

LIVESTOCK



UNIQUE GRAZING: Real-time sensors in a paddock have the potential to assist farmers with grazing management.

Farm innovation to help combat pests

THE potential to stop wild dogs and other pests attacking livestock is possible with sensor technology, according to NSW DPI research scientist Robin Dobos.

Wireless and real-time technology monitors animal health, welfare and nutrition, and as research progresses, could assist in combating wild dogs in the future.

"The sensors can identify problems such as low feed

and even dog attacks," Dr Dobos said. "They can also track movement and identify a sick animal."

"Being able to prevent wild dog attacks is based on animal behaviour changes."

"Certain signals are received by the sensor that would indicate there was a potential dog attack and an alert would immediately go to the farmer to do something about it."

Real-time sensors enhance livestock

Future lies in precision adoption: Dobos

BY SARAH MCARDLE

PRECISION livestock management is the future of farming, according to NSW Department of Primary Industries research scientist Robin Dobos.

Dr Dobos is collaborating with the University of New England's Precision Livestock Research Group to find methods to improve efficiency and cost effectiveness of livestock production.

Dr Dobos was in SA for a Precision Livestock Management Forum, held by the Angaston Ag Bureau.

He said production efficiency through both precision management and genetic improvement were becoming increasingly important as demand for food

increased and resources become more constrained.

"One of the biggest impacts, according to the (Meat Industry) strategic plan 2020, is competitiveness and sustainability of the industry," he said. "Precision livestock management could have a role in addressing animal welfare issues."

"The aim of the precision livestock management program in sheep and cattle was to identify critical control points in the production system early enough and implement corrective measures to assist with animal health, welfare and nutrition. In being able to identify problems earlier, you can rectify them earlier and reduce costs."

Dr Dobos said real-time sensor technologies, such

as wireless sensor networks, were being developed and incorporated into labour-saving farm management systems.

They will evaluate factors contributing to efficiency within commercial pasture-based production systems, including intake and feed efficiency at pasture, behaviour, disease susceptibility and health, reproduction and welfare status, and turn them into applications that improve farm profitability.

Animal-borne sensors will be used to identify these critical control points and then inform producers of potential paddock issues.

For future bloodline and genetic improvement, Dr Dobos said knowing the activity of the animal in the

paddock would assist farmers in their decision-making.

"By knowing the activity of the animal earlier in their growth phase, they could be earlier identified as animals you want to use in a breeding program and improve your genetics," he said.

Some precision livestock systems are already commercially available, but Dr Dobos said they were mainly used in the dairy industry.

"This is why we are interested in looking at it for the other animal industries," he said. "To see if there is a role for it there. The technology is really for future generations (of farmers) - to reduce costs, improve labour efficiency, while continuing to attract younger people into the industry."

ACCELEROMETER TECHNOLOGY HAS POTENTIAL TO ASSESS ANIMAL BEHAVIOUR



ACCELEROMETERS are already known to humans as wearable fitness trackers and feature in most smartphones.

They are also used in the dairy industry, but according to Dr Robin Dobos (pictured), they could also be used to assist other livestock industries in the future.

"Accelerometers are used in the human health side to track movements, but they may be able to have a role

to play in sheep and beef industries, through helping to track animal health and welfare," he said.

"We're hoping research shows they can."

"In the dairy industry they're using them for measuring the activity of the animal, just like a Fitbit does."

Dr Dobos said the tracker for dairy cattle had the potential to help increase milk yields, while tracking behaviour patterns and

health, but warned farmers only to use "futuristic" technology when necessary.

"Most farmers are interested in technology, but we have to be careful of not grabbing technology for technologies' sake," he said.

"You've got to have a set of objectives that you want to have the technology help you achieve, as they're only aids, not a replacement for humans."

"We'll be looking into how we can put a value on

precision livestock management in the next 12 to 18 months, and how farmers can profit from it."

Dr Dobos said the sensors and electronic sheep identification could work hand-in-hand for farmers.

"Knowing the identity of the animal and going through walk-over weighing and automatic drafting, you can use the behaviour of that animal, based on the sensors, to then draft one way or another," he said.

KEY POINTS

Benefits in using accelerometers

- Record activity and behaviour of livestock
- Improve sustainability of grazing livestock systems
- Increasing profitability, productivity of animals
- Monitor health, well being and disease susceptibility
- Potential to work with electronic ear tags

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