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# OFC Switchgrass Research Project



## Update, Winter 2015

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# Project Background

- Switchgrass research under OFC umbrella
- Project start in Spring 2014; Project end Oct. 2015
- Research results to be applied for new production as rapidly and efficiently as possible

**Achieving applicable results is top priority!**

# Project Activities

1. Improve Establishment of Switchgrass
  - a. Nurse Crop Concept
  - b. Re-seeding Options
  - c. Weed Control in Existing Stands
2. Improve Logistics of Switchgrass Production
3. Disseminate Information to Producers

# Project Research Sites

Huron County, Nott Farms



Halton Region, Fidale Farms



Grey County, Eggimann Farms



# Switchgrass Establishment with a Nurse Crop

## 2014 Project Activities:

1. Validation and improvements of Spring Wheat & Switchgrass combination at Nott Farms
2. Oats & Switchgrass combination at Fidale Farms

# Nurse Crop Concept

Original Project with Spring Wheat

Very successful re weed control **and** cash flow!



Clinton 2011

# RC Tecumseh @ 3 lbs/ac Seeding Rate



Clinton 2014

# RC Tecumseh ready for Winter





# Switchgrass & Oats Combination



# Re-seeding Options

- Frost Seeding



- Seeding with no-till seed drill



# Reseeding with No-till Drill



# Reseeding with No-till Drill



# 2014 Reseeding Activities

- No frost seeding possible in Spring 2014
- No reseeding done in 2014
- Very late start due to wet conditions
- Early spring packing of switchgrass field with major establishment gaps in previous year

**Result:** Amazing success with packing!

# Before ...



Fidale Farms

**... and after!**



# Weed Control in existing Stands

Herbicide application to combat perennial weeds:

Broadleaf applications in 1<sup>st</sup> and 2<sup>nd</sup> year stands:

- Halton
- Grey County

Glyphosate application in established switchgrass fields before emergence of switchgrass

- Clinton (Demo at Clinton Field Day, Sep 2014)



# Mechanical Weed Control

More Art than Science!

Extensive mechanical weed control performed during 1<sup>st</sup> year.

Good success with reducing witch grass, an annual weed with very aggressive shading characteristics

Heavy foxtail infestations:

The following season only minor differences visible of sections with or without mowing.

**Ultimate Goal: -→ new varieties with low dormancy**

# Improve Logistics of Switchgrass Production

- Minimize:
  - Handling
  - Indoor storage
  - Transportation
- Experiment with Wrapping / Outdoor Storage



# Switchgrass under Tarps



Reclaimed  
lumber tarps  
used to protect  
bottom bales  
from moisture



# Switchgrass under Tarps



Ground padded with loose switchgrass to protect bottom level bales.

# Plastic wrapped Switchgrass



Switchgrass is **not** Hay!  
Sharp stubbles can  
damage bale wrap.



Limitation with max. bale length up to 6'

# Economics of Handling & Storage

## Economics Modeling:



# Stinger Cube-Line Wrapper



Stinger Cube-Line Wrapper can handle bales up to 8' long and 3 bales high

112" x 104" wrap chamber and remote controls from the loader allow wrapping more than 100 tons / hour



# Reeves Model 857





# Highlights of Reeves Model 857

- One man operation:
  - only a skid-steer or loader tractor needed
- Easy hook-up to truck for road transport
- Keeps joints air tight to prevent spoilage
- Wraps square bales up to 8' wide x 15' high
- 20 HP Honda gas engine with electric start
- Self-propelled with hydraulic drive

# Dissemination of Research Results

- ✓ Clinton Field Day, Sep 2014
- ✓ Ag Biomass Day 2015
- ✓ Documentation on OBPC Website:
  - ✓ Interim Report
- ✓ Article(s) in OBPC Newsletters
- Ag Media Coverage (need help of reporters)
- Final AAC Report in October 2015



# ONTARIO BIOMASS PRODUCERS CO-OPERATIVE INC.

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# Thank you!

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