Virtual Fencing: Automated Farming

Tammie Robinson June 2020



FACTS ABOUT AGERSENS



Brief History

- Founded in 2014
- Licenced technology from CSIRO
- Gallagher distribution partner and investor

Key Facts

- Two sites Melbourne and AIC
- 40 staff animal & data science, software, systems

Key Highlights

- Completed over 60 research trials to date
- 2018-2020 more than 15 farm trials utilising >2,000 neckbands
- Plan for transition to commercial launch in Queensland Q1 2021



Imagine a world where you can put fences wherever you want, whenever you want, from your computer

THE eSHEPHERD PRODUCT





HOW DOES THE eSHEPHERD NECKBAND WORK?





HOW DOES eSHEPHERD WORK ON A FARM?





COW & CALF TRIAL PĀMU, WAIPORI

COW CALF TRIAL OVERVIEW

- Can cows with calves at foot (calves without neckbands) be contained by a virtual fence system where calves are free to cross a VF?
- Two groups of Angus cows with calves at foot were allocated to Electric Fence (EF) group or Virtual Fence group (both had neckbands)







TRAINING AND STAGE 1 OF THE TRIAL

Start pasture ~3000kg DM/Ha. Feed grazing down to 1800kg DM/Ha in stages 1 and 2 and 1600 in stage 3.

Training Training Period | 21/12/2019 09:00 AM to 30/12/2019 09:00 AM **Virtual** Fence **Electric** Fence Google

10 days, VFE 99.99% VF : 20.1 Ha. EF: 20.5 Ha.



9 days, VFE 100% VF : 15.9 Ha. EF: 13.9 Ha



VIRTUAL FENCE INTERACTION AND PADDOCK UTILISATION





QUEENSLAND RANGELAND TRIAL



ANIMALS UTILISE THE WHOLE PADDOCK



Over 30 day > 97% VFE



AUTOMATED MOB MOVE

Hillalong Mob Move

28 May 2020



BREAK FEEDING VIDEO





BREAK FEED GRAZING – HEAT MAP



Paddock Setup



Cattle Free Grazing Pattern



Grazing Pattern in 40% of Paddock



Fenced moved forward 70 m





Fenced at forward 70 m



Rotate Fence 90°



KEY POINTS

- Agersens has developed a world first virtual fencing system
- Based on safe animal behaviour and training algorithms
- Effectively maintains a virtual fence up to 99%
 - Successfully demonstrated in two core market applications –cow-calf and rangeland grazing
- Benefits are:
 - Reduced labour
 - Improved pasture utilisation
 - Protect rivers and sensitive environments
 - Automation of the farm





