SUSTAINABILITY & STEWARDSHIP IN THE POTATO INDUSTRY

Last Food Mile Conference

December 8, 2014
FOOD WASTE REDUCTION AT SMI

• Introduce Sterman Masser, Inc.
• Present waste reduction practices
  ▪ Precision agriculture and Practices
  ▪ State-of-the-art facilities to handle potatoes
  ▪ Processing facilities for the off grade
  ▪ Maximizing environmental stewardship
• No potato left behind
OUR HISTORY

• 8 Generations of potato growing knowledge
• Incorporated in 1970
• Business in 1970
  ▪ Farming 100 Acres
  ▪ Shipping 7 million lbs of potatoes
• Historically doubled sales every 5 years
SMI Today

- Operating 3 facilities
- Over 300 Employees
- Shipping over 300 million lbs of potatoes annually
- 3.2 million 4 oz servings per day
- Logistics company with 18 tractors and trailers
- Farming of 4600 acres
Reduced Miles to Market

• Centralized to 30% of U.S. Potato Consumption
Reduced food waste begins with:

Precision Farming
CONSERVATION IN PRACTICE

- Crop rotation and contour stripping for erosion control
- Low-pressure irrigation
- Integrated pest management
- GPS precision nutrient management
- 100% G.A.P. certified
GROWTH OF POPULATION VS. FARMLAND

- **World Population**
  - 1800: 1 billion
  - 1930: 2 billion
  - 1965: 3 billion
  - 1980: 4 billion
  - 1990: 5 billion
  - 1993: 5.4 billion
  - 2000: 6.2 billion
  - 2050: 9 billion (est.)

- **Food Production**

- **Land Area Worldwide used by Agriculture from 1950 to 1994**
  - Approx 5.8 million sq. miles

*Pat Tegges, PNAA Education Foundation
Rise 12th Annual Meeting*
Making the Most of our Land

- GPS systems for efficient field use
- Disease-resistant potato varieties
- Trading land to maximize potato ground
- Selecting well drained strips for potato production
INVESTING IN NEW TECHNOLOGY TO REDUCE DAMAGE/WASTE

- Advanced tillage implements
- Self propelled 4 row air sep harvester
- Rock crushing vs. rock removing
ENVIRONMENTALLY CONTROLLED FACILITIES FOR WASTE REDUCTION
STORAGE FACILITIES

• Extended storage life and waste reduction
  ▪ Temperature
  ▪ Humidity
  ▪ Light
  ▪ Air flow
  ▪ Sprout inhibitor
State-of-the-Art
Fresh Pack Facilities
FRESH PACKING FACILITIES

- Bruise reduction
- Electronic and visual quality inspection
TODAY’S FRESH CONSUMER

- Visually appealing
- Fresh
- Value added
- Taste
- Varieties specific for the method of preparation
TODAY’S FRESH CONSUMER

• Quality standards are very high
• Small blemishes are removed for near perfect quality
• Every year presents a different challenge and can create more/less off-grade
PROCESSING

OFF-GRADE PRODUCT
KEYSTONE POTATO PRODUCTS

• Dehydrated Potato Flake
  ▪ Processing since 2005

• Fresh-cut Potatoes
  ▪ Processing since 2007
Keystone Potato Products

• Utilizes entire crop, extends shelf life, maintains nutrients
• Uses off-grade raw product
• Produces top-grade potato products
  ▪ Potato Flake
  ▪ Potato Flour
  ▪ Cooked diced potatoes
KEYSTONE POTATO PRODUCTS

- Third dehy drum installed 2008
- Produces pet grade dehy from residual potato mash
- Over 10 million pounds finished dehy from 60 million pounds of mash since 2008
PEELINGS

- All peelings to cattle and pig feed uses
- 10 million pounds per year
Maximizing Environmental Stewardship
Solar Farm

- 8-acre array
- Produces over 1,100 MW annually
- Supplements 40% of facility energy requirements
Fuel Efficient Fleet

- Wind drag reduction
- Auxiliary power units
- Increase efficiency by 1 mile/gal
ALTERNATIVE FUEL

- Adjacent landfill produces methane gas
- Used to fuel steam needed in dehydration process
WATER TREATMENT AND RETURN

• On site wastewater treatment plant
• Cleans acid mine water
  ▪ Produces potable water
  ▪ Used in potato processing
• Retreats used water
  ▪ returns water to local watershed (meets new environmental standards)
• 25 million gallons/year
RESIDUAL DIRT RECYCLE

- Dirt from wash watered filtered
- Collected and pressed
- Returned to farm land
- Over 100 tons/year
WASTE MANAGEMENT PROGRAM

- Comprehensive recycling
  - Metal wickets
  - Poly bags
  - Cardboard
- Convert broken pallets to mulch
No Potato Left Behind
SCENARIO OF 2011

- 15” of rain on 300 acres
- Created poor quality and volatility
- Harvested and processed acreage for Dehy creating value
Utilizing Every Potato

• Maximize product for human consumption
  ▪ 84% Fresh Pack
  ▪ 10% Processed

• Pet grade flake

• Peelings and other waste used for livestock feed
THANK YOU