

BMPs for keeping your business under the glass



**KEEP YOUR BUSINESS
UNDER THE GLASS**

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What's new?

1. Inspections
2. sECA
3. BMPs for GH Waters
4. What FCO is doing to help
5. What is next?
6. Resources



1. Inspections

- Only 50% of all FCO members have reported completing an action plan or going through the MOECC inspection process
- All GH to be inspected and 'in compliance' by March 2018
- Water sampling in Leamington
- Pesticides, water taking also checked



2. sECA

- Permit to discharge stormwater
- Introduced last summer
- Abbreviated application, simplified engineering for PRE-2012 builds
- TOGA/OGES worked hard to get you this option!
- Engineering component needs to be scheduled before Christmas
- Package available online, or from Jeanine



3. BMPs for GH Waters

RECIRCULATE!
RECIRCULATE!
RECIRCULATE!



Water Type	Concern	Volumes	BMP	Considerations	Permit Needed if Discharge
Feed	Nutrient	High, variable	Treat & recirculate	Storage capacity Cost	ECA
Drainage Tile/Pipes	Nutrient	Depends on groundwater	Treat & recirculate	Storage capacity Cost	*may require ECA if high nutrient
Outdoor Production Leachate	Nutrient	Low, depends on irrigation practices	Cyclic irrigation, LV emitters, fertilizer choices	Cost Altering production practices	*may require ECA if high nutrient
Table/tray wash	Nutrient TSS	High, depends on method	Filter & recycle Closed loop	Change pressure/ volume	ECA
Planting line	Nutrient TSS	Moderate	Treat & recirculate		ECA
Filter backwash	Nutrient TSS	Low	Treat & recirculate	Consider other screen options	ECA

Water Type	Concern	Volumes	BMP	Considerations	Permit Needed if Discharge
Floor Drains	Variable – could be salts, TSS	Variable	Treat & recirculate	Could drain be closed off?	ECA
Cut flower pail water	Preservatives	Depends on how cuts are shipped, can be significant	Treat & recirculate	Storage capacity	ECA
Shipping water	Low-level nutrients	Moderate-High	Closed loop (\$) Capture and reuse	Is there a set location for this activity?	ECA
Parking lots, Loading docks	Salts, oils/grease, spills	Variable Can be very high	Discharge onto grassy area Keep on property	May require oil/grit separator	sECA
Roof water	N/A	Variable Can be very high	Stormwater retention pond or containment to slow erosion	All ponds, silos and cisterns require permit if overflow possible	sECA

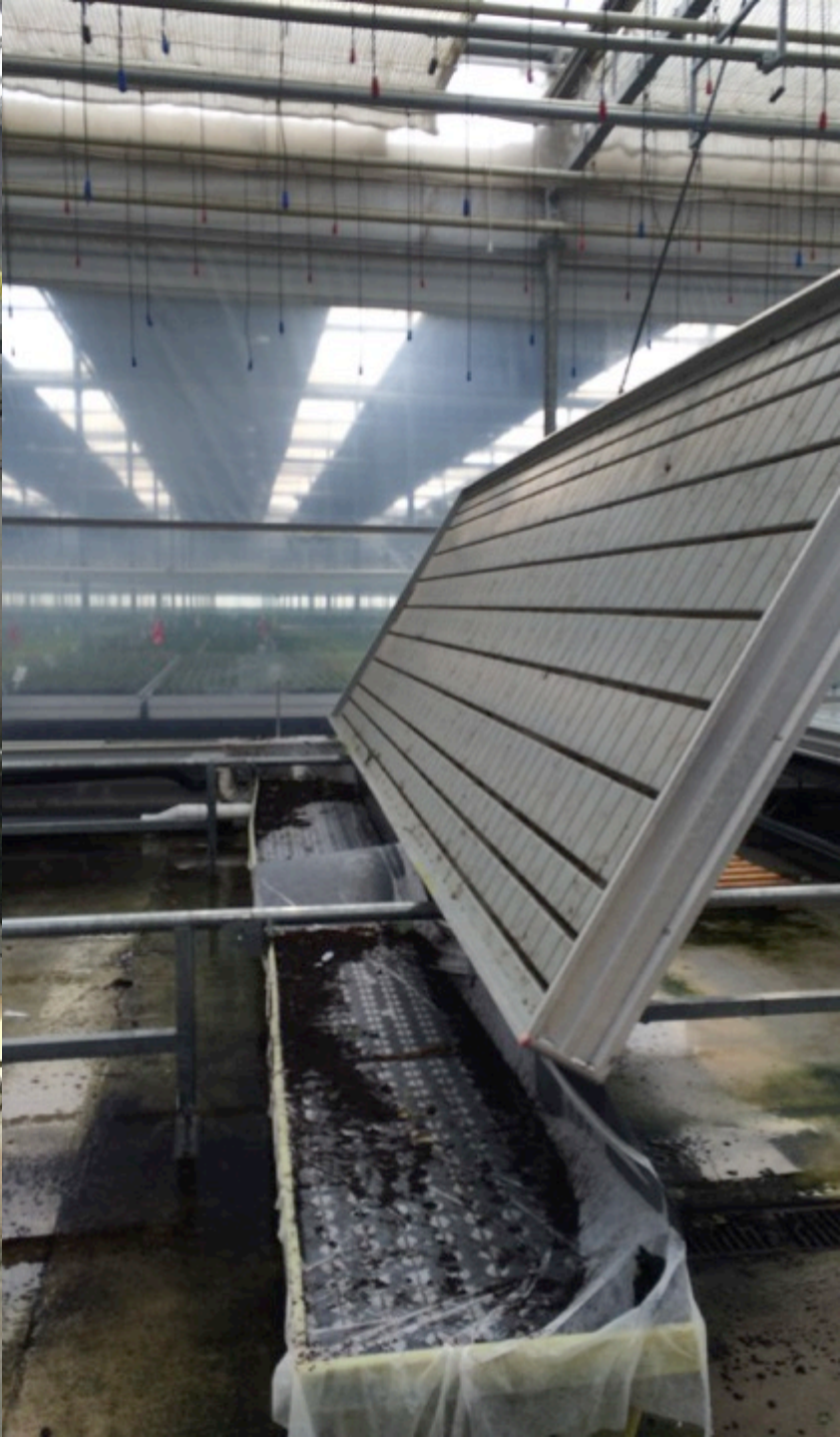
Water Type	Concern	Volumes	BMP	Considerations	Permit Needed if Discharge
Boiler – hot water	N/A	N/A	Access to storage if maintenance required	Speak to your boiler technician	ECA
Boiler – hot water condensate	pH, Zinc	Depends on use, can be significant	Separate from fresh water Blend into irrigation	Storage capacity	ECA
Boiler - steam	Chemical mix (e.g. Mo)	Low Higher for in-ground growers	Collect & evaporate Paid disposal (\$\$)	Can you switch to Hot Water Boiler? Change chemical blend to less toxic?	ECA

Acknowledge MOECC Transfer Payment Agreement!

(see June 2016 talk for review of wastewaters)









How to choose best BMP?

- Step 1 – take ownership!
- Know what is in your waters (TEST IT)
- What makes sense for your business?
- Think about surface water & groundwater impacts
- Can you use less water?
- Can you decrease P loading?



4. FCO is doing...

- Online resources
- Water Specialist
- Research
 - Outdoor production BMPs
 - Treatment system (HTS – Ann/Jeanine)
 - In house tools for monitoring (Ann)
- TOGA, OGES – political pressure and cooperation
- sECA support, farm tours, etc.



Outdoor Production BMPs



- P can leach from pots
- Summer 2017 trial & demo tour for BMPs
 - Cyclic irrigation
 - LV emitters
 - Trial CRFs



Crop & Site	Irrigation type	Fertilizer type		Sample Date (s)	Fertigation or irrigation on sampling date?	General P Result <i>(visual average from graphs)</i>	Elevated P level in leachate over applied?	Peak [P] mg/L in leachate
		CRF	Soluble					
Hydrangea								
Site B	Overhead	X	X	Sept 28 Oct 6	Fresh H2O & K-SO4	leachate > applied	YES	1.28
Site E	Overhead		X	Oct 6-14	Fresh H2O & KNO3	leachate >= applied	6" YES	0.28
Site F	Overhead		X	Oct 16-18	Fresh H2O	leachate >= applied	6" YES	0.24
Garden Mums								
Site A	Overhead	X	X	Sept 23	Fresh H2O	leachate > applied	YES	3.81
Site C	Drip		X	Sept 28 Oct 6	Fresh H2O	no leachate collected	N/A	N/A
Site D	Drip		X	Sept 28 Oct 6	Fresh H2O	leachate > applied	YES	0.19

Hybrid Treatment Systems



5. What is Next?

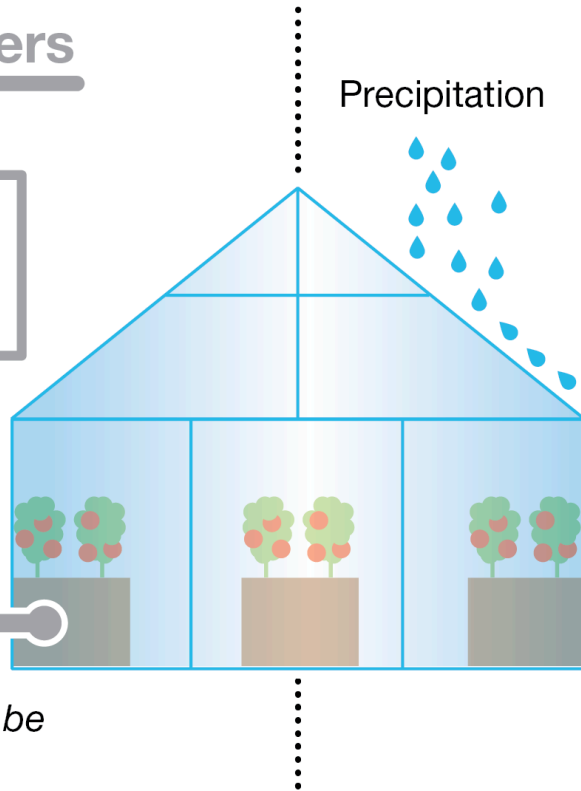
- Deadline of MARCH 31, 2018 for all areas outside of Leamington/Upper Thames
- Inspections will continue – everyone is targeted
- MOECC communication, sampling will continue
- Get your action plan ready, be prepared



MOECC communication

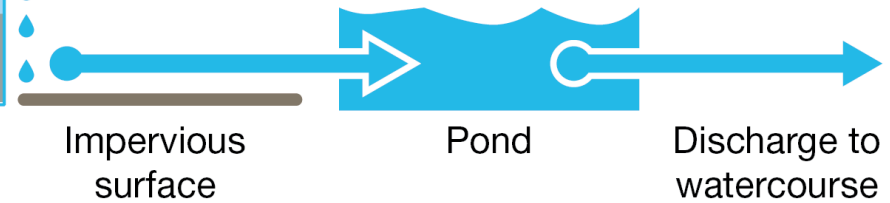
Process Waters

Achieve 100% recycling immediately*



Stormwater

ECA required



**Process water must be disposed of using an approved method*



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6. Resources

The Water Specialist acknowledges the support of MOECC, OMAFRA, and the Canadian Greenhouse Conference. The views expressed in this presentation are the views of the Water Specialist and do not necessarily reflect those of MOECC/OMAFRA/CGC.

<http://www.flowerscanadagrowers.com/environment-water-specialist-resource-page>

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