

Andersen Brothers – *Blanchard, MI*  
L. Walther & Sons, Inc. – *Clio, MI*  
Sackett Potatoes – *Mecosta, MI*



*Case Study*

*Agricultural pollution prevention is defined as source reduction, reuse, or environmentally sound recycling and other prevention activities, including nonpoint source approaches.*

**ONE POTATO, TWO POTATO, THREE POTATO**

The Michigan Potato Industry Commission has nominated a grower to receive the Environmental Stewardship Award from the National Potato Council every year since 1996, and a Michigan potato producer has won each year. The state of Michigan is a national leader in the production of potatoes. In 2000, Michigan farmers are expected to harvest 48,000 acres of potatoes with a production value of nearly \$105 million and a retail value of \$840 million. Michigan potato production is dominated by “large-growers” – the eight largest growers accounted for 41 percent of production in 1997.



**Environmental Stewardship Award**

Based on efforts in:

- Pesticide risk reduction.
- Integrated pest management (IPM).
- Biological control/transgenic methods (techniques used to express genes for improved yields).
- Water, soil, and habitat conservation.
- Other risk reduction strategies.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL ASSISTANCE DIVISION  
PO BOX 30457  
LANSING MI 48909-7957  
www.deq.state.mi.us



Environmental Assistance Center  
1-800-662-9278

October 2000 • #9834



AUTHORITY: PA 451 OF 1994 TOTAL COPIES: 3900  
TOTAL COST: \$382.27 COST PER COPY: \$.10  
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY



**1996**

Duane and Mark Andersen, award recipients in 1996, were recognized for their diligent work to reduce the impact of their operation on the environment, while remaining profitable on nearly 1,300 acres of potatoes in the rich soils of Montcalm and Isabella Counties. They work in cooperation with Michigan State University researchers and extension agents on integrated pest management (IPM) and water quality experiments.

The Andersen Brothers were among the first to implement a number of chemical handling and pesticide reduction strategies in this part of the country. They seldom stock chemicals on site and use a closed induction system for their sprayers, eliminating back-flow of chemicals into the water sources. To eliminate any chance of pesticide residue accumulation, the Andersen's never load their chemicals in the same place twice. Their employees are trained and licensed in chemical handling and are provided with shower and locker room facilities on the farm. All pesticide containers are purchased as mini-bulk and recycled back through their local agribusiness dealer with the Michigan Container Recycling Program.



### **Andersen Brothers Conservation Highlights**

- Participated in various water quality projects, including a four-acre groundwater monitoring study sponsored by Bayer Corporation.
- Utilized mixing and wellhead protection devices to eliminate groundwater contamination from chemical mixing and loading.
- Converted nearly all old irrigation systems to new, low pressure systems for water and energy conservation.
- Planted cover crops just after their potato harvest to reduce soil erosion and provide nutrients for the soil.
- Installed several sod waterways, which reduce erosion and run-off into surface water.
- Did not drain wetlands.
- Used professional IPM consultants, since 1984, to scout every field.

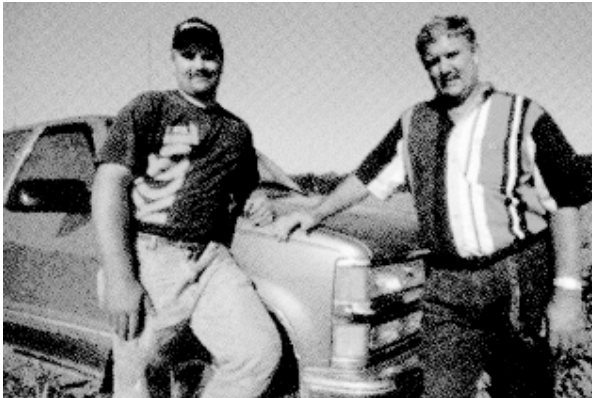
*Duane and Mark Andersen in potato field*

**1997**

In 1997, **Bob Walther** was recognized as an environmental stewardship technology leader for his work on L. Walther and Sons, Inc., a family potato farm. To reduce chemical application, the Walthers use a state-of-the-art pesticide reduction program, utilizing a Global Positioning System (GPS) to identify areas in their

fields where pest populations are highest. They spray only when and where thresholds are reached. Each of their fields is sectioned into 2.1-acre grids, and Bob says, “We are making every field a little garden.” In addition to pesticide reduction, the Walthers use a J.I.T. (Just In Time) inventory system for chemical use on their farms, meaning the product is not delivered until right before it is needed, and all extra product is returned rather than stored – on-site, reusable, mini-bulk containers are used and recycled.

Walther Farms contracts their potatoes to Frito-Lay to be processed into potato chips. In addition to the 5,300 acres of potatoes in Michigan, they also have several thousand acres in Illinois, Indiana, Georgia, and Mexico. They have expanded at the request of Frito-Lay because of their technologically advanced production methods and dedication to environmental stewardship.



*The Walthers*

### **L. Walther & Sons, Inc., Conservation Highlights**

- Soil grid samples are used for much of their land, which helps in applying correct amounts of fertilizer.
- Dam-and-dike system traps water near the crop by making small bowl-shaped holes every few inches in the empty area between rows of crops, thus reducing runoff and the amount of water that is needed for irrigation.
- High-pressure pivot system converted to a low-pressure system, using less water and energy due to lower evaporation loss.
- Used only chisel plowing techniques, keeping most of the crop residue on the top of the soil and reducing erosion.
- Planted rye cover crop, reducing erosion, adding nutrients to the soil, and serving as fall and winter habitat for wildlife.

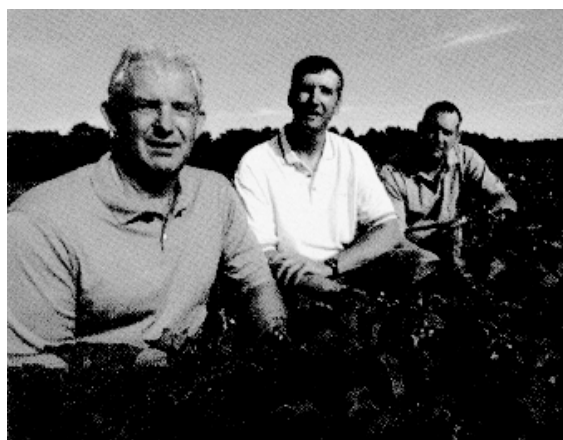
**1998**

In 1998, Alan Sackett and sons Jeff and Brian of Mecosta County were recognized for their environmental efforts on nearly 4,000 acres, including 1,700 acres of potatoes. Their pesticide risk reduction strategy is three-fold.

The Sacketts use minimum application rates, use professional IPM consultants, and store the minimum amount of pesticide in an approved and secure facility. Their pesticide is bought in bulk and handled by trained custom applicators. In addition to using minimum pesticide application rates, the Sacketts select pesticides less harmful to the natural predators of potato pests.

In conjunction with the fire department, the Sacketts implemented an on-farm emergency plan so that if there is a fire or other emergency on the farm, the fire department knows where, if any, chemicals are located and can act accordingly. The emergency plan also entailed an evaluation of what could happen if there was an emergency and what areas would be affected by possible chemical pollution. Also, dry lock valves were purchased to eliminate spillage while connecting and disconnecting to fill nurse equipment. To reduce water and energy use, the Sacketts have reduced their irrigation system pressure. To reduce soil erosion and preserve habitats, the Sacketts plant rye cover crops and use minimal tillage.

The Sacketts' rotate their crops every year to include potatoes, corn, and peas. Rotating the crops in this sequence provides nutrient balance, prevents pest build up, and avoids the establishment of resistant pest strains.



*The Sacketts*

### **Sackett & Sons Conservation Highlights**

- Participated twice in the Farm-A-Syst program, an on-farm risk assessment evaluation geared toward environmental stewardship.
- Reorganized fuel storage area, from large tanks to smaller ones with secondary containment to catch potential leaks.
- Dry lock valves purchased to eliminate potential spillage while connecting and disconnecting while filling nurse tank equipment.
- Reduced irrigation system pressure.
- Plant rye cover crops and use minimal tillage.

This publication was developed in partnership with the Michigan Potato Industry Commission and the Michigan Department of Environmental Quality (MDEQ) to promote the Pollution Prevention Strategy and Implementation Plan for Michigan Agriculture.



For further information on these farms, contact the Michigan Potato Industry Commission at 517-669-8377 or email at [mipotato@aol.com](mailto:mipotato@aol.com).

For further information on the Pollution Prevention Strategy and Implementation Plan, contact the Environmental Assistance Division at 800-662-9278.

The Michigan Department of Environmental Quality (MDEQ) will not discriminate against any individual or group on the basis of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. Questions or concerns should be directed to the MDEQ Office of Personnel Services, PO Box 30473, Lansing, MI 48909.