PROJECT 2013-2018

BIOACTIVE PRODUCTS FROM PLANTS AND CONTROL OF EXTERNAL AND INTERNAL PARASITES IN LARGE RUMINANTS

Principal Investigator:
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Number of students trained (MSc, PhD, Post-Doc):	**2**
TOTAL BUDGET	**$109,180**

INVESTMENT PARTNERS

Agriculture and Agri-Food Canada

OBJECTIVE:

The general objective was to test the biological activity of plants and plant extracts against cattle pests, as an alternative to synthetic pesticides and anthelmintic drug products. The focus is two-fold: pest fly control and gastrointestinal nematode (GIN) control.

KEY OUTCOMES:

- Several plant essential oils tested and a commercial natural product (Citrobug™) showed promise to control pest flies of cattle, especially the horn fly, as this species is the most common and most problematic on dairy animals. The Pest Management Regulatory Agency (PMRA) made a regulatory decision to expand the label for Citrobug™ to include house, face, horn and stable flies on the label, and to include dogs and horses as new animal species (Registration Decision PRD2017-16), following compelling efficiency results of repellent tests performed against pest flies on cattle. The end goal is a registration for use on livestock, however residue testing in milk (or meat) will need to be performed.
- Birdsfoot trefoil forage was found to provide a preventative effect to animals naturally infected with gastrointestinal nematodes on pasture, by reducing parasite fecal egg counts. However, when tested for a curative effect on artificially parasitized young animals, no effects of the birdsfoot trefoil for parasite control was found.

BENEFITS TO THE DAIRY INDUSTRY

Identification of naturally-occurring phytochemicals effective in controlling parasites in dairy operations will permit to implement practices that may reduce the use of synthetic pesticides or antibiotics and support their economic success.

ORGANIC SCIENCE CLUSTER WEBSITE

dal.ca/faculty/agriculture/oacc/en-home/organic-science-cluster/OSCII.html