2014/’15

OMAFRA – U of G Partnership KTT Funding Program - Approved Projects 2014/’15

Table of Contents

Successful Projects 2014/'15

Jess Haines - Guelph Family Health Study: Improving family health by increasing knowledge translation between Ontario agriculture, policy makers, researchers, health professionals, and parents

Executive Summary:

Rising rates of obesity are directly contributing to increased incidence of chronic disease. Once present, obesity is difficult to treat. To halt the obesity epidemic, we need to intervene early in life. Intervening among young children requires changing the behaviours of their parents. However, with the exception of a few intensive treatment interventions, obesity interventions have been unsuccessful in engaging parents. A novel approach is needed. To address this need, our proposed research includes a thorough integrated and end-of-grant KTT plan as part of a study to design, test and disseminate results from a family-based intervention designed to promote healthy eating and regular physical activity among preschool children. Engaging the target audience in the development of the intervention, through integrated KTT, will ensure our resulting intervention is contextually relevant, and thus more engaging, to parents. Results from our research will inform what methods can effectively educate families on healthy eating (Food for Health, Subpriority 4.a.i) and how healthy eating can reduce risk of obesity among young children (Food for Health Subpriority 5.a.ii.). Our thorough end-of-grant KTT will ensure that the knowledge gained is effectively disseminated to knowledge users, including Ontario agri-food manufacturers, parents, child care providers, clinicians, and public health.

Alexandra Grygorczyk - Understanding opinion leaders in online media to balance the agricultural biotechnology conversation

Executive Summary:

The public debate about consumer acceptance of agricultural practices and technologies has become increasingly polarized. Much of the research on public acceptance has focused directly on consumers to understand consumer attitude formation. However, the available toolkit for analysis has been difficult to apply, as this analytical approach ignores the connection with influencers in the media from whom consumers obtain agricultural knowledge. Influencers are media users whose opinion the public trusts and can influence the decisions of others. This project proposes to focus directly on influencers in online media to understand how to engage them. Currently available social media monitoring software packages will be evaluated as a tool for identifying and monitoring influencers, using genetic engineering as the model research topic. Content analysis of influencer communications will provide a better understanding of their profiles, communication styles and resource needs. Finally, several relevant influencers will be approached for in-depth interviews regarding informational needs and preferred modes of engagement. The findings of this research will be shared with communicators in the agriculture value chain in a series of webinars to promote a community effort to balance the discussion of agricultural issues in online media by engaging influencers and sharing evidence-based information more effectively.

Bill Deen - Growing the Biomass Marketplace: Agronomy, and Livestock Bedding Knowledge and Application

Executive Summary:
Switchgrass and miscanthus hold significant economic and environmental promise for Ontario. This project synthesizes existing research, consultants' reports and on-farm knowledge into meaningful, user friendly materials (Best Management PDF documents, workshops, webinars, and videos) to enable broader uptake of biomass crops, focusing on three elements:

1. Switchgrass Agronomy,
2. Miscanthus Agronomy - (including different production techniques for different markets).
3. Livestock Bedding and Feed (targeting livestock farmer end users, to grow this market).

The outcome will be knowledge tools and access to information that will enable farmers to plant and grow biomass crops (with a knowledge of agronomic practices needed depending on end markets), and/or to be equipped to choose to switch to biomass crops for bedding or feed. Biomass crop production allows diversification, shifting out of conventional commodity price cycles and seasonal constraints, and has soil, water and GHG benefits compared to conventional crops. Using these crops for bedding and in mixed rations frees livestock farmers from the unpredictability of wheat straw availability/pricing, provides improved moisture management in the barn, and, for self-produced or contracted crops reduces uncertainty of supply.

John Cant - Apps to Foster Precision Feeding on Ontario Dairy Farms

Executive Summary:
Day-to-day variation in dry matter content of silages on Ontario dairy farms is substantial but is not accounted for when weighing forages into the TMR mixer each day to produce ration(s) for the milking herd. This variation means that batches of the TMR routinely over- or under-supply nutrients to cows. The imprecision results in loss of milk production or loss of nutrients into the environment. There is also inaccuracy in phosphorus and protein feeding that is due to overfeeding to accommodate a perceived, not a calculated, safety margin. The overfeeding results in environmental losses of nutrients responsible for algal blooms in the Great Lakes. A handheld device to measure DM content of forages using near-infrared technology is coming onto the market. Precise equations to calculate N and P balance of the lactating cow are available. We propose to develop Apps for phones and tablets that will communicate wirelessly with analytical equipment and TMR mixers to adjust ingredient weights for TMR batches to match the mixed ration with the desired formulation on a dry basis. The Apps will be tested and demonstrated on selected large dairy herds in Ontario as a strategy to encourage precision TMR mixing.

Wanhong Yang - Developing a WebGIS Based Modelling Tool for Examining Cost Effectiveness of Best Management Practices in a Representative Agricultural Watershed

Executive Summary:

In OMAFRA WBBE project from 2010 to 2013, farm economic, watershed hydrologic, and integrated modelling have been developed to examine costs, benefits and cost effectiveness of agricultural BMPs including conservation tillage, cover crop, nutrient management, and WASCoB in the Gully Creek watershed of Lake Huron Basin. A CWN KTT project from 2013 to 2014 built upon the WBBE project to develop a desktop based GIS interface for interactively examining cost effectiveness of agricultural BMPs. The desktop interface is suitable for conservation managers with watershed and BMP knowledge but still too complex for agricultural producers. Extended from the previous two projects, the proposed KTT project will develop a WebGIS based tool enabling agricultural producers to examine BMP cost effectiveness through Web browsers. The project will develop user friendly options using WebGIS interface which links to complex modelling in the background. The deployment of the WebGIS interface will allow agricultural producers to evaluate economic costs, water quality benefits and cost effectiveness of individual and multiple BMPs in their farms and view BMP effects at field, farm, and watershed scales. The WebGIS interface will be developed for the Gully Creek watershed with the potential to be transferred to other agricultural watersheds in Ontario.

Wayne Caldwell - Building Healthy Rural Communities Through Knowledge Translation, Transfer and Dissemination

Executive Summary:

This KTT project will disseminate information gathered from the Healthy Rural Communities: Strategies and Models of Practice research. The Healthy Rural Communities research project identified evidence-informed strategies and models of practice for land use planning policies, procedures and designs for the built environment to improve population health outcomes in rural communities. What is missing is the dissemination of this information to rural communities. This KTT project will convene workshops in rural communities that include planners, health units, politicians and community members to disseminate the research findings. This project will also video workshop participants interacting during the workshops and individually to allow the participants to outline their suggestions and thoughts on healthy rural community planning. The videos will be part of the social media component to this KTT project that will include twitter, Facebook and YouTube. The videos and outcomes from these workshops will be further disseminated at conferences and profiled on a project website. The project website will include an interactive feedback component allowing participants to carry on the discussions on healthy rural communities. These social media and web-based platforms will be marketed through development of promotional materials to encourage participants interactivity with the various web based platforms.

Kate Parizeau - Mapping food waste challenges and opportunities across the value chain

Executive Summary:
Canadians annually waste $31 billion in food across the value chain (in fields, processing plants, retail, and homes). However, there is surprisingly little research on food waste in the Canadian context, and while actors in the food value chain may make attempts to address food waste, there is little co-ordination of such efforts. In February 2016, we propose to hold a multi-stakeholder workshop to investigate food waste across the value chain in Ontario. The workshop will take place over three days: Day 1 will bring together representatives of sectors across the food value chain (producers, processors, transporters, retailers, NGOs, and government actors) to discuss barriers to researching and addressing food waste reduction in Ontario; Day 2 will disseminate best practices of food waste reduction that create bridges across the food value chain; and Day 3 will convene academic and government researchers to discuss how the knowledge shared during the first two days of the workshop can be translated into policy-relevant research. In Year 2, we will follow up with event participants to assess the outcomes of the workshop, note subsequent changes of practices by participants to reduce food waste, and investigate their on-going demand for research collaboration and knowledge mobilization.

Getu Hailu - Performance Benchmarking for Ontario Dairy Farms: Shaping the Future through Understanding the Present

Executive Summary:
The dairy industry has made significant contributions to the Canadian economy. The Department of Food, Agricultural and Resource Economics (FARE), in collaboration with the School of Computer Science, is developing a performance benchmarking application for dairy farmers to input data and be given performance results compared to their peers in their geographical area. Benchmark results will help dairy farmers understand their operations' performance, and set performance goals to remain competitive and viable. The benchmarking application will have two interfaces– a website, and an application for mobile devices. Farmers will submit their farms' information into the application, and it will return benchmarking results along with data displayed in graphs, tables etc. Users can also register an account to save their benchmarking results online for later viewing. The developing and using the benchmarking model will benefit the farmers by improving their understanding of their relative performance, and assist them in finding ways to close performance gaps through improvements in size, technology adoption and capital structure. Funding for this project is, in part, provided by the Institute for the Advanced Study of Food and Agricultural Policy. The data for building the initial model will be provided by Dairy Farmers of Ontario (DFO).

Christopher Kinsley - Development and Delivery of Workshops and Guidebook on Wastewater Management for Dairy and Beef Operations

Executive Summary:
The amended General Nutrient Management Regulation (O. Reg. 267/03) will require dairy farms to properly manage milking centre washwaters by 2016, while the NMA currently requires appropriate management of barnyard runoff. Project deliverables include the delivery of two workshops in Eastern and Southern Ontario and the development of a wastewater management guidebook for dairy and beef operations. The workshops and design guide will present management options for the treatment of dairy and beef farm effluents and will disseminate research results from the recently completed OMAFRA/UofG Project (#200385) and from the on-going New Direction Project (#051346). The Eastern Ontario workshop will include a technical tour of both a dairy and beef wastewater treatment system. The workshops will target dairy and beef producers, OMAFRA and MOECC staff, system designers, installers, inspectors and conservation authority staff, and nutrient management consultants.

David Kelton - The Hard to Reach Veterinarian: Understanding KTT Preferences of Dairy Veterinarians to Effectively Communicate and Deliver Provincial Programs

Executive Summary:
Today, the dairy industry often relies on veterinarians as primary contacts for the delivery and implementation of national and provincial programs, which focus on disease control, food safety, and industry improvement. Success of these programs (i.e. producer compliance or voluntary participation) is therefore tied to veterinarian support, which has been shown to vary, in the case of recently administered programs, due to poor communication. We will conduct a series of interviews/focus groups with veterinary practices that the dairy industry perceives as either 'hard to reach' or 'easy to reach' to investigate (a) factors influencing participation in program delivery, (b) their perceived role in these programs, and (c) their KTT and communication preferences. These factors will then inform a survey to explore these issues among a larger population of Ontario dairy veterinarians. We expect to show that veterinarians are not a static group with respect to communication, education and KTT preferences. Furthermore, we expect 'hard to reach' veterinary practices have a different set of drivers, barriers and preferences to program delivery, but are not necessarily unmotivated. These findings will allow us to form industry recommendations for tailoring future KTT and outreach approaches to ensure participation and effective program delivery among veterinarians.