

# OMAFRA – U of G Partnership Research Program - Approved Projects 2016/'17

DERIVED FROM APPENDIX A: 2016/17 OMAFRA – UOFG PARTNERSHIP RESEARCH PROGRAM, SUMMARY OF FULL PROPOSALS RECOMMENDED FOR FUNDING

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## Agricultural and Rural Policy

### Approved Projects 2016/'17

1. **Rakhal Sarker** - Developing, Maintaining and Enhancing the Competitiveness of Ontario's Agri-Food Commodities in Asian Markets
2. **Richard Vyn** - The Influence of Business Risk Management Programs on Farm Investment
3. **Ryan Gibson** - Making a Difference? Measuring Outcomes of Provincial Rural Policies and Programs
4. **Alfons Weersink** - The Digital Revolution and Sustainable Agriculture
5. **Getu Hailu** - Do Business Risk Management Program Payments enhance producers' productivity and investment in productivity enhancing activities?
6. **Getu Hailu** - Firm Level Investment and Barriers to Productivity and Revenue Growth in Food and Beverage Processing Industry
7. **Ken McEwan** - Analysis of Profitability and Government Programs on Ontario Grain and Oilseed and Greenhouse Vegetable Farms
8. **Alan Ker** - Climate Change, Technology, and Yield Volatilities: Measurement and Economic Implications for Ontario
9. **Michael von Massow** - Evaluation of Organic Waste in Ontario Food and Beverage Processing Sector
10. **Alfons Weersink** - New Entrants into Agriculture: Factors Affecting Farm Demographics

## Bioeconomy – Industrial Uses

### Approved Projects 2016/'17

1. **Alfons Weersink** - Agronomic improvement of *Euphorbia lagascae* and large scale oil extraction to produce vernolic acid, an important industrial epoxidized ester
2. **David Wolyn** - Breeding Russian Dandelion for rubber production in Ontario
3. **Manjusri Misra** - 3D printed high-strength ultra-lightweight biocomposites from Ontario biomass for high-volume automotive applications
4. **Jonathan Newman** - Isolation and characterization of endophytes in improved selections of big bluestem
5. **Manjusri Misra** - Value-added uses of downstream corn oil from bioethanol industry for substituting a petro-based polymer in compostable bioplastic and green elastomer applications
6. **Amar Mohanty** - Compostable Multi-Layer Nano-Biocomposites for Barrier Food-Packaging Uses

## Emergency Management

### Approved Projects 2016/'17

1. **Brandon Gilroyed** - Ambient Alkaline Hydrolysis as an Emergency Biosecure Livestock Mortality Management Tool
2. **Rebecca Hallett** (*Also in Production Systems – Plants theme*) - Detection, Monitoring and Management of the Invasive Pepper Weevil
3. **Leonardo Susta** - Infectious potential and disease-inducing ability of goose-derived avian bornavirus for chickens and turkeys
4. **Claire Jardine** - Using whole genome sequencing to understand the ecology of Salmonella and antimicrobial resistance at the human, wildlife, environmental, and livestock interface.
5. **Baozhong Meng** - Enhancing the profitability and sustainability of Ontario grape/wine sector: survey and genetic diversity of major viral pathogens in local non-vinifera grapes and wild species
6. **Ljiljana (Lily) Tamburic-Ilincic** - Combining cultivar resistance and fungicide application for control of stripe rust in Ontario winter wheat and QTL identification for stripe rust and fusarium head blight

## Environmental Sustainability

### Approved Projects 2016/'17

1. **Laura Van Eerd** - Understanding and Optimizing Nitrogen BMPs for Seed Corn Production with <sup>15</sup>N Isotope Tracers
2. **Brandon Gilroyed** - Remediation of greenhouse nutrient feedwater and production of biomass using duckweed
3. **Amy Newman** - Understanding the physiological and behavioural effects of agricultural pesticides on monarch butterflies and investigating sustainable practices
4. **Kari Dunfield** - Assessing two possible best management practices that target methanogen communities in stored dairy manure to minimize GHG emissions
5. **Marc Habash** - Survey of human enteric viruses present in Ontario CP2 biosolids - Implications for land application in Ontario
6. **Asim Biswas** - Digital Soil Mapping of Lake Erie Basin, Ontario
7. **Manish N. Raizada** (*Also in Production Systems – Plants theme*) - Side-by-side evaluation of common cover crop strategies used by Ontario farmers for reduced soluble-reactive phosphorus pollution, improved nitrogen availability to corn, and enhanced drought

## Food for Health

### Approved Projects 2016/'17

1. **Cezar Khursigara** - Feeding the gut microbiome to promote health: understanding linkages between prebiotics and microbial ecosystems
2. **Lisa Duizer** - Putting quality food on the tray: patient satisfaction of food in Ontario hospitals
3. **Tirtha Dhar** - Reshaping Diet: Assessing a Nutrition Labeling System
4. **Iris Joye (Also in Products and Value Chains theme)** - Improved quality and health benefits of frozen dough products enriched with locally grown, functional fibers

## Products and Value Chains

### Approved Projects 2016/'17

1. **Iris Joye (Also in Food for Health theme)** - Improved quality and health benefits of frozen dough products enriched with locally grown, functional fibers
2. **George van der Merwe** - Developing the Brettanomyces-based beer sector in Ontario
3. **Keith Warriner** - Force Air Ozone Reactor: Aqueous Free Approach for Pesticide Degradation and Shelf-life Extension of Produce
4. **Loong-Tak Lim** - Controlled release of fumigant using active packaging approach to replace methyl bromide
5. **Alexandra Grygorczyk** - Development of a consumer-driven sensory quality process for Ontario-bred apples

## Production Systems – Animals

### Approved Projects 2016/'17

1. **Jeffrey Wichtel** - Benchmarking kid mortality in Ontario dairy goat farms
2. **Shayan Sharif** - Probiotics for control of necrotic enteritis in chickens
3. **John Cant** - Milk fat stimulation by amino acids
4. **Benjamin Bohrer** - Investigation of alternatives to ionophore/antibiotic management strategies in finishing cattle and the inherent effect on beef shelf life
5. **Todd Duffield** - Prudent antimicrobial use approach to treating high risk calves on arrival to a veal facility
6. **Paul Luimes** - Fibre requirements for market lambs
7. **Angela Canovas** - Leveraging transcriptomics and systems biology to understanding the genes and metabolic pathways associated with genetic resistance of sheep to gastrointestinal nematode parasite infections
8. **Eduardo De Souza Ribeiro** - Impact of Dietary Source of Supplemental Trace Minerals on Functional Microbiome of the Rumen and the Impact on Nutrition Physiology Pre- and Post-partum
9. **Tina Widowski** - Assessing methods for on-farm euthanasia of turkeys, chickens, breeders and layers
10. **Jan Sargeant** - Relative efficacy of antibiotics for the treatment of mastitis in dairy cattle: a network meta-analysis

11. **David Kelton** - Characterization and resolution of hock, knee and neck injuries of dairy cattle
12. **Robert Friendship** - Use of Gedis catheter and synchronized ovulation to increase sow productivity and reduce breeding costs
13. **Julang Li** - Antimicrobial peptide as alternative to antibiotics for infection control
14. **Flavio Schenkel** - Implementation of genomic selection to improve productivity and health traits in Ontario dairy goats
15. **Elijah Kiarie** - Strategic application of exogenous enzymes to enhance the nutritive value of feedstuffs for poultry for improved feed efficiency and reduced nutrients excretion
16. **Abigail Carpenter** - Strategies for utilizing switchgrass in Canadian dairy rations

## Production Systems – Plants

### Approved Projects 2016/'17

1. **Manish N. Raizada** (*Also in Environmental Sustainability theme*) - Side-by-side evaluation of common cover crop strategies used by Ontario farmers for reduced soluble-reactive phosphorus pollution, improved nitrogen availability to corn, and enhanced drought
2. **Rebecca Hallett** - Improved management of swede midge with biological and chemical control tactics
3. **Mary Ruth McDonald** - Improved integrated pest management of Stemphylium leaf blight and other foliar diseases of onions
4. **Alireza Navabi** - An Examination of Stripe Rust-Winter Wheat Pathosystem in Ontario to Improve Genetic Gain in Breeding Programs
5. **Mehrzad (Milad) Eskandari** - Development of Ontario-adapted superior food-grade soybeans with increased seed size and sucrose content
6. **Art Schaafsma** - Integrated Pest Management and Insecticide Resistance Management for Western Bean Cutworm in Ontario Corn
7. **Thomas Graham** - Improving Rooted Cutting Performance and Production Area Utilization in Greenhouse Floriculture Crops through Tailored Light Environments and Vertically Integrated Propagation Systems
8. **Emily Yi Wai Chiang** - Soil DDT mapping and phytoremediation for ginseng production
9. **Cynthia Scott-Dupree** - Improving Sustainable Pest Management for Carrot Insect Pests and Enhancing Beneficial Insect Populations at the Holland Marsh
10. **Bernard Grodzinski** - Maximising Harvest Index and Quality of Vining, Vegetable, Greenhouse Crops Being Produced 12-mo/yr by Optimising Novel LED-based Technologies
11. **John Cline** - Optimizing Production and Quality of Ambrosia, Honeycrisp Apples through Advanced Thinning and Mitigating Biennial Bearing Strategies
12. **Rebecca Hallett** (*Also in Emergency Management theme*) - Detection, Monitoring and Management of the Invasive Pepper Weevil