SwagBot
Agri-Technology Team

In this blog post, we'll be looking at the Australian robotic cattle herder: SwagBot. This 4-wheeled robot was designed by Professor Salah Sukkarieh and his team at the University of Sydney. When it was first launched in 2016, it was solely for remotely herding cattle in the vast and rugged Australian pasturelands. Now, SwagBot is equipped with sensors that can do more than herd.

Figure 1: SwagBot. Photo owned by The Bullvine.

These battery-operated robots can move autonomously. The sensors look at factors like soil moisture, soil quality, plant type and plant health, then use the information to lead the cattle to suitable grazing areas. This can help prevent overgrazing, which in turn protects the soil and ensures the cattle are grazing on high quality forage. Better quality forage can mean lower feed costs. There are also sensors that can monitor cattle health, alerting the farmer when there is a potential issue. You can see it in action in this short video.

Swagbot is also able to help control weeds. Forward and downward facing cameras, combined with machine learning, allow the devices to recognize local weeds. They are equipped with a sprayer that can then dispense herbicide in areas where the weed is detected. A demonstration can be seen here.

The units can pull a small trailer. Having this trailer pull some feed can be a great way to help the cattle get used to following the unit. This video from ABC Science shows a herd meeting the robot for the first time. Using a combination of food and a voice recording, they quickly become willing to follow it to greener pastures.

Figure 2: Cattle following Swagbot. Photo owned by Iren Posa.

Whether Swagbot will ever be a good fit for Atlantic Canada remains to be seen. Our pasturelands aren't on the same scale as Australia. However, this device is a brilliant example of how innovations in robotics and machine learning can be applied to agriculture.

Sources:

University of Sydney
The Bullvine
Reuters
ABC Science
Opentools
New Atlas
Sparkkle
Professor Salah Sukkarieh