

*Biomass:  
Where Are We Going?*

**Biomass Field Day in Clinton**

September 5, 2014

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[www.oaft.org](http://www.oaft.org)

Thanks to Don, Phyllis, Dan and family

- Grade 10 education
- Bah: 4 Ph.D.'s – University of Hard Knocks!
- Switchgrass
  - overwinter on stubble
  - Spring wheat in first year switchgrass
  - Rejuvenation of older fields switchgrass
  - Bale wrap cleaning system

Commend the Ontario Biomass Producers Co-operative for this meeting:

- Jamie Fisher
- Urs Eggimann
- Don Nott

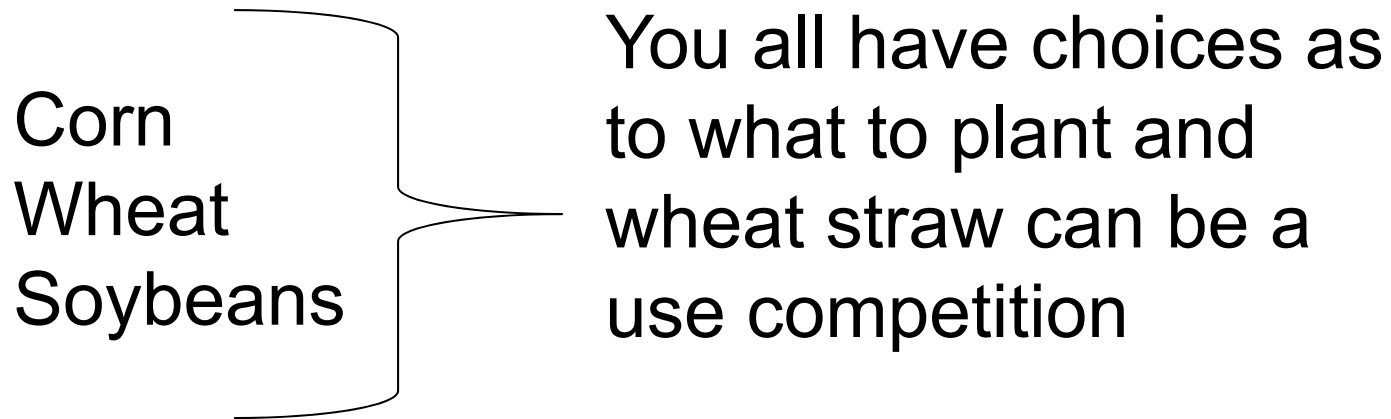
- Today we've looked at switchgrass, but there are other crops – miscanthus, hemp, corn stover, etc.
- All have their unique advantages and disadvantages, dependent on end use.

We've come a long way in 5-8 years - thanks to pioneers like Don.

- We know how to establish the crop.
- We can get advance payments 18 months before we harvest. (Don LeDrew – Agricultural Credit Corporation).
- We can get crop insurance, though I must stress how tolerant switchgrass is to drought.
- We can grow switchgrass and after three years, get a yield of 3-6 tons per acre dependent on soil conditions/weather.
- We can plant winter wheat in first year crop.
- New and better varieties – Roger Sampson/Dean Tiessen.

But what's the competition? I look at it from two aspects:

1. Competitive crops for land



2. Price of oil for composites

- In agriculture, many farmers think about yield rather than profitability per acre (i.e. gross sales – per acre – input costs).
- Here are the expected 2014 results from the USDA for 2014.....

# Range in Revenue for Corn in 2014

By Gary Schnitkey

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The U.S. Department of Agriculture released a revised World Agricultural Supply and Demand Estimates (WASDE) report on July 11, 2014. In this report, the 2014 Market Year Average (MYA) price for corn is projected to fall between \$3.65 per bushel and \$4.35 per bushel. Revenues and farmer returns are estimated for prices in this range given an average and high yield. Crop insurance and commodity title payments are included in estimates. Given this price range, there is about a \$100 per acre range in which per acre returns can fall. Farmer returns likely are negative for cash rented farmland, given that costs are near average. Farmer returns for share rented farmland likely will be low.....

.....There is a considerable range of revenues and returns that can occur for the 2014 cropping year. A range of roughly \$100 is possible at this time point. However, the range is relatively low, particularly when compared to returns in recent years. For cash rental situations, farmer returns likely will be negative, except if yields are well above average and prices are near the high of the WASDE range. Share rent returns are low at the yields and prices illustrated in this article.



**Table 1. Estimates of Farmer Returns for 2014 Corn Production in Central Illinois Given Different Yields and Prices.**

	Avg. Yield (197 bu/acre)			High Yield ( 220 bu/acre)		
	Low Price	Mid Price	High Price	Low Price	Mid Price	High Price
MYA price <sup>1</sup>	\$3.65	\$4.00	\$4.35	\$3.65	\$4.00	\$4.35
Harvest price <sup>2</sup>	\$3.55	\$3.90	\$4.25	\$3.55	\$3.90	\$4.25
Yield	197	197	197	220	220	220
	\$/acre	\$/acre	\$/acre	\$/acre	\$/acre	\$/acre
Crop revenue <sup>3</sup>	719	788	857	803	880	957
Crop insurance <sup>4</sup>	67	0	0	0	0	0
ARC/PLC payment <sup>5</sup>	<u>77</u>	<u>62</u>	<u>10</u>	<u>45</u>	<u>0</u>	<u>0</u>
Total revenue	863	850	867	848	880	957
Non-land costs <sup>6</sup>	588	588	588	588	588	588
Cash rent <sup>6</sup>	<u>293</u>	<u>293</u>	<u>293</u>	<u>293</u>	<u>293</u>	<u>293</u>
Total costs	881	881	881	881	881	881
Farmer return (cash rent) <sup>7</sup>	-18	-31	-14	-33	-1	76
Farmer return (share rent) <sup>8</sup>	17	11	19	10	26	64

<sup>1</sup> Market year average price with range projected by WASDE (July 11, 2014).

<sup>2</sup> Harvest price for crop insurance calculation, set at \$.10 lower than MYA price based on historical relationships.

<sup>3</sup> Equals MYA price times yield.

<sup>4</sup> Based on a Revenue Protection policy with a 195 bushel guarantee yield and \$4.62 projected price.

<sup>5</sup> Estimated ARC payments. Estimated for 2014 in McLean County using a 177 bushel county yield for the 197 bushel farm yield and 200 bushel county yield for the 220 bushel farm yield.

<sup>6</sup> Taken from 2014 Illinois crop budgets.

<sup>7</sup> Farmer return for cash rent land equals total revenue minus cash rent.

<sup>8</sup> The share rent arrangement is a 50-50 crop share with a \$25 per acre supplemental payment.

# \$4 Corn Will Remain to 2020, Forecast Says

AgWeb

August 29, 2014



- As we all know, this is subject to weather, not only our own, but globally (i.e. market price).

- What about the market value for switchgrass?
- It too will fluctuate based on supply of wheat straw, for example.
- We have seen consistent prices between 5¢-7¢ a pound (i.e. \$500-\$700 per acre gross).  
Approximately 5 ton/acre.

The current markets have been:

- Dairy bedding
- Mushroom compost
- Horse bedding
- Other uses – soil protectors/crop bedding
- Future biocomposites

- After year 3, the crop's sole cost is harvest.
- Sales are mainly done FOB the farm.
- Harvest is approximately 2-2 ¼ ¢ (i.e. 3-5¢ a pound net. \$300-\$400 per acre profit).

I recognize.....

1. Establishment costs (but spring wheat crop) and risk - year one.
2. Lack of significant cash flow, also expense – year two.
3. Start harvesting full crop - year three.



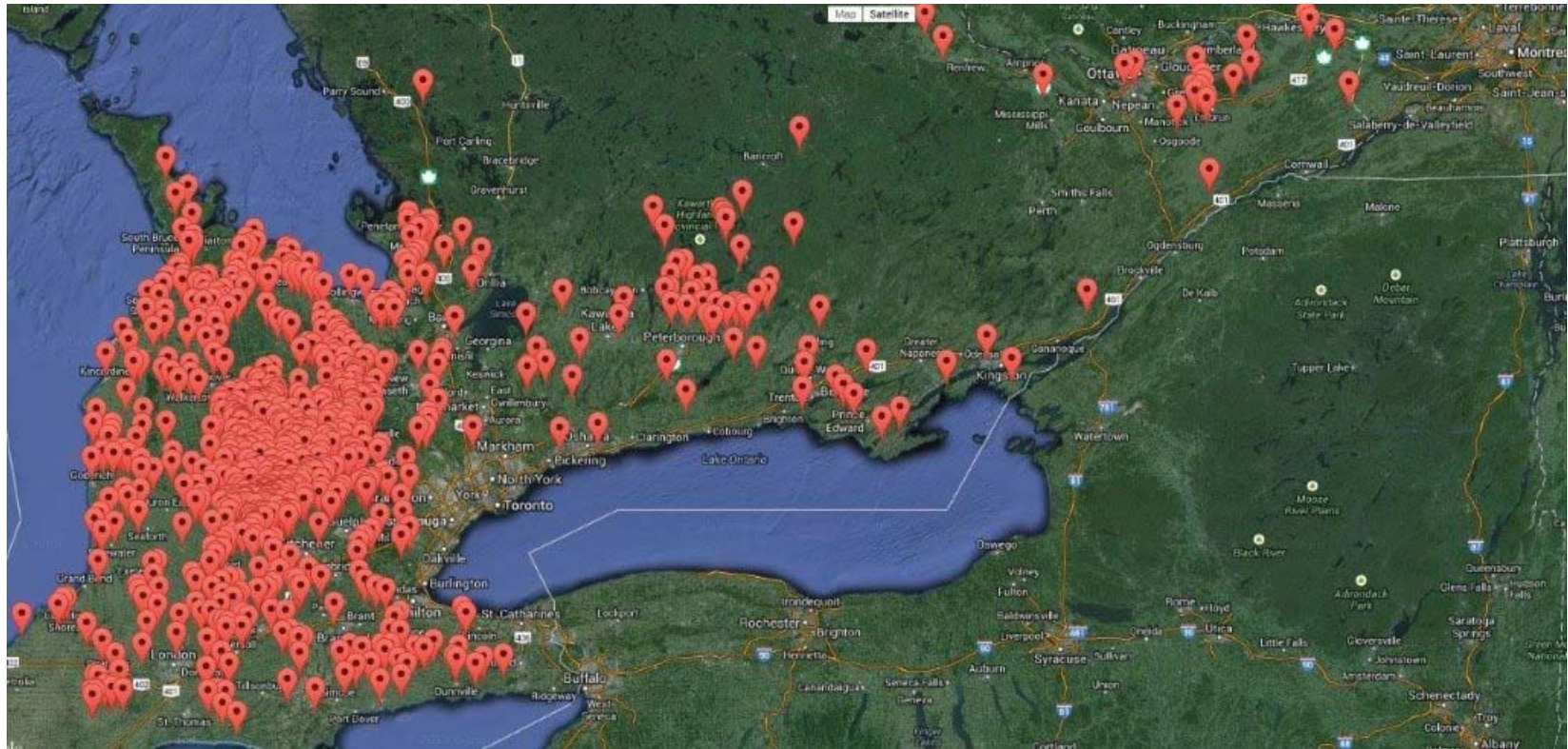


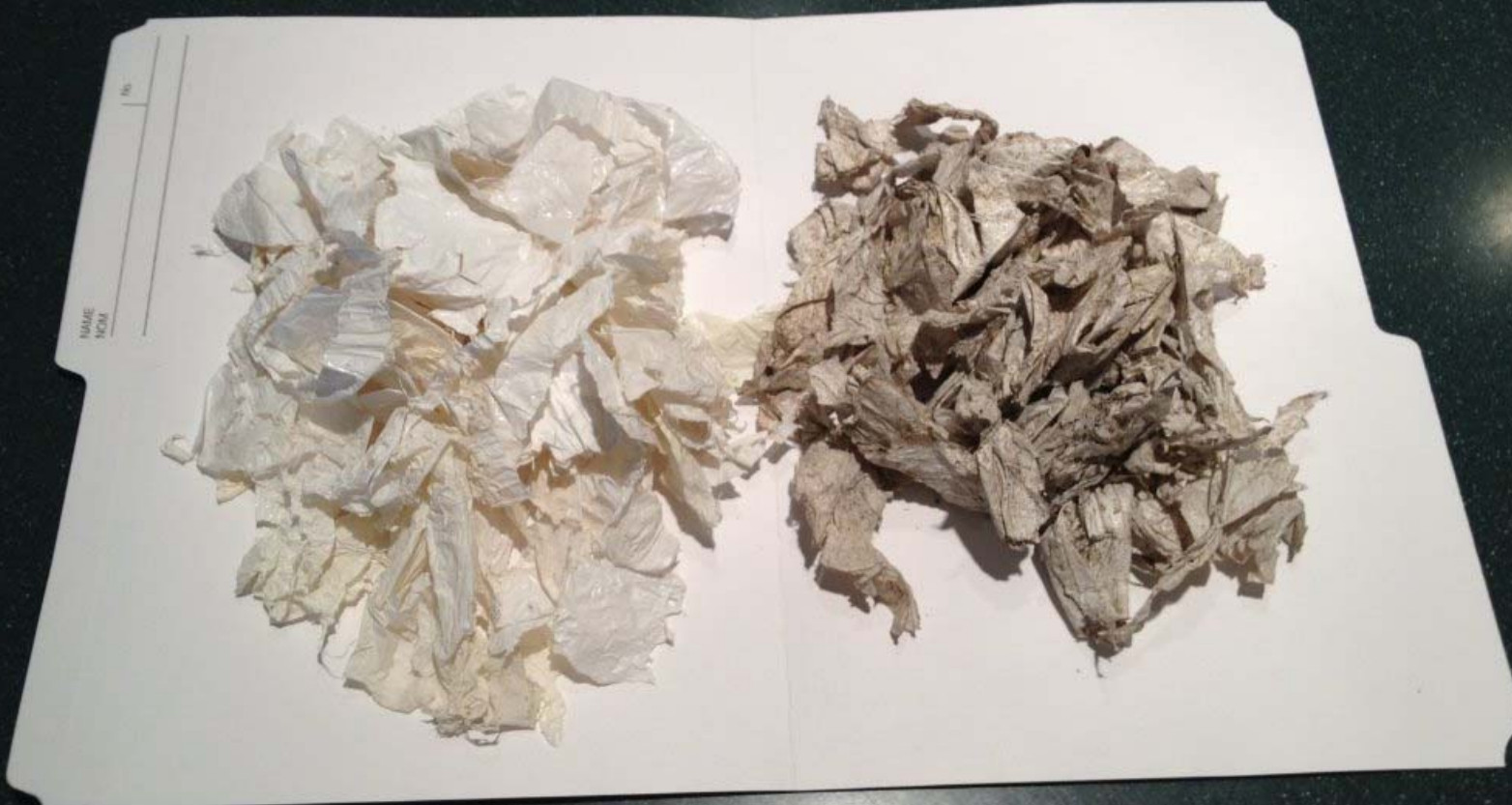


I live by a quote:

*“There is no such thing as waste. Waste is an opportunity looking for a solution.”*

(Don’s collection of plastic bale wrap)







# White Lists: A Proactive Approach to Risk Reduction for the Bioenergy Industry

Biofuels Digest  
August 25, 2014

Cultivation of bioenergy crops is predicted to increase to between 27 and 120 million acres by 2022 in order to meet the renewable energy needs of the U.S. and the Environmental Protection Agency's Renewable Fuel Standard. These crops may be used for production of ethanol, biodiesel or heat through combustion. Ideally, these renewable energy sources would neither compete with food production nor require land with high natural values or agricultural productivity. While early progress on meeting the Standard was based on corn and soybeans, there is increasing concern about the conversion of vast areas from food to fuel crop cultivation.....

This crop requires a mind set change

- Perennial – field crop – 20-25 years  
amortization of profitability over 10-20 years.
- As Don says, *“this can be my pension plan”*.

I want to acknowledge the financial help of:

- Agricultural Adaptation Council
- Bioenterprise Corporation via FedDev
- Ontario Agri-Food Technologies (small amounts)



## Biocomposites

- Acknowledge all the good work Don has done.
- There have been set-backs, but again, Don's ability to work through issues has allowed him to overcome these.

## More than dollars!

- Besides the dollars, this crop is great for soil structure (extensive root system).
- It is “organic” after three years; and
- It is native, pest-free and highly resilient.