



BIOLOGICAL SCIENCES

Cow Carbon Capture

Researchers interested in better carbon cycling are looking at what's grazing on grasslands

An interdisciplinary team is launching a research project with the goal to store 32.5 megatonnes of carbon in the ground through grazing management techniques and genomic tools.

"Evidence suggests that the grasslands of Canada have the potential to store more carbon," says professor James Cahill of the Faculty of Science, co-lead of the Climate Action Through

Grazing project, which received \$6.2 million in funding. The project, co-led by Carolyn Fitzsimmons (with Agriculture and Agri-Food Canada and the Faculty of Agricultural, Life & Environmental Sciences) and project manager Elda Dervishi, will start by identifying how grazing management affects agricultural communities and greenhouse gas emissions, as measured in soil and cattle. Carbon cycling and

sequestration requires measuring what happens in the soil, the animal and its waste to see how it fits in that system. Researchers say the impact on Canada's net carbon emissions could be significant.

The team, comprising 33 researchers from the U of A, Agriculture and Agri-Food Canada and the University of Saskatchewan, will compare two grazing techniques – continuous grazing and adaptive multi-paddock grazing – with the theory that the latter might improve carbon storage in grasslands. They'll study production measurements such as growth and production from cows to take into account economic and environmental results for farmers. And they'll use genomic tools to collect soil and fecal data, using them to develop measurements that show shifts in microbial communities and determine whether those changes reduce greenhouse gas emissions. –**UMAR SALIFOU**