

## Nitrogen Rates on Established Switchgrass Quinte Regional Partner Grant Project

### Purpose:

To determine the optimum nitrogen rate and to evaluate the impact on the soil Phosphorus and Potassium levels in production on an established switchgrass stand.

### Methods:

The project was at 2 sites of 3<sup>rd</sup> year or longer established switchgrass stands. Soil sampling for NO<sub>3</sub> and complete soil fertility analysis of each plot were taken in the spring prior to top growth nitrogen of the switchgrass. Five nitrogen rates were applied in early May as the switchgrass began to green up. Yields were to be collected for each plot in the fall about 1 month after a killing frost and again in the spring prior to the initiation of new growth.

### Results:

**Figure 1: Layout of Switchgrass Plot**



**Figure 2: Application of N on Established Switchgrass**



**Figure 3: Switchgrass Response to Applied N - 7 July 2009, note the lighter green strip of 0 pounds per acre rate.**



**Figure 4: Switchgrass Stands September 2009**



**Figure 5: Small plot fall harvest – Oct 2009.**



**Table 1: Nitrogen Rates on Switchgrass 2009 – Fall Harvest**  
**Location: Winchester Springs**  
**Harvest Date: Nov. 10, 2009**

Nitrogen Rate (kg /ha)	Average Moisture %	Average Yield (mt/ac)
0	19.96	4.07a
50	17.51	4.73a
100	19.77	4.43a
150	17.09	4.18a
200	20.14	4.06a

\*Yields are statistically not different.

**Summary:**

Due to the wet fall weather and early snow, fall yields were taken at only one site. Yields will be taken in the spring of 2010 to determine the harvestable yield from each nitrogen treatment. Due to variability in the treatments, yields are not statistically not different.

**Next Steps:**

2009 was the first of a two year project. This project will be repeated in 2010.

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## Crop Advances: Field Crop Reports 2009

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### **Location of Project Final Report:**

This is an interim report.