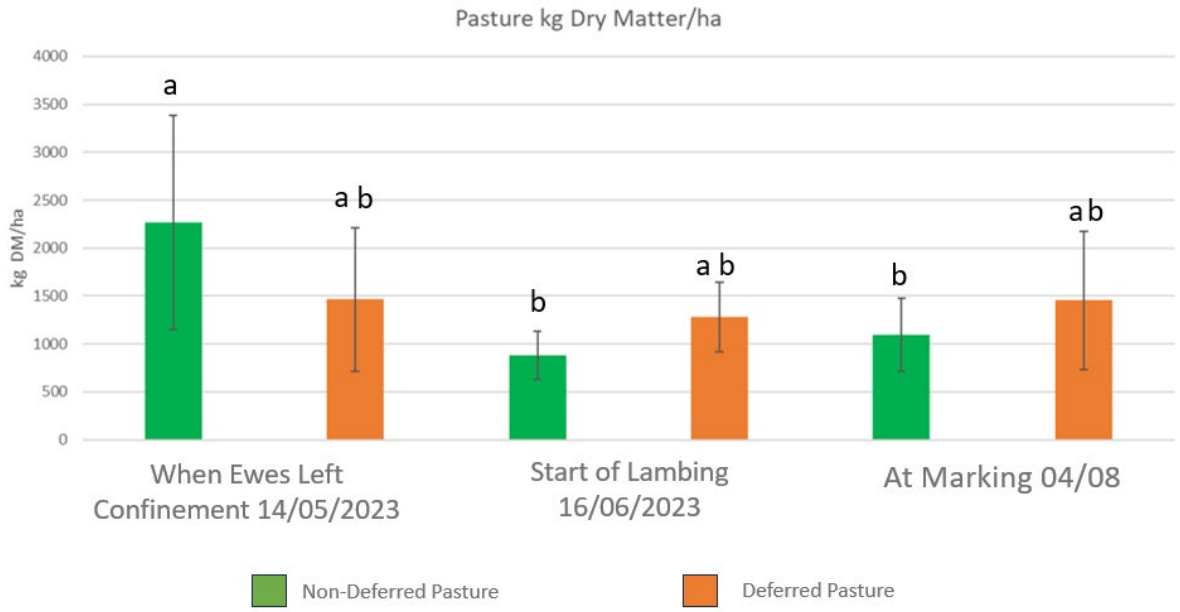
RESULTS

Limitations of this study

This project was designed as a Producer Demonstration site where Facey Group followed host farmer practices. This limited the amount of control on variables such as breeding values of lambs and duration of grazing and stocking density of pastures. Confinement ewes were joined with Merino rams, while pasture ewes were joined with White Suffolk rams. The differences in breeding objectives should be taken into consideration when comparing flocks, in particular lamb characteristics.

Biomass

Figure 1. *Average Food-on-Offer (kg DM/ha) calculated at key dates throughout the PDS. Non-deferred pasture consisted of volunteer pasture, clover, stubble, and weeds. Deferred pasture consisted of wheat, barley, and clover pasture sown in April 2023. Lowercase letters denote the significant difference where letters are different.*



There was a slight increase in dry biomass observed between deferred and non-deferred pastures (Figure 1) later in the season. However, there were no significant differences between deferred and non-deferred pastures throughout the season (p= 0.91). There was a significant decrease of dry biomass in the non-deferred paddock between when confinement ewes left confinement and the start of lambing (p= 0.003). This suggests that the deferred pastures were able to maintain biomass more efficiently within this period. Deferred pastures also had a greater crude protein and ME (mj/kg) at the time of lambing compared to paddocks that were not deferred (Table 1).

Table 1*. Feed quality analysis was conducted on feed available in confinement. Pasture samples from the deferred pasture that confinement ewes were placed in, and from pasture ewes were also collected on the 16th of June, at the time of lambing.*

Flock	Feed types	Crude Protein DM%	ME (mj/kg)	Dry Matter
Non-deferred Pastures	Pre-Lambing oaten stubble, weeds, and clovers	5.4	7.5	91%
Deferred Pastures	Illabo, Denison, and Dalkeith	13.7	11.1	89.4%
Confined Ewes	Straw	3.9	7.8	89.3%
Confined Ewes	Lupins	27.9	10.9	93.1%

Ewes Traits

Table 2. *Average ewes condition score over the season.*

Flock	Entering Confinement	Leaving confinement	Weaning
Confinement Ewes	2.6ac	3.5b	3ab
Pasture Ewes	2.7ac	*	2.6ac

** As this PDS is following farmer practices, it was not farmer practice to bring ewes into yards at this time. As such, there was not a condition score taken for pasture ewes when the confinement* ewes *left confinement. Lowercase letters denote the significant difference where letters are different.*

At commencement, ewes from both flocks had no significant difference between their condition scores. Confinement ewes had a significant increase in condition score (p= 0.01) increasing their condition score from 2.6 to 3.5 between entering and leaving confinement. At weaning, confinement ewes' condition score dropped to 3 but this was not found to be significant. Pasture ewes had no significant change in condition score throughout the season (Table 2). In addition, a difference in ewe deaths was reported with the ewes that went into confinement having a lower death rate of 3% compared to ewes that did not go into confinement of 5%. Ewe death was predominantly after confinement during lambing.

Lambing Traits

Table 3*. 2023 In-season summary of ewe and lambing measurements taken.*

	Confinement	Pasture	P- Value
Lambs scanned twins	61%	59%	0.2
Lambs scanned single	39%	41%	0.2
Total lambs scanned	161%	159%	0.197
% of lambs marked from pregnant ewes	110%	121%	<0.001
% of lambs weaned from pregnant ewes	109%	122%	<0.001
Weaning weights kg	29.75	33.87	0.001
Weaning weight as a % of live adult weight	52%	39%	<0.001

Scanning was conducted before ewes were placed into confinement and no significant difference was found between the two flock in scanning data. Lambs from ewes that were not in confinement had significantly better lambing percentages, marking, weaning percentage (p= <0.001), and weaning weights (p= 0.001). This could be due to the difference in breeding values. The ewes that were not in confinement were crossed with a White Suffolk ram, while confinement ewes were bred with a Merino ram. Although cross-bred lambs were significantly heavier at weaning, Merino lambs were achieving adult weight significantly faster (p= <0.001) (Table 3).

DISCUSSION AND CONCLUSION

Although there was no significant difference in biomass between deferred and non-deferred pastures, deferred pastures had greater protein and energy at the time of lambing (Table 1). This could explain why ewe's health improved in confinement with their condition having significantly increased while ewe mortality decreased (Table 2). This could have also contributed to why the study saw Merino lambs getting to their adult weight significantly faster.

What was not expected was the ewes that were not in confinement had significantly better marking and weaning percentages. Cross-bred lambs are known to have better survivability and growth traits (Scales et al., 2000). This could explain why ewes that were not in confinement had a significantly higher marking and weaning percentage than Merino lambs (Table 3). The higher marking and weaning weights recorded in the pasture ewes could also be due to the good early break in the season. In this type of year, confinement feeding pregnant ewes until pasture is established may not affect lamb production traits.

However, since the study was conducted on only one host farm, the data is inconclusive. Ewes that were not in confinement also had slightly more singles at scanning which may have also contributed to the reduction in lamb deaths in this flock (Table 3).

Host farmer, Tom Wittwer, was highly impressed with the pasture availability in his deferred pasture paddock and plans to increase the number of ewes going into confinement for the 2024 season. Other farmers who opted not to use the confinement feeding system this year still believe it is a valuable system to have, particularly in years with a late break or in anticipation of dry conditions. Confinement feeding systems are still a valuable tool for managing on-farm risk and simplifying decision-making in livestock management.

This project will continue into 2024 with a total of 3 host farms being involved. This will allow for an increase in valid results by the end of the project.

ACKNOWLEDGEMENTS

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