



final report

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Feed intake measurement of cattle in the Tullimba R&D Feedlot BIN Project – Limousin 2013-2014

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Summary

During the 2013-14 season, three Limousin cohorts with a total of 214 BIN cattle were tested for feed intake and weight gain at the Tullimba feedlot. Cattle generally performed well averaging around 13.30 kg/day feed intake and 1.63 kg/day weight gain during the test period of ~70 days after adaptation to the feeders. Retrieval of valid daily feed intake data was greater than 82% allowing robust estimates of RFI and EBVs. Feed intake and live weight data from manual weighing was reported to the breeder group fortnightly and supplied to BREEDPLAN at the end of each test period.

Acknowledgements

Co-operation by the breeder group was outstanding and our good working relationship with Rangers Valley is gratefully acknowledged. Generous funding support from MLA is greatly appreciated as is the considerable in-kind support from AGBU to continue refinement of the data monitoring, capture and summary procedures.

Introduction

The GrowSafe feeders and auto-weighers were installed at Tullimba in May 2012 (32 feeders and 12 weighers) and December 2012 (16 feeders). For the current season the first cohort of 94 Limousin cattle entered the feedlot on October 1 2013 and the final cohort of 80 Limousin cattle exited the feedlot on June 5 2014. Because the 48 GrowSafe feeders could only accommodate 480 cattle at any one time, numbers in excess of this during various periods meant that some Limousin cattle were tested on the existing Autofeeders.

Cattle schedule

Numbers of Limousin cattle entering the feedlot with dates for test periods are summarised in the following table.

Breed	Number	Dates on feeders		
		Start feeders	End test	Days on feeders
Limousin	94	1/10/13	16/12/13	75
Limousin	40	12/1/14	27/3/14	64
Limousin	80	20/3/14	5/6/14	77

The feed

The ration fed once daily to cattle during the test period comprised around 75% rolled and tempered barley, with cottonseed, roughage and liquid supplement containing essential minerals, vitamins and a rumen buffer. Analysis showed crude protein was around 11.5%, energy 12.5 MJ ME/kg and fibre 25% (NDF). Dry-matter digestibility of the test ration averaged 82%. The ration used during induction had higher levels of fibre and a lower digestibility. The cattle generally performed well on this ration with daily weight gains during the test period averaging around 1.5 kg per day for the various cohorts.

Management

Daily management of the cattle was by a very experienced feedlot manager assisted by casual labour as required. Any animal health issues were dealt with jointly by the feedlot manager and the breeder groups. Monitoring and QA of feed intake and

auto-weighing was done remotely by GrowSafe in Canada from live transmissions via the internet in conjunction with the feedlot manager and data manager at AGBU. Regular email messages from GrowSafe pointed out potential animal problems and/or data irregularities.

GrowSafe data

During the 70 day test periods, the number of valid days for intake data averaged greater than 58 being an improvement on the previous season due to use of a backup generator to avoid power outages. Experts at AGBU have indicated to us that 82+% of valid data spread over the 70 days on average is sufficient for robust estimates of residual feed intake and EBVs.

Auto-weighers

Live weight data supplied to breeder groups and BREEDPLAN is based on fortnightly manual weights from the start to the end of the ~70 day test period. Work is ongoing jointly with AGBU to assess the reliability of the autoweighers and to develop effective ways in which the auto-weigher data can be used to accurately and reliably provide weights and weight gains over the test period. The ultimate aim is to be able to avoid manual weighing during the test period between the start and end weights which will always be collected manually for calibration purposes and backup data.

Data reporting

The data manager at AGBU formulated reports as the cattle are manually weighed. At the conclusion of the test period, the complete dataset for each cohort was sent to the Limousin breed society and to BREEDPLAN. All data has been backed up by GrowSafe and by AGBU.