

Prospects for using supply chain standards and certification to reduce water pollution by commodity crops in the Great Lakes Basin

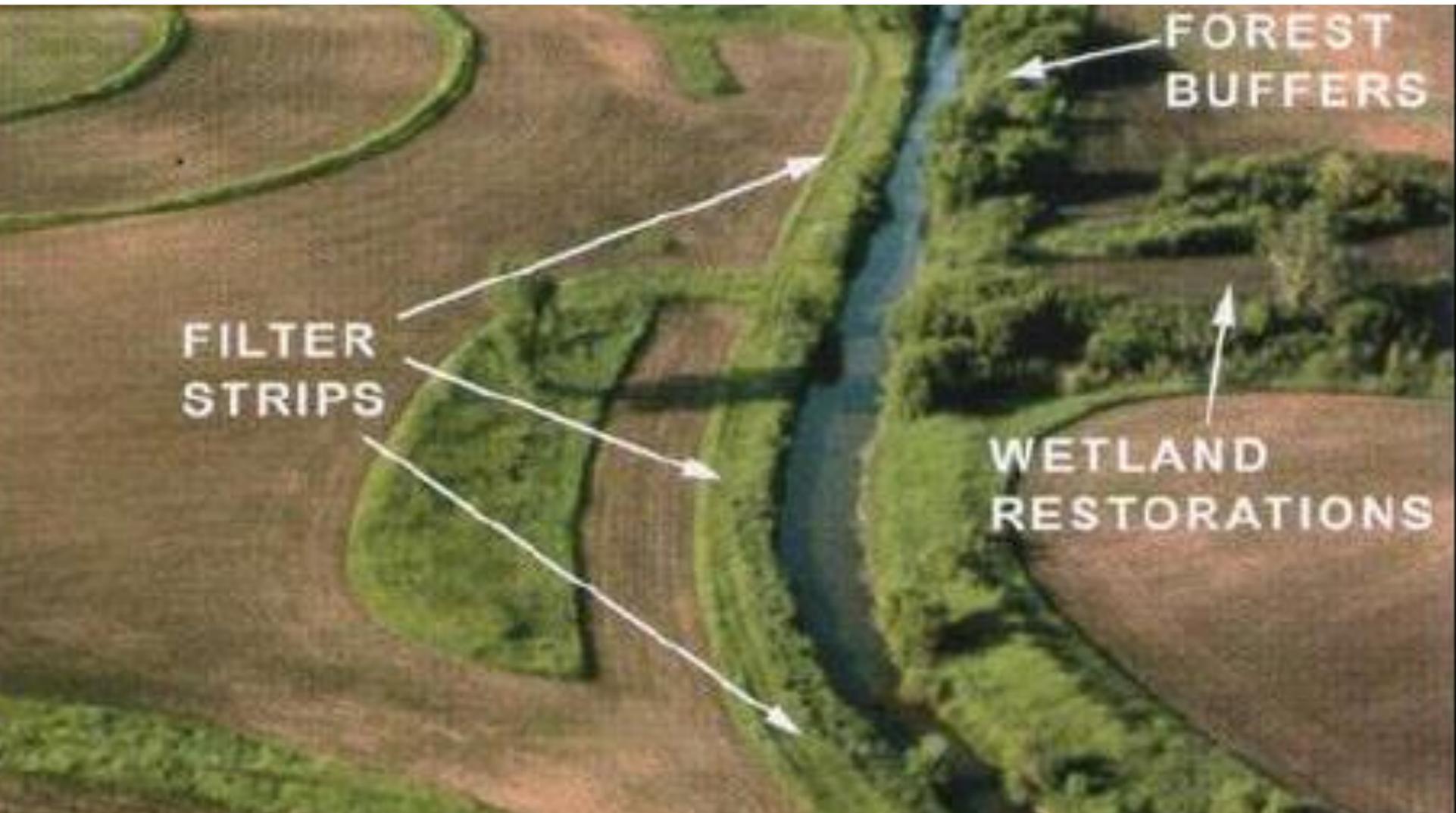
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Michigan State University

Prepared for GLWESS project workshop
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Declining Great Lakes water quality from agricultural nonpoint source pollution



How to promote adoption of conservation practices to reduce the problem?



Can we learn from the growing number of standards and certification programs?



Field to Market



WORKING
LANDSCAPES
CERTIFICATE



Roundtable on Responsible Soy



This Farm is
Environmentally
Verified

Michigan
Agriculture
Environmental
Assurance
Program



www.maeap.org



**Supply chain standards
(business-to-business)**

VS.

**Certification & labeling
(business-to-consumers)**

Supply chain standards (business to business):

- Mandatory for suppliers
- Profit-driven, mainly for food safety
- They raise producer costs and limit market access to those who can comply
- They succeed when large buyers can enforce them or when they become the industry standard.

Certification & labeling (business to consumer):

- Operates outside the supply chain
- Rewards favorable practices with the aim that consumers will pay extra
- Labels act as signals to consumers
- Tends to cover small parts of the market

Sources of demand

(standards & certification for what?)

- Consumer well-being (food safety)
- Animal welfare
- Producer well-being (fair trade and worker protection)
- Environmental protection

Sources of demand: Inside and outside of supply chain

- Inside (business to business)
 - Mostly food safety
 - Labor standards (e.g. Nike)
 - Animal welfare (McDonald's)
- Outside (Certification for consumers)
 - Mostly environmental conservation and fair trade
 - Public pressure to encourage better business standards like Nike and McDonald's

Business-to-business standards tend to have more comprehensive coverage

- Food safety standards REQUIRED for ALL PRODUCERS that supply large retailers
- Animal welfare standards are REQUIRED for ALL PRODUCERS that supply McDonald's
- Business-to-consumer certification schemes cover tiny percentage of market

Why would corporations demand standards?

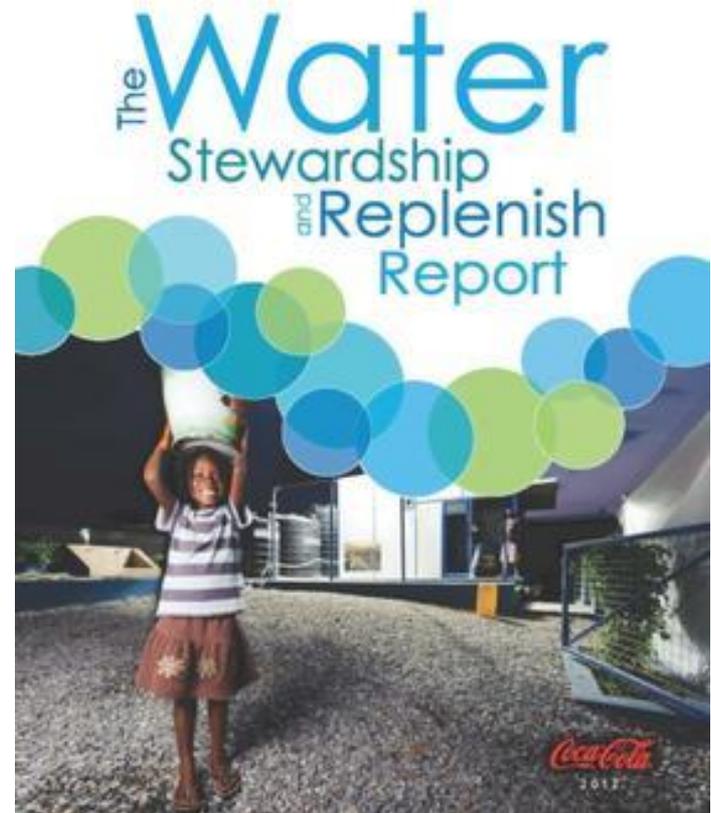
- Core values: they care about these things per se
- Also various sources of business risk

Business risk

- Input risk
- Reputation risk
- Regulatory risk

Business risk (1): Inputs

- If environmental degradation threatens supply of vital inputs



Business risk (2): Reputation

- Publicity about bad behavior or bad outcomes for consumers



Officials link Chi-Chi's hepatitis outbreak to green onions



Business risk (2): Reputation

- Pre-emptive steps to maintain a good reputation



Business risk (3): Regulation

- Government regulation could be worse than standards that industry might self-impose



Could business risk stimulate action to reduce pollution by corn & soy production?

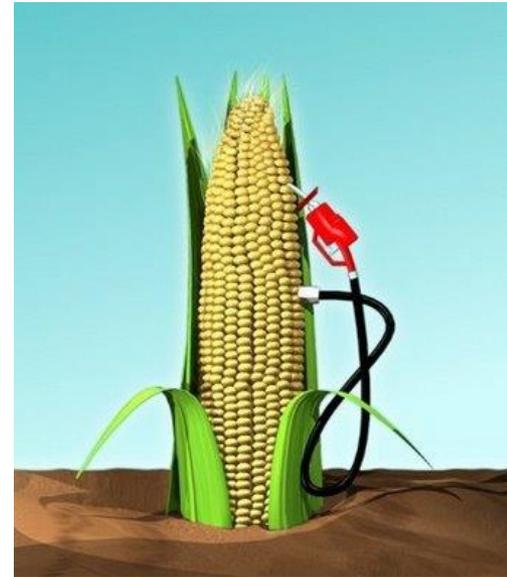
- Input risk
- Reputation risk
- Regulatory risk

Factors that affect feasibility of developing industry sustainability standards

- How the product is consumed
- How the product is produced
- Nature of the supply chain

How the product is consumed

Indirect consumption makes it invisible, hard to notice



Direct consumption makes the product visible

- Will this increase the likelihood that consumers impose pressure?

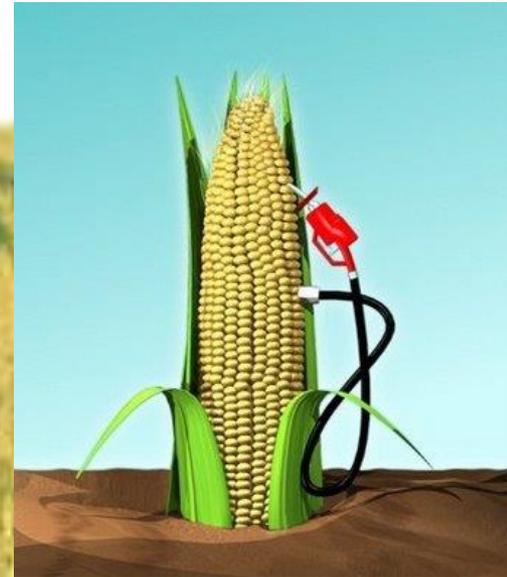


How the product is produced

Is geographic origin of production important to consumers?



Could geographic origin be important to consumers of corn & soy?



Cost of conservation practices

- Are conservation practices costly?
- Are they visible?
- Do all farms contribute equally to the problem?

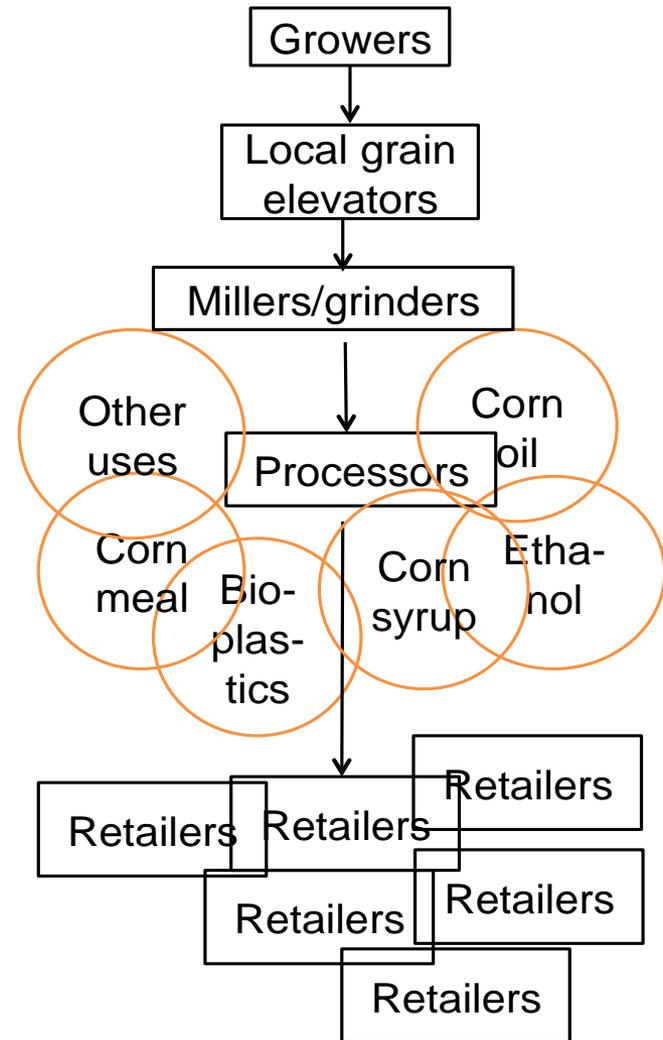
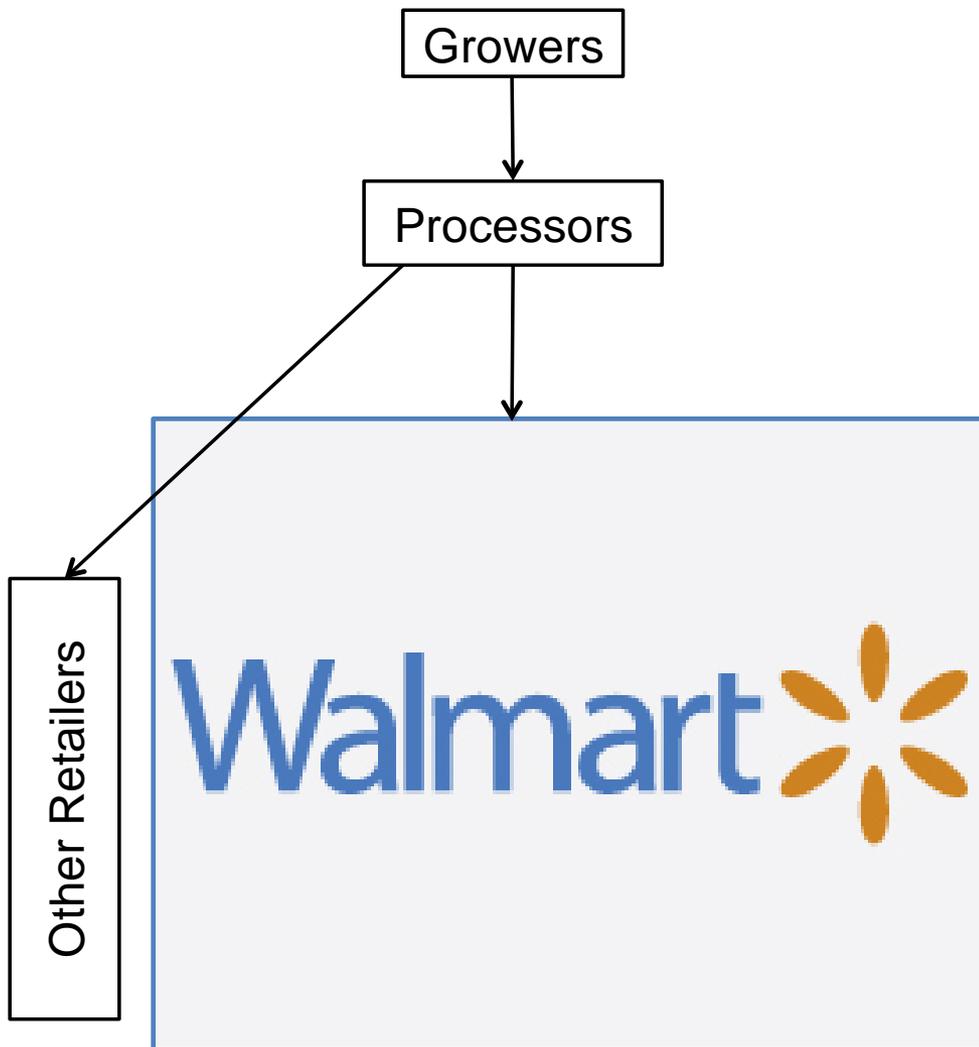
Environmental Quality Incentives Program



NRCS Photo



Nature of the supply chain: concentration of buyers



Nature of the supply chain: aggregation vs. segregation

- Aggregation is the norm for grains
 - Segregation raises costs. Is segregation necessary?



Some elements of a favorable approach

- Outcome-based
 - Often a small number of farms contribute most of the problem
 - Non-polluting farms needn't adopt costly practices
- Low transaction costs
 - Need ways to identify main pollution sources and also identify adopters of conservation practices
- Continuous improvement
- Representation and fairness
- Universal

Questions for the future

- What are the best options for encouraging industry to agree to production standards that limit pollution of Great Lakes waters?
- What are the most effective ways to generate interest by consumers in demanding such standards?
- What approaches can minimize costs?