

# What is *Sustainable Agriculture?*

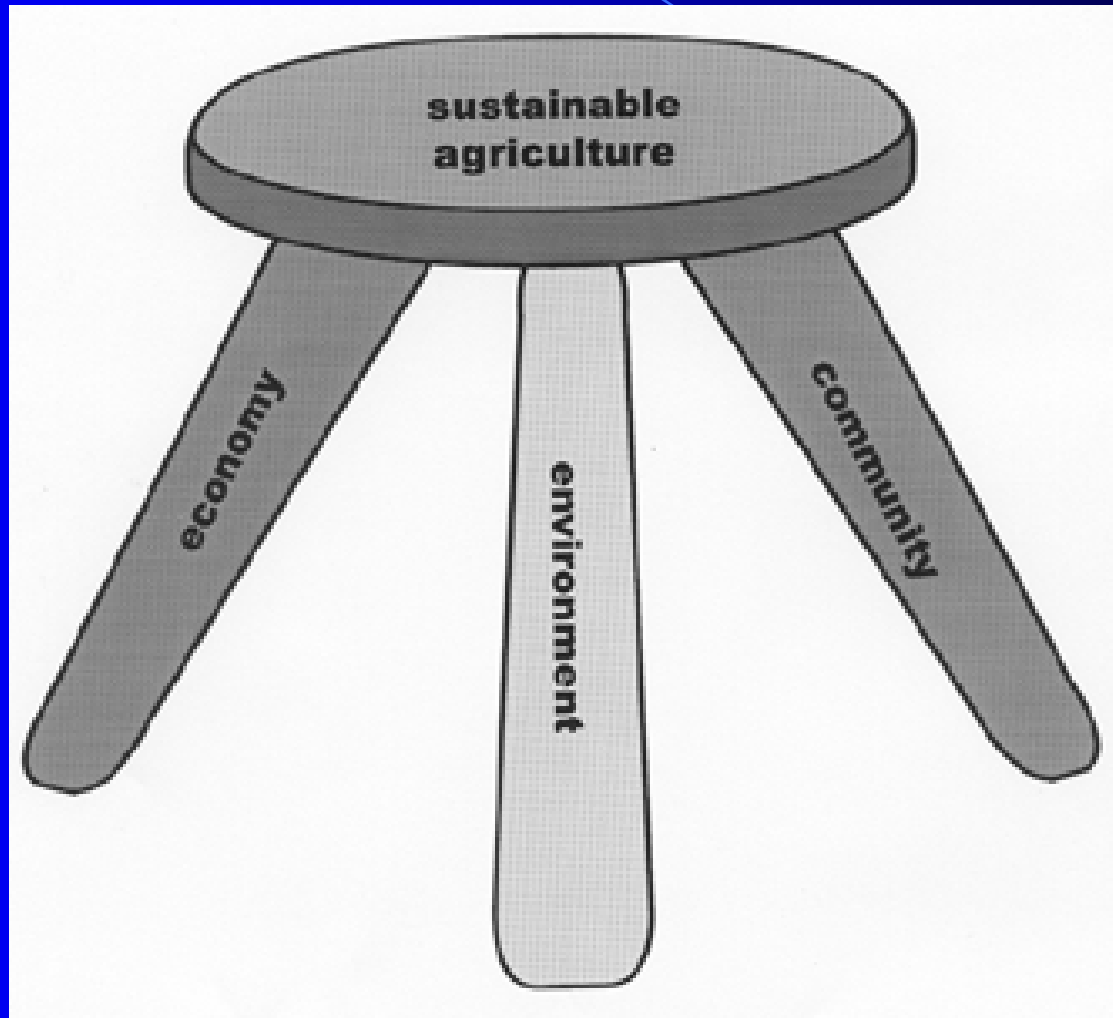
# Sustainable Agriculture

an integrated system of plant and animal production practices...that will

- satisfy human food and fiber needs
- enhance environmental quality
- make the most efficient use of nonrenewable resources
- sustain economic viability
- enhance quality of life.

**1990 Farm Bill**

## A three-legged stool that balances



# Economically sustainable

- Provides a secure living for farm families
- Provides a secure living to other workers in the food system
- Provides access to good food for all

# Environmentally Sound

- Preserves or improves the quality of soil, water, and air
- Cooperates with and is modeled on natural systems
- Minimizes reliance on non-renewable resources

# Socially sustainable

- Good for families
- Supports communities
- Fair to all involved



# **Sustainable agriculture**

must meet the needs of the present  
without compromising the quality  
of life for future generations.

Adapted from definition of sustainable development in 1987  
Brundtland Report “Our Common Future.”

**All these definitions are  
goal-based**

**Goal:**

A desired end

**Practices:**

Actions to achieve a goal



# How do you get to goals?

- Figure out where you are
- Analyze your strengths and weaknesses
- Select strategies (practices)
- Keep monitoring your progress
- Re-evaluate your goals and plans

# Where are we?

What are the

**Strengths**

and

**Weaknesses**

of our current agricultural system?

# Successes

- abundant food supply in the developed world
- fresh fruits and vegetables available year-round
- cheap food
- luxury foods such as coffee, tea, chocolate, and spices easily available around the world
- effective food preservation technologies (refrigeration, freezing, canning, packaging)
- convenience foods
- mechanization produces high labor efficiency
- improvements in soil conservation
- availability of agricultural inputs for quick solutions to production problems

# Problems

- continuing soil loss
- food safety concerns (food-borne illnesses, antibiotic resistance, pesticide residues, mad cow disease)
- water pollution, air pollution (& odors), habitat loss, water depletion
- continuing hunger – and rise of obesity
- failing farms, economic uncertainty and stress
- declining communities
- farm accidents, chronic diseases linked to agricultural chemicals
- reliance on fossil fuels, global climate change
- farmland loss to development, ugly countryside
- difficulty of starting in farming

What **practices** can we  
use to move to a more  
sustainable agriculture?

A few examples from  
Wisconsin, but first...

# Principles to keep in mind

- Consider the whole system
- Work with ecosystem processes instead of trying to overpower them
- Accept variability
- Respect farmer and citizen knowledge
- Remain critical and open to change

# Grazing





Wisconsin cows usually stay indoors and eat corn, alfalfa, hay, and other grains





# All their feed must be



- Raised
- Harvested
- Transported
- Stored

# And the manure must be

- Cleaned out of the barn
- Stored
- Transported
- Disposed of



# 23% of WI dairy farms graze



Also beef farmers

Scott Trautman

Grass-finished  
beef

Dane County

# Benefits of Grazing

- Grass covers soil year-round – less erosion
- Manure goes to replenish soil nutrients
- Less need to harvest, dry, transport, and store feed – lower energy costs
- Quality of life for farmer & animals
- Profitable
- Nutritional benefits



How does grazing fit with the 3 legs of sustainability?

How does it conform to the principles of sustainable agriculture?



# IPM

## integrated pest management



# Integrated Pest Management

Manage pests with cultural and biological as well as chemical tools

- Crop rotation to stop build-up of pests
- Use of natural pest enemies
- Monitor pest populations & only use pesticides when economically beneficial
- Knowledge-intensive



# Main WI IPM projects



Apples and  
potatoes



# IPM Benefits:

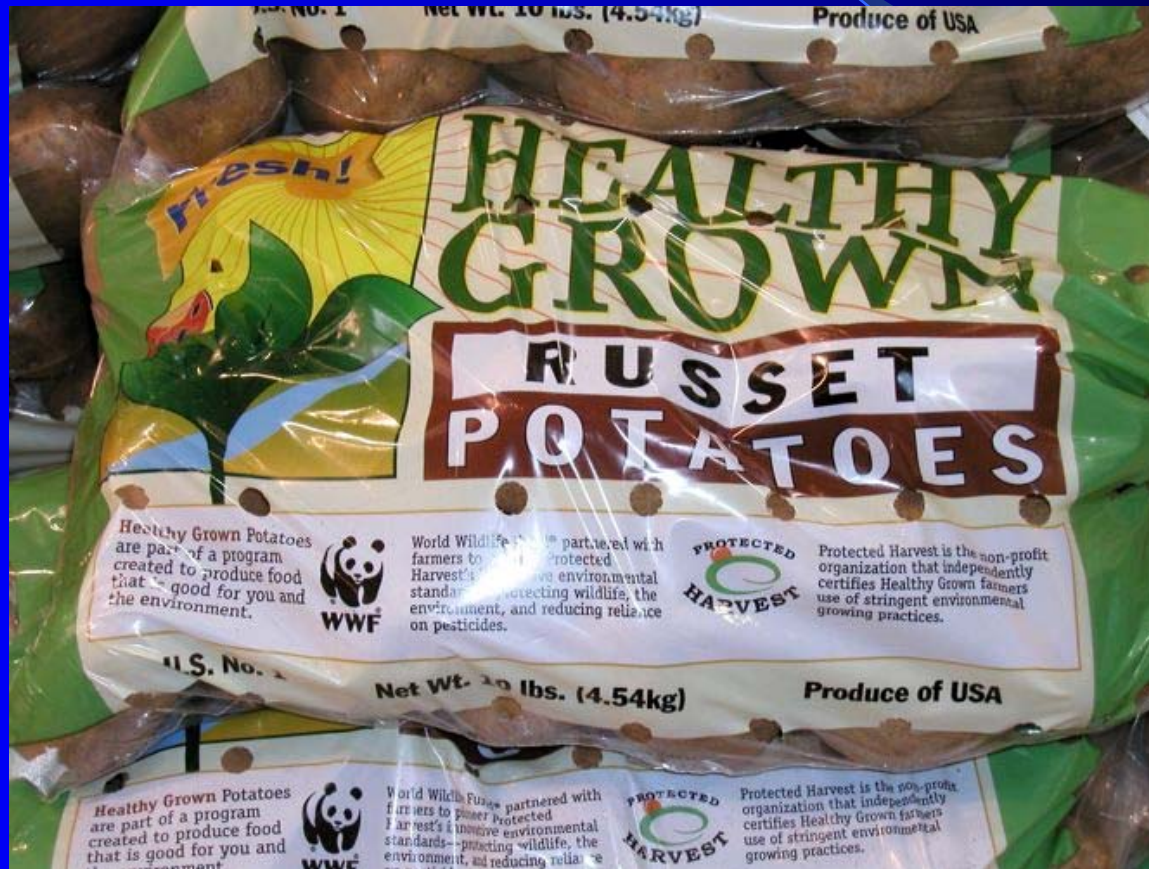
## Less pollution from pesticides



# Reduced health risks for farmers and consumers



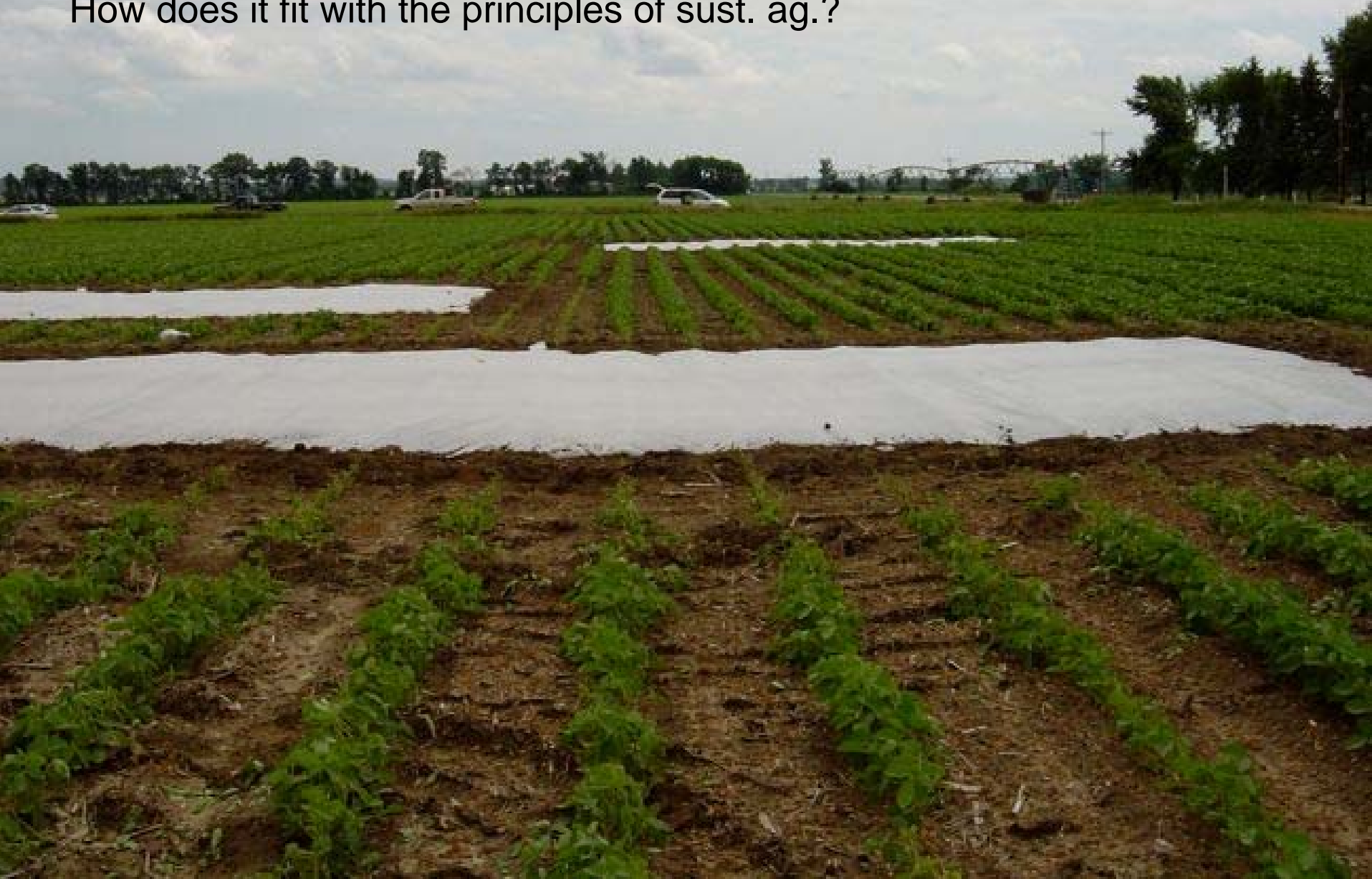
# Farmers can save money and sometimes get a better price





How does IPM fit the 3 legs of sust. ag.?

How does it fit with the principles of sust. ag.?



# Organic Agriculture



# A growing market:



20% growth

659 WI organic  
farms in 2005; ca.  
900 in 2007

92,000 acres (2005)

Richard DeWilde

Organic vegetable farm  
Vernon County

# Organic Farming

- No synthetic fertilizers
- No synthetic pesticides
- No hormones or antibiotics for animals
- Crop rotation required
- Must be inspected by 3<sup>rd</sup> party
- Must help biodiversity
- Regulated by US Dept. of Agriculture
- & many more requirements



# Benefits

- Lower health risks for farmers and farmworkers
- Lower health risks for consumers
- Better for environment
- Kinder to animals
- Higher income for farmers



WI has 33% of US organic dairy cows



How does organic fit the 3 legs of sustainability?  
How does it fit with the principles of sust. ag.?



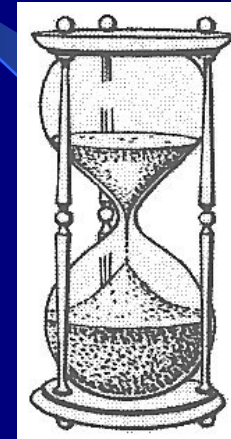
# Marketing & local foods



# Key to economic sustainability

Commodity model:  
Farmers and consumers  
have little power

Sustainable marketing  
goals:  
More income for farmers  
More access to sustainable  
food for consumers





# CSA — community supported agriculture



Dave Perkins, CSA  
Dane County

> 40 Wisconsin CSAs serving Madison, Milwaukee, Minneapolis

# Other sustainable markets

- Farmers' markets
- On-farm sales (web and atlases)
- Eco-labels
- Institutions, including schools
- Specialty stores





How does marketing fit the 3 legs of sustainable ag.?  
How does marketing fit the principles of sust. ag?



# Conclusion

- Agriculture has accomplished much
- There are still many problems to solve, both old and new
- Sustainable agriculture is about trying to solve these problems – without creating new ones.

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# Sustainable Agriculture Research and Education

A USDA program



# SARE

Provides grants for

- Research & Education
- Professional Development
- Farmer-Rancher Research and Education
- Graduate Student Research

# SARE

Disseminates information through its

- website [www.sare.org](http://www.sare.org)
- bulletins
- books
- list serve