



RESEARCH UPDATE

2016 Preliminary Trial Results Chrysanthemum and Hydrangea Leachate Study

February 2017



Research Timeline

Fall 2016 Preliminary Research Trial to determine methods, collect investigative data and identify trial sites

July-Sept 2017 Summer Trials to compare fertigation systems, different fertilizers

August 2017 Summer Demo Day
All members invited to observe trial site and review results with research team

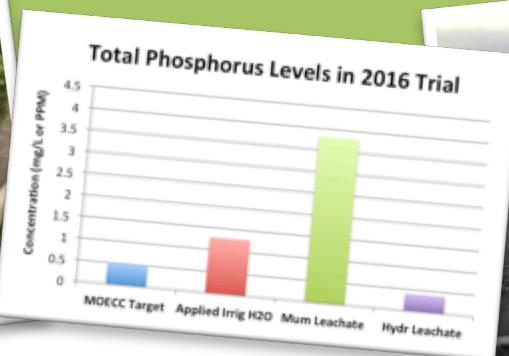
Background

The Ontario greenhouse floriculture sector produces ornamental crops in close proximity to the Great Lakes. While floriculture greenhouses have made significant advances in decreasing nutrient discharges from inside their greenhouses, implementation of Best Management Practices (BMPs) must continue. Outdoor production of floriculture crops such as garden chrysanthemums and hydrangeas is largely based on water-soluble fertilizers. This production system lends itself to potential generation of leachate that could reach watercourses. This study, funded in part by the Ontario Ministry of Agriculture Food & Rural Affairs, intends to review the current practices and investigate BMPs to minimize environmental impact.

Goals of the Project

1. Evaluate the extent of potential leachate from outdoor production
2. Demonstrate alternative methods of production to decrease risk of nutrients reaching environment
3. Raise awareness and increase adoption of BMPs





Findings to Date

Leachate collected from the bottom of pots varied in composition depending on production system and fertilizer type

Irrigation Method

- Overhead irrigation = more water and can result in more runoff
- More leachate volume possible with increased volumes applied
- Drip irrigation uses less water, has less leachate
- Cyclic irrigation had ~no leachate

Type of Fertilizer Used

- Water soluble fertilizers work well in drip application
- Increased nutrient levels in leachate with overhead irrigation (both CRF and water soluble)
- Range of fertilizer formulas available – e.g. low macro-, high micro-nutrient; CRFs

Runoff Collection

- Slope/compaction of growing areas varies
- Some farms collect and re-use runoff water
- Close/shut off main lines that have no plants late in season

Next Steps

- Summer trials on hydrangeas and mums:
 - Compare CRF formulations to traditional water soluble fertilizers, and new products with lower macros
 - Compare Overhead and Drip irrigation methods
- Summer Demo Day – date to be announced (late August)
- Final Report – due February 2018



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