



Lessons Learned

Bridget Visser

HMGA Water Project



Before You Begin

Define the problem before choosing treatment

- Water test
- Particle size analysis
- Water flows & volumes

Appoint well-trained system operator to manage the building and operation of the system

**Research and explore options
with HMGA Team**



Bottom Aerators

- Failed to increase the oxygen content in shallow tanks
- Intended for depths over 8-10'
- However, able to keep solids in suspension





Filter Bag Test

- As a concept, filter bags do work
- Triggered further investigation
- Overall, the failure was a success





Chopper Pumps

- Many treatment systems will require a pump at some point
- Separation of large solid removal is essential





Loss of Efficiency



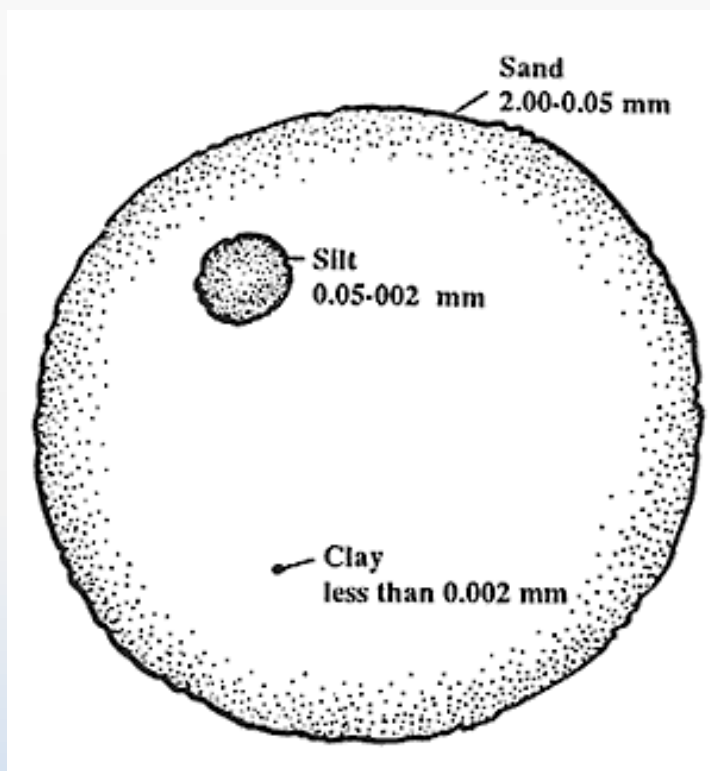
**Missed
Filtration**



Settling Ponds

- Solids settling is a function of size and specific gravity

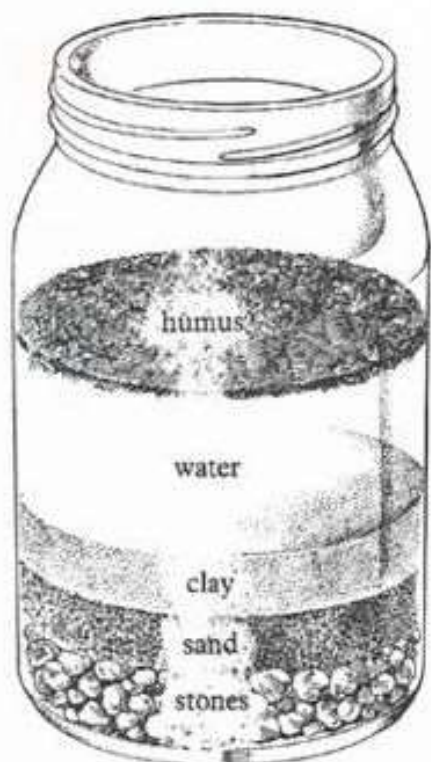
	Size (mm)	Specific Gravity
Sand	0.05-2	2.64-2.68
Silt	0.05-0.002	2.68-2.72
Clay	<0.002	2.44-2.92
Muck	<0.074	1.002
Water	-	1





Settling Ponds

- Solids settling is a function of size and specific gravity



**Average
Time to Settle
ONE INCH!!**

Sand	0.03 seconds
Silt	41 seconds
Clay	7.7 hours
Muck	10.3 days



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HMGA Water Project

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PROJECT OVERVIEW

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Project Description
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Ontario relies on our lakes for leisure,
drinking water, and food production.

Who

A significant research project, spearheaded by the Holland Marsh Growers' Association and funded through the Lake Simcoe/ South-eastern Georgian Bay Clean-Up Fund

What

The project involves the evaluation of innovative whole-farm approaches to find effective and efficient treatment technologies and methods to reduce risks to water quality in the Lake

Why

Water is a critical tool for farmers, who are committed to minimizing the impact on the environment for the benefit of the community in which they live.



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www.HMGAWater.ca

- Project Overview
 - Description of the project
 - Team member's bios
 - Frequently asked questions
- Articles on relevant topics
 - Water quality parameters
 - Treatment technologies
 - Project activities

Topics

All
Aerators
Filter Bags
General Information
Lake Simcoe
Lesson Learned
Muck
Nottawasaga Valley
Settling Ponds/Tanks
South-Eastern Georgian
Bay
Treatment Technologies
Water Quality
Parameters
Watershed



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- Factsheets
 - #001 Water Quality Parameters for Vegetable Washwaters
 - #002 Impact of Muck Soils on Water Treatment Systems
 - #003 Coagulation & Flocculation
 - #004 Considerations when Determining Discharge Limits



FACTSHEET



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- Events
 - Upcoming events where we'll be present
 - Past events
- Contact

