Virtual Herding for real animals: on the ethical dimensions of Virtual Fencing & Virtual Herding
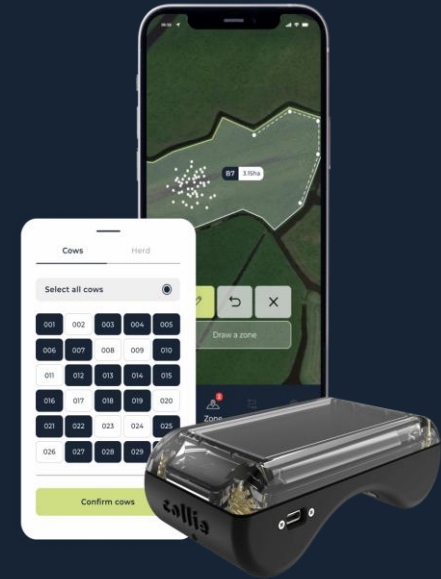

Daniel Reisman, Collie
Utrecht University

collie

Prof. Franck Meijboom,

Utrecht University

Veterinary Medicine

Daniel Reisman

Co-Founder at collie

GREENPEACE

Cows on pasture:
- Improve soil health
- Increase biodiversity
- Reduce emissions

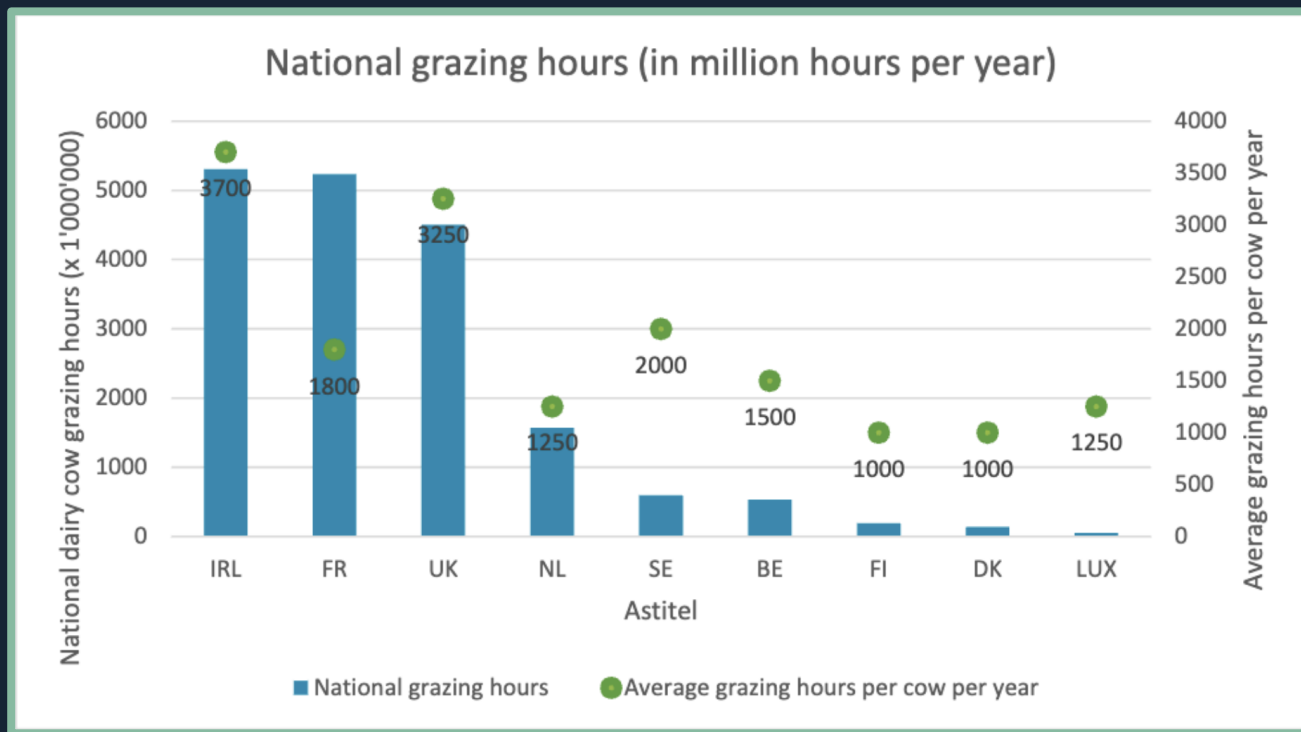*Mosier, S., Apfelbaum, S., Byck, P., Teague, W. R., Thompson, R., & Cotrufo, M. F. (2021). Adaptive multi-paddock grazing enhances soil carbon and nitrogen stocks and stabilization.Frontiers in Sustainable Food Systems, 4, 534187.
*Holshof, G., van den Pol-van Dasselaar, A., & De Haan, M. H. A. (2020). Reducing ammonia emissions from dairy farming: A farm-based approach with grazing.NJAS - Wageningen Journal of Life Sciences, 92, 100329.

collie

Cows on pasture are
happier & healthier

*Arnott, G., Ferris, C. P., & O'Connell, N. E. (2017).
Pasture access affects health and welfare of dairy cows: A review. Animal, 11(5), 896-909.

✳ collie

Some cows are inside their whole life

Country	Dairy cows	Grazing	Housed
FR	3.2M	90%	10%
UK	1.8M	75%	25%
NL	1.7M	80%	20%
IRL	1.5M	95%	5%
BE	500K	65%	35%

✳ collie

More often inside than out

National grazing hours (in million hours per year)

collie

Why are cows often inside?

Planning and execution of having cows on pasture is complex.

Moving electrical wires and your herd is labour intensive

Infrastructure of physical fences is expensive and inflexible.

Cows on pasture is difficult to combine with a milking robot.
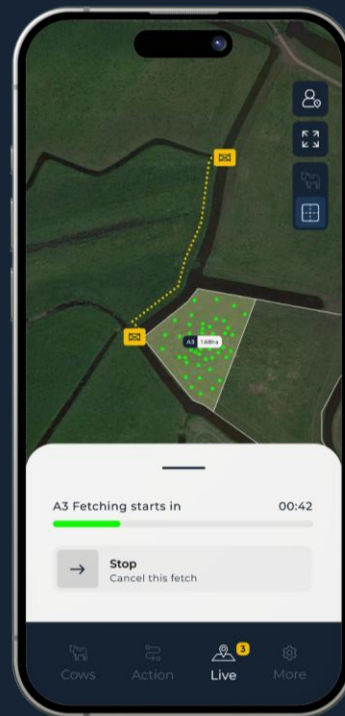
collie

Raising cows on pasture is hard

collie

Raising cows on pasture is hard

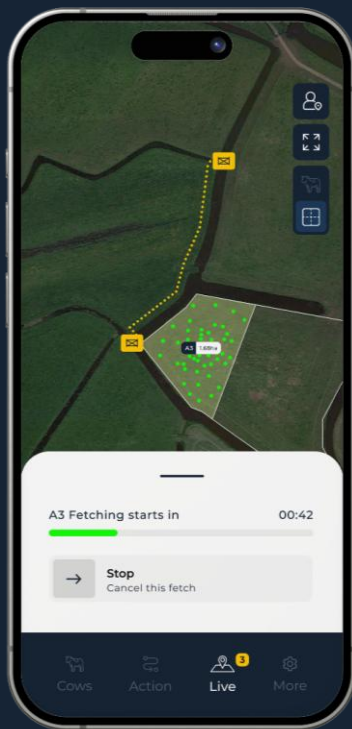Virtual Fencing & Virtual Herding technology make keeping cows on pasture easy
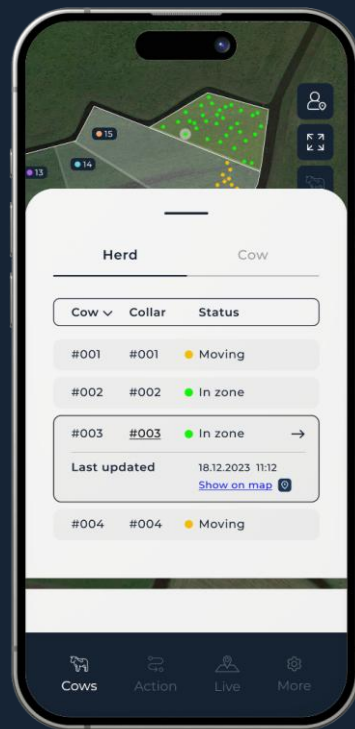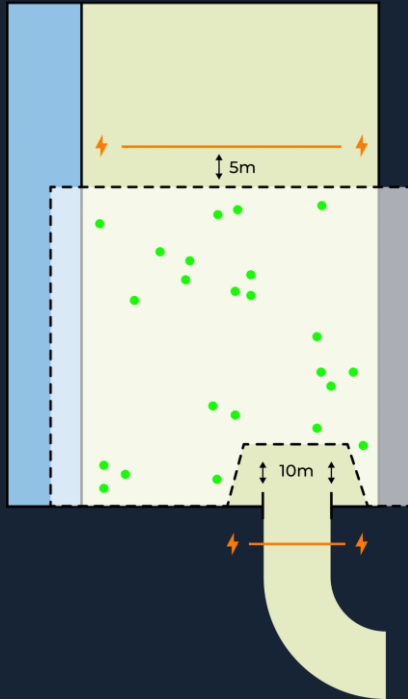
How does it work?

A3 Fetching starts in 00:42

→ **Stop**
Cancel this fetch

Cows   Action   Live **3**   More

collie

Fencing   **Shifting**   **Finding**

✳ collie

Cows quickly adapt

Virtual Fencing

Virtual Herding

*Verdon, M., & Rawnsley, R. (2020). The effects of dairy heifer age at training on rate of learning and retention of learning in a virtual fencing feed attractant trial.

✳ collie

Double European annual grazing time

Double European annual grazing time

Key questions we ask ourselves in pursuing our goal.

Double European annual grazing time

Key questions we ask ourselves in pursuing our goal.

1. How does Virtual Fencing and Herding technology affect animal autonomy?

Double European annual grazing time

Key questions we ask ourselves in pursuing our goal.

1. How does Virtual Fencing and Herding technology affect animal autonomy?

2. How does Virtual fencing & Herding technology affect human-animal bonds?

Double European annual grazing time

Key questions we ask ourselves in pursuing our goal.

1. How does Virtual Fencing and Herding technology affect animal autonomy?

2. How does Virtual fencing & Herding technology affect human-animal bonds?

3. How can Virtual Fencing & Herding technology enable farmers in their craftsmanship rather than replace it?

daniel@collie.eu
collie.eu