Social influence on the effectiveness of virtual fencing in sheep

INTRODUCTION

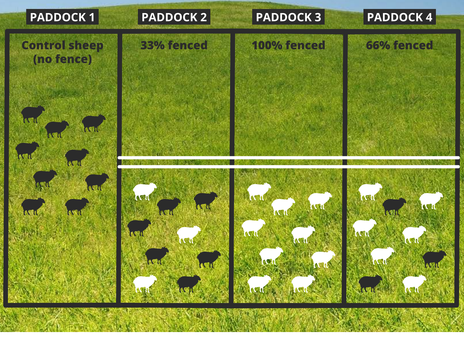
Early virtual fencing trials have effectively contained small groups of sheep within set areas of a paddock when **all animals were wearing manual electronic collars**. With sheep farming commonly involving large flocks, a **potentially cost-effective application of virtual fencing would involve applying equipment to only a portion of the flock**.

In this study, we tested the ability of virtual fencing to control a small flock of sheep with differing proportions of the group exposed to the virtual fence (VF).

METHODS

We examined if it was possible to contain groups of nine sheep within a virtual fence when there were differing proportions of sheep being controlled with electronic training collars. Using GPS, we **tracked sheep's positions when kept in groups with 0%, 33%, 66% and 100% virtually fenced** flock mates within a 80 x 20 m paddock, for 6 hours a day over two consecutive days.

EXPERIMENTAL SETUP



RESULTS

During VF implementation, the **100% VF and 66% VF groups were successfully prevented from entering the exclusion zone**. Having only 33% of the flock exposed to the virtual fence was not successful, with the sheep pushing forward through the VF to join flock mates in the exclusion zone.

RESIDENCY MAPS FOR THE FLOCK IN EACH GROUP

CONCLUSION

This study demonstrates that for a short period, **controlling two-thirds of the flock was equally as effective as virtually fencing all animals**, while controlling one-third of a flock with a virtual fence was not effective. For the short term, it appears that implementing the VF to a portion of the flock can be an effective method of containment. Due to the limitations of this study, these results warrant further testing with larger flocks and for longer periods.

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