

# OMAFRA – U of G Partnership Research Program - Approved Projects 2014/'15

DERIVED FROM APPENDIX A: 2014/15 OMAFRA – UOFG PARTNERSHIP RESEARCH PROGRAM, SUMMARY OF FULL PROPOSALS RECOMMENDED FOR FUNDING

## Table of Contents – Approved Projects 2014/'15

Agricultural and Rural Policy.....	2
Bioeconomy – Industrial Uses.....	2
Emergency Management.....	2
Environmental Sustainability .....	3
Food for Health .....	3
Products and Value Chains .....	3
Production Systems – Animals.....	4
Production Systems – Plants.....	4

## Agricultural and Rural Policy

### Approved Projects 2014/'15

1. **Wanhong Yang** - Extending WEBS/WBBE Modelling and Interface to Examine Cost Effectiveness of Agricultural BMP Policies in a Representative Watershed of the Lake Erie Basin
2. **John Cranfield & Getu Hailu** - Understanding and Monitoring investment, competitiveness, employment & productivity in Ontario's food manufacturing sector
3. **Brady Deaton** - Farmland Valuation and Farmland Rents
4. **Helen Hambly** - Outcome Analysis for Rural Broadband Infrastructure, Applications and Adoption in Southwestern Ontario
5. **Alan Ker** - Modelling Ontario's Chicken industry for Policy Analysis
6. **Al Lauzon** - Diversifying Rural Economies through Social Enterprise: The Role of Rural Municipalities as Intermediaries

## Bioeconomy – Industrial Uses

### Approved Projects 2014/'15

1. **Brandon Gilroyed** - Determination of a Sugarcorn to Ethanol and Co-products Value Chain
2. **Ian Tetlow** - Development of Hybrid Branching Enzymes for Industrial Processing of Starch-Based Polymers
3. **Tariq Akhtar** - Engineering Alternative Sources for Natural Rubber in Plants
4. **Douglas Goff** - Development of Natural Binders from Canadian Agricultural By-products for Applications in the Landscaping Industry
5. **Marcel Schlaf** - Tetradentate ruthenium and iridium complexes as high-temperature, water and acid-stable man-made catalysts for the hydrodeoxygenation of biomass derived molecules to high-value chemicals

## Emergency Management

### Approved Projects 2014/'15

1. **Alan Ker** - Developing an Economic Model of Ontario's Pork Sector with Application to Disease Outbreak and Policy Response Analysis
2. **Cynthia Scott-Dupree** - Sustainable Management and Survey for Brown Marmorated Stink Bug in Ontario
3. **Jonathan Newman** - A risk assessment for tick-borne bovine anaplasmosis and its vector *Dermacentor variabilis* (American dog tick) in Ontario
4. **Baozhong Meng** - Development and implementation of highly effective, high-throughput, and affordable diagnostic technologies to combat the emerging virus diseases faced by Ontario grape/wine industry
5. **Patricia V. Turner** - Evaluation of Methods for On-Farm Euthanasia and Humane Depopulation of Commercial Meat Rabbits
6. **Zvonimir Poljak** - Novel PRRSV genotypes: tracking the emergence, transmission pathways, clinical impact, and pathogenicity

7. **Amy Greer** - Using network analysis and dynamic models to develop an understanding of the opportunities and challenges for disease control in equine populations
8. **Eva Nagy** - Development of avian reovirus as a biotherapeutic against poultry pathogens

## Environmental Sustainability

### Approved Projects 2014/'15

1. **Robert Gordon** - Strategies to Mitigate Greenhouse Gas Emissions from the Filling, Storage and Emptying of Manure Storages
2. **John Lauzon** - Investigation of Nitrification Inhibition for Improved Recovery and Reduced Loss of Hog Manure at Various Application Timings
3. **Kari Dunfield** - Exploring the link between soil biodiversity and soil health using a long term cover crop trial
4. **Mike Dixon** - Refining Nursery Irrigation Best Management Practices: Utilizing in Situ Plant Water Status Monitoring and Mycorrhizae Inoculations to Reduce Nursery Water Use
5. **Jana Levison** - Presence and fate of neonicotinoids in groundwater resources in Ontario
6. **Paul Sibley** - Risk Assessment of Neonicotinoid Insecticides to Non-target soil and Aquatic Organisms: Chronic Exposures and Sublethal Endpoints
7. **Gary Parkin** - Quantifying the Impact of Tile Drainage on Groundwater Recharge and Protection under Future Climatic Conditions
8. **John Fitzgibbon** - Management of Phosphorous loads on a Field to Watershed Basis: An assessment of current practices as an integrated system

## Food for Health

### Approved Projects 2014/'15

1. **Scott Ryan** - Targeting Neurodegeneration to Maintaining Brain Health with Functional Foods
2. **David Mutch** - Assessing the effects of novel omega-3 formulations on cardiovascular, inflammatory and metabolic health in young adults
3. **Gopinadhan Paliyath** - Formulation of a new designer functional food from Ontario-grown agricultural produce with anti-inflammatory and cancer-preventive properties
4. **Lindsay Robinson** - All About Apples: Obesity-related health benefits and communication strategies to increase apple knowledge, purchase and consumption in Ontario
5. **David Dyck** - Grape pomace as a treatment for insulin resistance associated with loss of estrogen
6. **Wayne Caldwell** - Mining Local Food in Northern Ontario
7. **Sunghwan Yi** - Nudge-based approaches to increasing vegetable consumption among young adults in Ontario
8. **Suresh Neethirajan** - Screening Ontario Grown Onion Varieties for Antimicrobial and Antioxidant Synergistic Properties

## Products and Value Chains

### Approved Projects 2014/'15

1. **Keith Warriner** - Comparative Study on the Effect of UV and High Hydrostatic Pressure on Health Related Constituents of Plant Derived Beverages
2. **Sanaa Ragaee** - Modifying non-gluten proteins for improved gluten-free food products
3. **Amar Mohanty** - Adding value to Local Purpose Grown Natural Fibres and Industrial co-products through Collaboration in Biocomposites Development
4. **Alexandra Grygorczyk** - Building the foundation to bring ethnic flowers to the Ontario market
5. **Andreas Boecker** - Media Analysis of the Agricultural Biotechnology Innovation Value Chain
6. **Medhat Moussa** - Development of a robotic system for early detection and daily scouting of diseases in greenhouses

## Production Systems – Animals

### Approved Projects 2014/'15

1. **Paula Menzies** - Investigation of immune response of sheep to gastrointestinal nematode infection under Ontario grazing conditions for purposes of selection of genetically resistant animals
2. **Stephen LeBlanc** - Use of precision technology to enhance detection and treatment of metabolic disease in dairy cows
3. **Todd Duffield** - Diagnostic patterns for ketosis in lactating dairy cows and an innovative management approach to treatment
4. **James Squires** - Use of dietary additives to control boar taint
5. **Elizabeth Scholtz** - Nitric oxide's role in equine endometritis and evaluation of a novel potential preventive or therapeutic option
6. **Shayan Sharif** - The effect of in ovo delivery of nutrients and feed additives on the development of the immune system
7. **William Allan King** - Early detection of low litter size producing boars
8. **Shayan Sharif** - Enhancing immunity to avian influenza viruses
9. **Sarah Wootton** - Development of a vaccine to protect against *Toxoplasma gondii* infection in sheep
10. **Todd Duffield** - Factors associated with veal calf well-being and mortality in the Ontario veal calf industry

## Production Systems – Plants

### Approved Projects 2014/'15

1. **Katerina Jordan** - Managing plant-parasitic nematodes in tomatoes in Ontario - Stage 1: Population dynamics, effects on yield and threshold development
2. **Alireza Navabi** - An Examination of Environmental Adaptation of Wheat in Ontario as Influenced by Vernalization and Photoperiod Response Genes
3. **Youbin Zheng** - Development of New High-yielding and High-quality Soybeans with New SCN-resistant Sources for Ontario

4. **Barry Shelp** - Improving Nutrient Use Efficiency of Potted Chrysanthemums Grown in a Subirrigation System
5. **Paul Goodwin** - Evaluating soil amendments as a new IPM tool for management of replant disease of ginseng
6. **J. Alan Sullivan** - Enhancing Shelf-life of Ontario Berry Crops
7. **William Lubitz** - Characterizing and modeling the microclimate in southern Ontario high tunnels to improve crop yields
8. **Daryl Somers** - Development of new apple varieties with molecular breeding technology