AGRICULTURE,
THE CROWN JEWEL OF THE BAY ECONOMY

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THE BAY REGION

- Bay
- Tuscola
- Saginaw
- Arenac
- Midland
- Huron

THE BAY REGION

	Acres
Corn	445,500
Soybeans	272,000
White Wheat	123,789

THE BAY REGION

Sugar Beets

	Acres
Region	100,900
State	136,000

THE BAY REGION

Dry Beans

	Region[1]	State[1]	Nationally[1]
Black Beans	79,100	95,000	173,000
Navies	45,900	51,200	187,000

Acres[1]

THE BAY REGION

- Sugar Processing
  - Only Plant in the Midwest
- Dry Bean Processing
- Fertilizer Warehousing
- Grain Handling

THE BAY REGION

- Deep Water Port
  - Inbound Fertilizer
  - Other Ag Goods
- Makes Bay Region Farmers More Competitive

THE BAY REGION

- Commercial Farms are Getting Larger and Larger
  - More Concentration of Ag in this Region Than Elsewhere in the Country
  - Fewer Farmers Grow More Than in Other Areas
- Larger and Larger Equipment

THE BAY REGION

- 1,000 Acre Farm is Between a $1.0-1.5 Million Operation
- 5,000 Acre Farm is Between a $5.0-7.5 Million Operation

THE BAY REGION

What Makes This Happen?

- Technology and Genetics
- Demand
- Economics

THE BAY REGION

- Technology Helps Makes This Happen
- GPS Driven Site Specific Agriculture
- Grid Soil Sampling
- Variable Rate Fertilizer Application
- Biotechnology
- 90% + of Soybean Acres Make Use of Advanced Technology
- 70% + of Corn Acres Make Use of Advanced Technology
- 70% + of Sugar Beet Acres Make Use of Advanced Technology

THE BAY REGION

1/3 of the Dairy Cows of 40 Years Ago,
and Twice the Production of That Era

THE BAY REGION TECHNOLOGY

Michigan Corn

	Acres	Yield[1]	Production[2]
1970	1,730,000	81	115,749,000
1980	2,950,000	95	243,200,000
1990	2,400,000	115	238,050,000
2000	2,200,000	124	241,800,000
2007	2,650,000	124	291,400,000
2008	2,350,000	153	359,550,000

[1] bushels/acre [2] bushels

Source: NASS-USDA

THE BAY REGION TECHNOLOGY

Michigan Soybeans

	Acres	Yield[1]	Production[2]
1970	515,000	26	13,250,000
1980	980,000	33	32,010,000
1990	1,150,000	38	43,320,000
2000	2,030,000	36	73,080,000
2007	1,750,000	39	67,860,000
2008	1,900,000	43	81,700,000

[1] bushels/acre [2] bushels

Source: NASS-USDA

THE BAY REGION TECHNOLOGY

Michigan Wheat

	Acres	Yield[1]	Production[2]
1970	495,000	39	18,720,000
1980	820,000	44	35,200,000
1990	770,000	55	41,250,000
2000	530,000	72	36,000,000
2007	560,000	65	35,100,000
2008	780,000	75	58,500,000

[1] bushels/acre [2] bushels

Source: NASS-USDA

THE BAY REGION TECHNOLOGY

Michigan Dry Beans

	Acres	Yield[1]	Production[2]
1970	625,000	10.7	6,153,000
1980	590,000	13.6	7,752,000
1990	350,000	16.5	5,445,000
2000	285,000	15.0	4,125,000
2007	200,000	16.0	3,120,000
2008	190,000	15.0	2,850,000

[1] cwt/acre [2] cwt

Source: NASS-USDA

THE BAY REGION

- Pesticide Tolerance
- Insect and Disease Resistance
- Drought Tolerance
- Health

THE BAY REGION DEMAND

- Concentration of Food Manufacturers
- Concentration of Retail
- Organic
- Locally Grown
- Traditional Still 95% of the Market

THE BAY REGION DEMAND

- Corn demand for Ethanol
- Farmer Income Increasing
- Getting More Income from the Market, Rather than Government

THE BAY REGION DEMAND

OPERATING ETHANOL PRODUCTION

Michigan Ethanol	**Caro**	**45 MGPY***
The Anderson's	Albion	50 MGPY*
Carbon Green	Woodbury	50 MGPY*
Global Ethanol	Riga	50 MGPY*
Marysville Ethanol	**Marysville**	**50 MGPY***

Most Plants Running Above "Name-Plate" Capacity

*millions of gallons per year

THE BAY REGION DEMAND

DIET

CHINDIA

- **Since 1988**
  - **Per Capita Caloric Consumption**
    - China up 26.2%
    - India up 17.3%
  - **Total Daily Calories**
    - India up 1.20 Trillion Calories
    - China up 1.55 Trillion Calories
- **Demand for Meat and Dairy Products**

THE BAY REGION ECONOMICS

Crop Demand Growth in Last Decade

+12%

The growth rate of world **population** over the last ten years

+25%

The growth rate of **pork** consumption over the last ten years

+29%

The growth rate of **chicken** consumption over the last ten years

+23%

The growth rate of world **corn** consumption over the last decade

+39%

The growth rate of world **soybean** consumption over the last decade

+4%

The growth rate of world **crop area** harvested

Source: Pioneer Global Marketing - MREADS

THE BAY REGION ECONOMICS

WORLD POPULATION*

- 1950 2.5 Billion
- 2007 6.7 Billion
- 2050 9.2 Billion

Source: Untied Nations

THE BAY REGION ECONOMICS

We Have to Grow More

THE BAY REGION TOMORROW

By **2030 Monsanto** plans to double yields through plant breeding and technology, reduce natural resources required for growing crops by 1/3, and improve the life of farmers. The focus is on corn, soybeans and cotton.

THE BAY REGION TOMORROW

- **MORE!**
  - Storage
    - Grain
    - Fertilizer
  - Facilities
    - Port
    - Processing
    - Handling

THE BAY REGION

TOMORROW, WHAT'S GOING TO HAPPEN?

1. Ethanol production from corn will not go away.
2. Cellulosic ethanol is still a long way away.
3. Biodiesel is a quandary.
4. World population will continue to grow.
5. Shift from starch to protein diets will continue.
6. Competition for crops will continue to be intense-especially for specialty crops.
7. We are in a new realm of food prices.
8. We are in a new realm of energy prices.
9. We need more processing.
10. Transportation, warehousing and handling ag inputs and outputs will be challenged.

THANK YOU…

QUESTIONS OR COMMENTS

www.miagbiz.org
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