

# IPM Institute Update to the National IPM Coordinating Committee

10/23/18

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President

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Whole Foods Market 2014 Supplier Award for Outstanding Quality Assurance

2012, 2009 US EPA Sustained Excellence in IPM Award

2009, 2008, 2005, 2004 National Champion, US EPA Pesticide Environmental Stewardship Program

2005 Children's Environmental Health Recognition Award, US EPA Office of Children's Health Protection



# How We Make a Difference

Harnessing Marketplace Power to Improve Health, Environment, and Economics



Sustainable Food Group



Organic & IPM Working Group



Tick IPM Working Group



Tenth International IPM Symposium March 2021



PARTNERSHIP for AG RESOURCE MANAGEMENT sustainability | profitability | science



~500 growers in the US and Canada, along with six processors and two major buyers working to:

- Continuously improve sustainability throughout the potato supply chain
- Measure and communicate sustainable practices and outcomes
- Minimize duplication of effort and costs
- **77% reduction in pesticide risks vs. no-IPM standard**

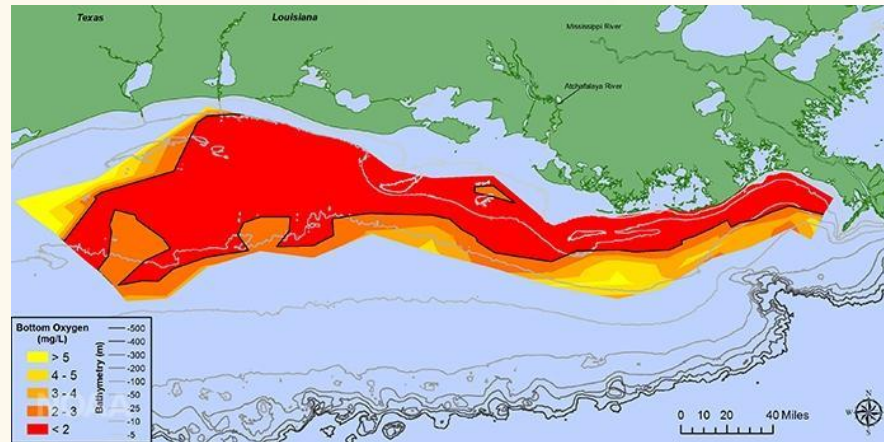
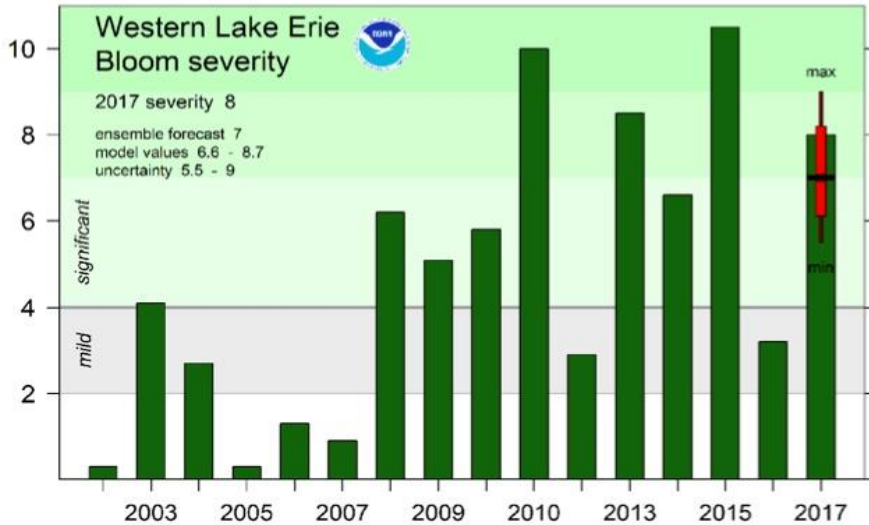


[www.potatosustainabilityinitiative.org](http://www.potatosustainabilityinitiative.org)

air and water quality \* energy and water conservation \* recycling and waste reduction \* soil health \* worker safety  
 Integrated Pest Management and pesticide risk reduction

- 1. Identify/prioritize hot spots**
- 2. Set goals**
- 3. Take action**
- 4. Measure progress**
- 5. Communicate!**

# Our Challenges



Graphs courtesy National Oceanic and Atmospheric Administration, US Dept. of Commerce. Lake Erie photos courtesy of John Crumrine. Map courtesy of US EPA.

Credit: National Oceanic and Atmospheric Administration, US Dept. of Commerce

# Opportunities!

Product/Service	Total P loss reduction (lbs/acre)	Dissolved Reactive P loss reduction (lbs/acre)
Cover crops	0.63	0.06
Soil tests/apply at Extension recs	0.53	0.11
Variable rate P applications	0.59	0.09
Custom banding	0.39	0.06
Apply in rooting zone (strip till)	0.68	0.10
Notify farmers after P applications to lightly incorporate (2-3")	1.04	0.23
Apply for following crop only	0.10	0.01
Avoid application prior to rain, comply with setbacks, notify farmer of issues, e.g., tile blowouts	??	??

# Promotion

## 4R Nutrient Stewardship for Green Crops and Blue Lakes

Do

- ▶ Inject or band phosphorus (P).
- ▶ Lightly incorporate (2-3") P applications; ag retailers can notify customer when applications are made.
- ▶ Follow recommendations for setbacks.
- ▶ Broadcast P for one crop year at a time only.
- ▶ Soil test at least every three years.
- ▶ Apply at University recommendations.
- ▶ Plant cover crops.
- ▶ Consider variable rate application.
- ▶ Consider reduced tillage: no till, strip till.



Don't

- ▶ Broadcast without light incorporation.
- ▶ Broadcast application before heavy rain.

*Ag retailers driving stewardship and sustainability*

**Phosphorus (P) loss from any field is possible. Fields with any of the following conditions may be at higher risk.**

**Your special attention can help prevent P losses.**

- ▶ Soil test levels are above maintenance.
- ▶ Areas with high surface runoff potential:
  - Poorly or imperfectly drained soils.
  - Sloping fields.
  - Fields with less than 30% crop residue cover on soil surface.



[nutrientstewardship.com](http://nutrientstewardship.com)



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**AG RESOURCE MANAGEMENT**  
*sustainability | profitability | science*

[partnershipfarm.org](http://partnershipfarm.org)



## PHOSPHORUS LOSS REDUCTION HANDBOOK FOR AGRONOMISTS

2nd Edition  
published by the IPM Institute of North America Inc.  
August 2015



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**SUSTAINABLE AGRONOMY  
CONFERENCE**

# Promotion

partnershipfarm.org/webinars/

ABOUT ▾

AG RETAILERS ▾

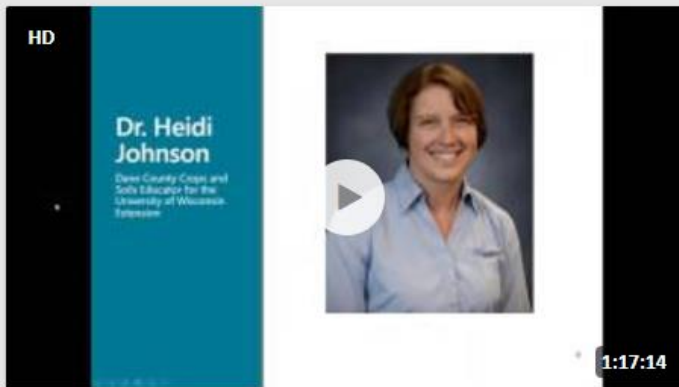
FARMERS

FARMLAND OWNERS

TSPS

## Webinars and Conference Videos

All of our past webinars can be found below or on our [YouTube channel](#). If you would like to hear about future webinars and possibly earn CEU please sign up for our mailing list.



### Cover Crop Seeding Options: What You Need to Know

This webinar was hosted by the Partnership for Ag Resource Management on Tuesday, July 25, 2017 at 10AM CST. When properly planted, cover crops have the potential to improve soil health, reduce nutrient losses, and

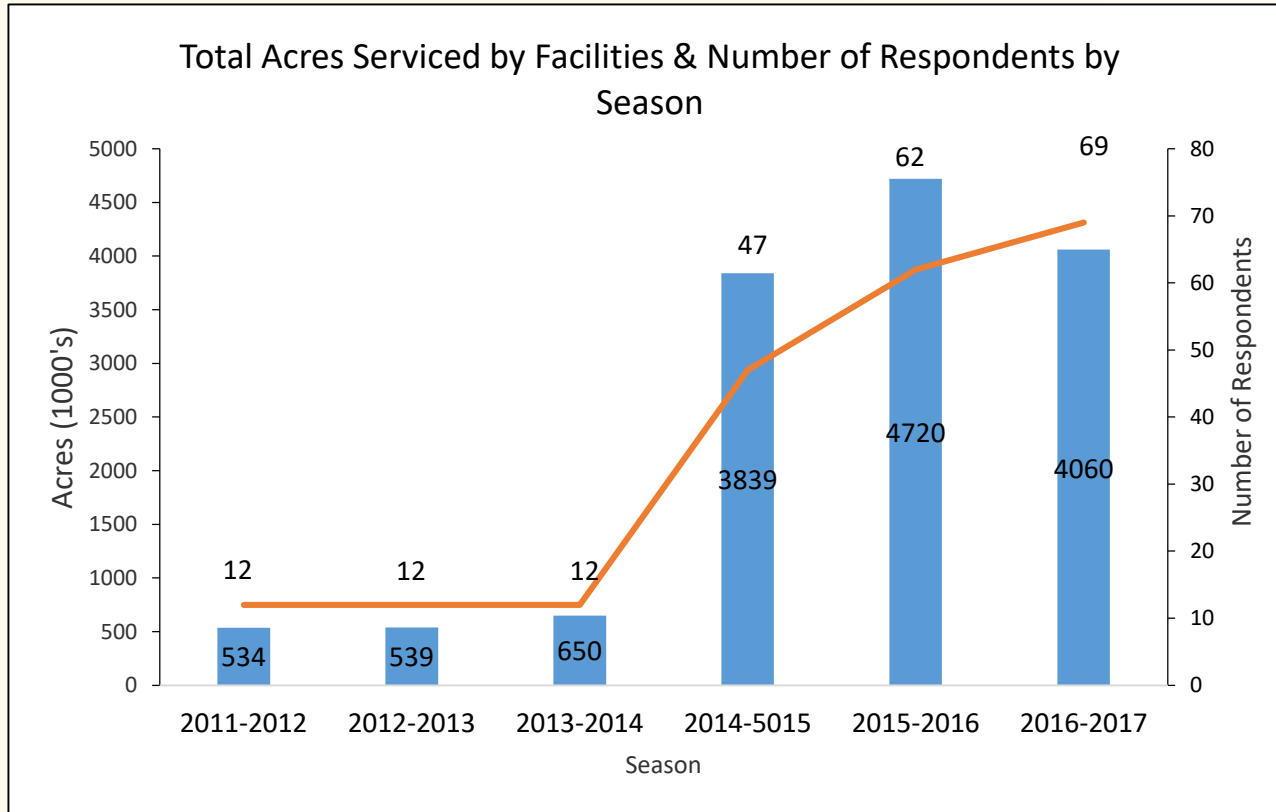


### Optimizing Cover Crop Seed Mixtures for Soil Health and Nutrient Retention

This webinar was hosted by the Partnership for Ag Resource Management on Tuesday, June 27, 2017 at 10 am CT. You will hear from Mitch Hunter,



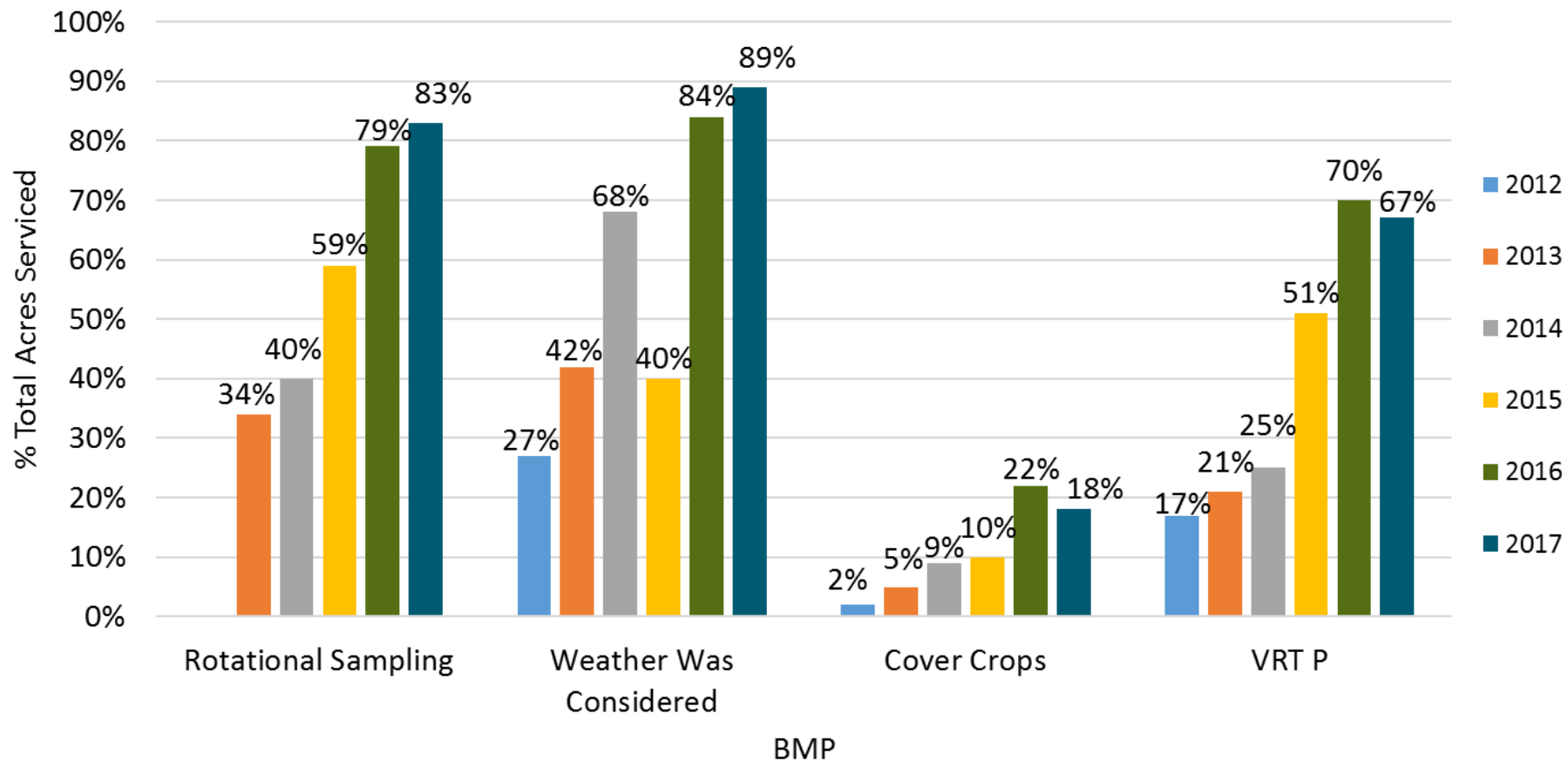
# Participating Ag Retailers



	Acres
Sum	4,150,322
Average	59,290
Maximum	200,000
Minimum	4000

# Sandusky River Watershed

## Major Product and Service Trends 2012-2017 in the Sandusky River Watershed



## Environmental

- Aquatic algae
- Aquatic invertebrates
- Fish reproductive
- Avian acute
- Avian reproductive
- Earthworm
- Small mammal

## Human Bystander

- Inhalation
- Acute dermal worker
- Cancer dermal worker

## Consumer Dietary

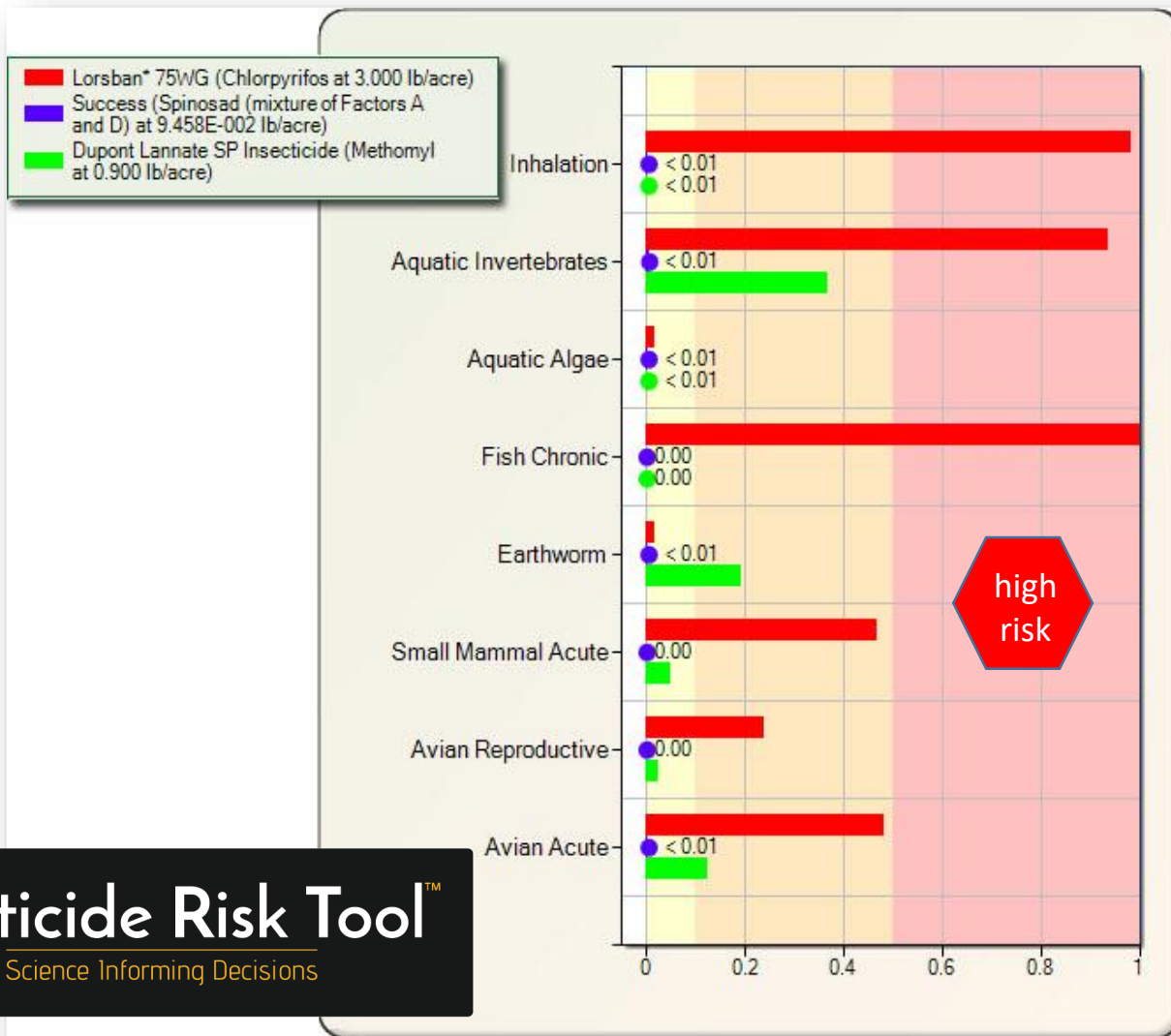
- Chronic dietary
- Cancer dietary

## Pollinator

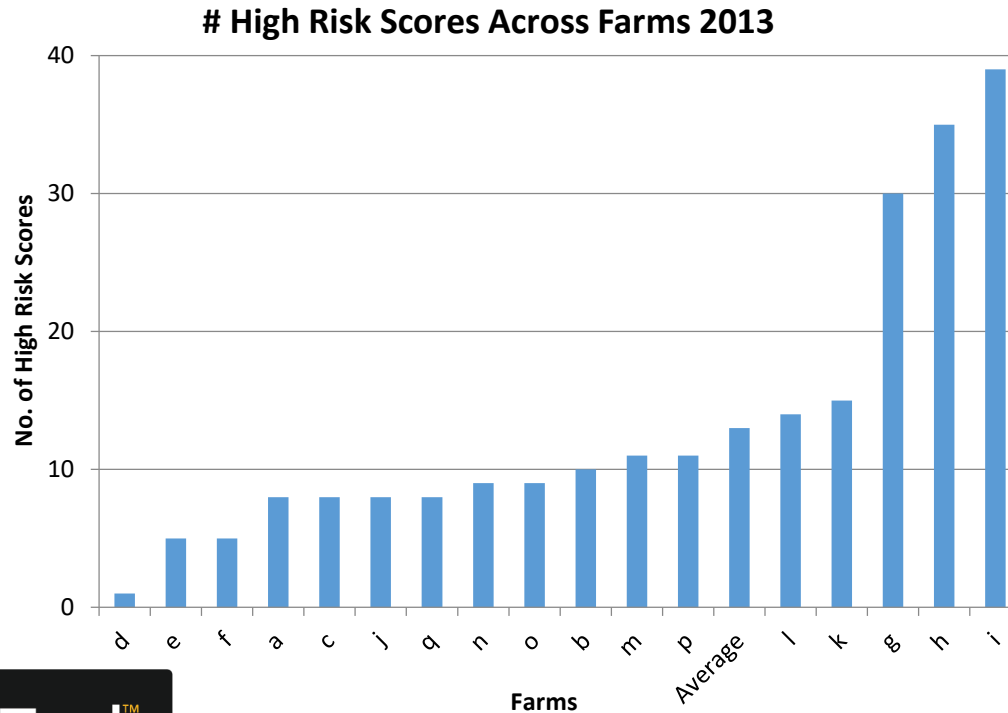
- Off crop
- In bloom
- No bloom

*Among acceptable options for cost, efficacy:*

- *Chlorpyrifos generates high risks for nearby workers or other bystanders, fish and birds.*
- *Spinosad generates the least risk.*



*Which growers have the greatest opportunity to reduce risk?*



**Pesticide Risk Tool™**  
 Science Informing Decisions

# Identifying low-risk alternatives

## Pesticide Risk Tool™

Science Informing Decisions

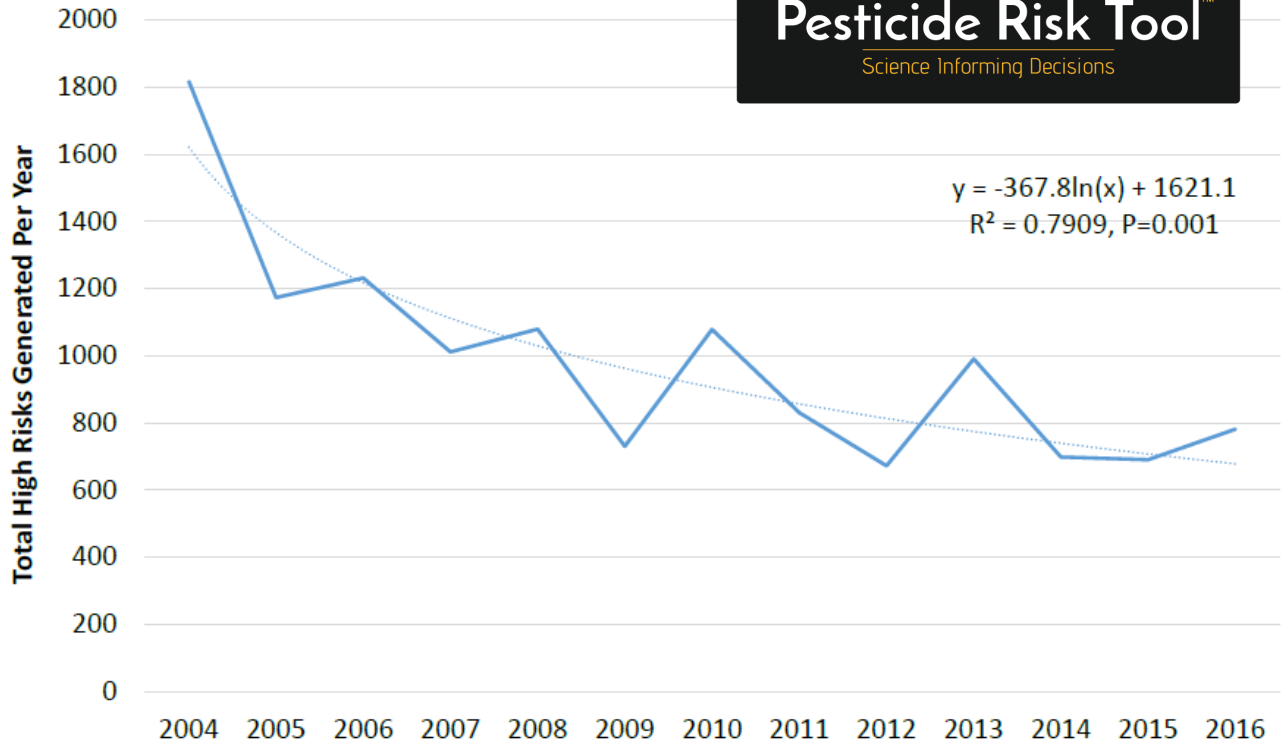
Active Ingredient	Product Name	Avian Acute	Avian Reproductive	Small Mammal Acute	Earthworm	Fish Chronic	Aquatic Algae	Aquatic Invertebrates	Pollinator In Bloom	Pollinator No Bloom	Pollinator Off Crop	Human Dietary	Inhalation	Dermal Cancer	Consumer Cancer
chlorantraniliprole	Altacor	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Moderate Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
acetamiprid	Assail 30SG	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk	Moderate Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
buprofezin	Centaur WDG	Low Risk	Moderate Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
spinetoram	Delegate WG	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
<i>Bacillus thuringiensis</i>	DiPel DF	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
pyriproxyfen	Esteem 35 WP	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
cyantraniliprole	Exirel	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
trifloxystrobin	Flint	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Moderate Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
fenbuconazole	Indar 2F	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
methoxyfenozide	Intrepid 2F	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
spirotetramat	Movento	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
boscalid	Pristine	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
pyraclostrobin		Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk	Moderate Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
phosphorous acid	ProPhyt	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
flupyradifurone	Sivanto 200 SL	ND	ND	ND	ND	ND	ND	ND	Low Risk	Low Risk	Low Risk	Low Risk	ND	Low Risk	Low Risk
kresoxim-methyl	Sovran	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk

Low Risk
Moderate Risk
High Risk

ND = No data;  
no assessment



# Reporting progress



[www.redtomato.org](http://www.redtomato.org)

**50% reduction in average high risks per application since 2004, including a 35% reduction since 2010.**

## Pesticide Risk Tool™

Science Informing Decisions





# What's new?

1. Goal: Implement PARM model in upper Mississippi River Watershed with support from McKnight Foundation, Clean Lakes Alliance.
2. Goal: With The Sustainability Consortium and others, make it easy for growers to produce outcome measures for multiple buyer-driven programs.
3. Goal: Establish Tick IPM academy with ESA.
4. Goal: With General Mills, train ~800 corn/soy/wheat/oat/sugar beet growers, consultants, grain buyers on IPM priorities developed with Extension.
5. Goal: For Field to Market, develop options for member food companies and others to communicate progress in IPM, pesticide risk reduction.
6. Rebranding Stop School Pests...



Field to Market®

# Creating healthy, safe spaces for students and staff using school IPM

Start Your Training

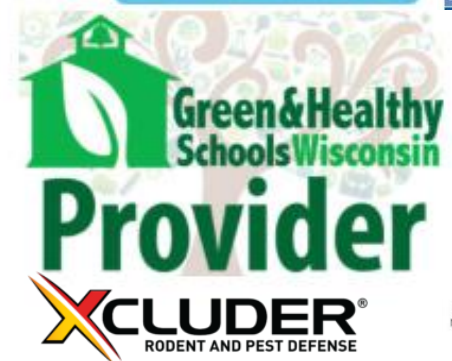
Learn More

School IPM, or **Integrated Pest Management**, is an approach for controlling pest problems without unnecessary pesticide use. If your school suffers from infestations of rats, cockroaches, lice or bedbugs, *Stop School Pests* can help. *Stop School Pests* is an online, school health training course for K-12 employees to improve school health. Users can choose from nine online courses, each created for different school staff groups.

Students spend an average of 30 hours each week in school. Therefore, an unhealthy learning environment with hazards from pests and pesticides has a profound effect on their health. For example, mice and cockroaches produce asthma-triggering allergens. In addition, over-reliance on pesticides exposes children and staff to dangerous chemicals. School IPM is a powerful tool for addressing these challenges. In fact, schools transitioning to IPM have reduced pest complaints and pesticide use by over 70%!

The American Academy of Pediatrics recommends school IPM as a proven approach for creating healthy, safe spaces for students and staff. Start your training now and learn how you can make a difference at your school.

Donate



United States Department of Agriculture  
National Institute of Food and Agriculture

This work is supported in part by the National Education Association (NEA); the US EPA under the School IPM Grants opportunity (#X8-83558901); the USDA National Institute of Food and Agriculture (NIFA) under the Crop Protection and Pest Management Extension Implementation Program (#2014-70006-2248); and the University of Arizona Pest Management Center (APMC). Any opinions or recommendations expressed in this material are those of the project partners and do not necessarily reflect the views of the NEA, EPA, USDA or the University of Arizona.

# Thanks! Let us know how we can help.



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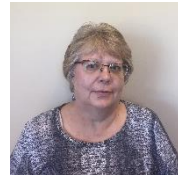
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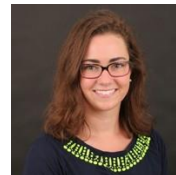
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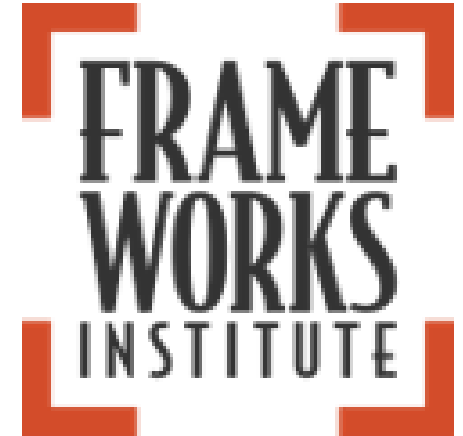
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# *Farming and Food Narrative Project*

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# Challenge

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- Practitioners don't recognize and establish common ground that can lead to coalition building, policy gains.
- Citizens cannot sort out competing claims to make intelligent choices
- No common vision of profitable American farms that produce healthy, safe, and affordable food for all and employ environmentally sound practices



## Overall aim is to:

- **Equip us** with messaging to communicate more effectively with non-experts.
- **Create more accurate public perceptions** about pest management and farming.
- **Have citizens and policymakers more aligned** with scientific consensus on what's needed for continuous improvement, less driven by fear and distrust.

# Products



## **Farming: Expert Perspective Analysis**

Conducted for the Food Narrative Project

**Background:** What is an expert perspective analysis, and what role does it play in reframing?



**DRAFT**

## **As Nature Intended**

Mapping the Gaps Between Expert and Public Understandings of Farming

To come in 2019:

“Sticky metaphors”, communication campaign with partners

- **Farms are human-created ecosystems; pests are inevitable and unpredictable.**
- **IPM is a scientifically informed decision-making process.**
  - Pests should be managed only when, and only to a level at which, economic viability is threatened.
  - Pesticides should be **selected and used** to minimize risks to environment, workers, and consumers, and allow farmers to earn a living.
- **Market and regulatory demands can be difficult to meet including quality, appearance and sustainability.**
  - Adopting practices that benefit the environment and society can be financially costly.

# Expert story take homes

[http://escop.info/wp-content/uploads/2017/10/NIPMCC\\_PPT11\\_20171017.pdf](http://escop.info/wp-content/uploads/2017/10/NIPMCC_PPT11_20171017.pdf)



## **Farming: Expert Perspective Analysis**

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Background: What is an expert perspective analysis, and what role does it play in reframing?



## Expert and Public OVERLAP

- Farming is an integral part of society.
- Farming practices significantly impact human survival and health.
- Farming is economically risky and challenging work.
- Weather and climactic conditions significantly impact farming and are uncontrollable.
- Good farming practices are financially costly to adopt.
- Organic and locally-grown produce should be supported.
- Scientific research can and should be used to develop and inform good farming and food practices.

*Draft Public  
Perspective  
take homes*



### **As Nature Intended**

Mapping the Gaps Between Expert and Public Understandings of Farming

## Expert and Public GAPS

- Farming = complex, expert process
  - Farming = hard, simple labor
- Farming impacts economics, environment; farmer, worker, consumer health.
  - Farming impacts mostly consumer health.
- Good farming = diversity of approaches/practices, innovation
  - Natural is best, turn back to the past.
- Soil health, management important
  - It's all about manure, fertilizer.
- Sustainability = economics, social, environmental
  - Sustainability and ag: confusing, unfamiliar
- Pesticides are necessary tools.
  - Pesticides are never acceptable.
- Solutions include investment in research.
  - Tougher regulations needed.

*Draft Public  
Perspective  
take homes*



### **As Nature Intended**

Mapping the Gaps Between Expert and Public Understandings of Farming

# ***Draft* recommendations**

1. Show examples of specific farming practices that complement and work with nature.
2. Emphasize the values behind sustainable agriculture rather than the term itself.
3. Explain how practices enhance the natural environment, link these benefits to human health.
4. Connect the health and well-being of farmers, farm workers and the public to farming practices.
5. Show work farmers do outside of planting seeds or harvesting and watering crops.
6. Explain how pesticides are used and *why* they are needed.
7. Highlight how investments in science can help ensure good farming practices.

## *Draft Public Perspective take homes*



### **As Nature Intended**

Mapping the Gaps Between Expert and Public Understandings of Farming

# What's the value?

- ... improved public discourse
- ... more accurate public thinking
- ... better policy

## *Funders to date*

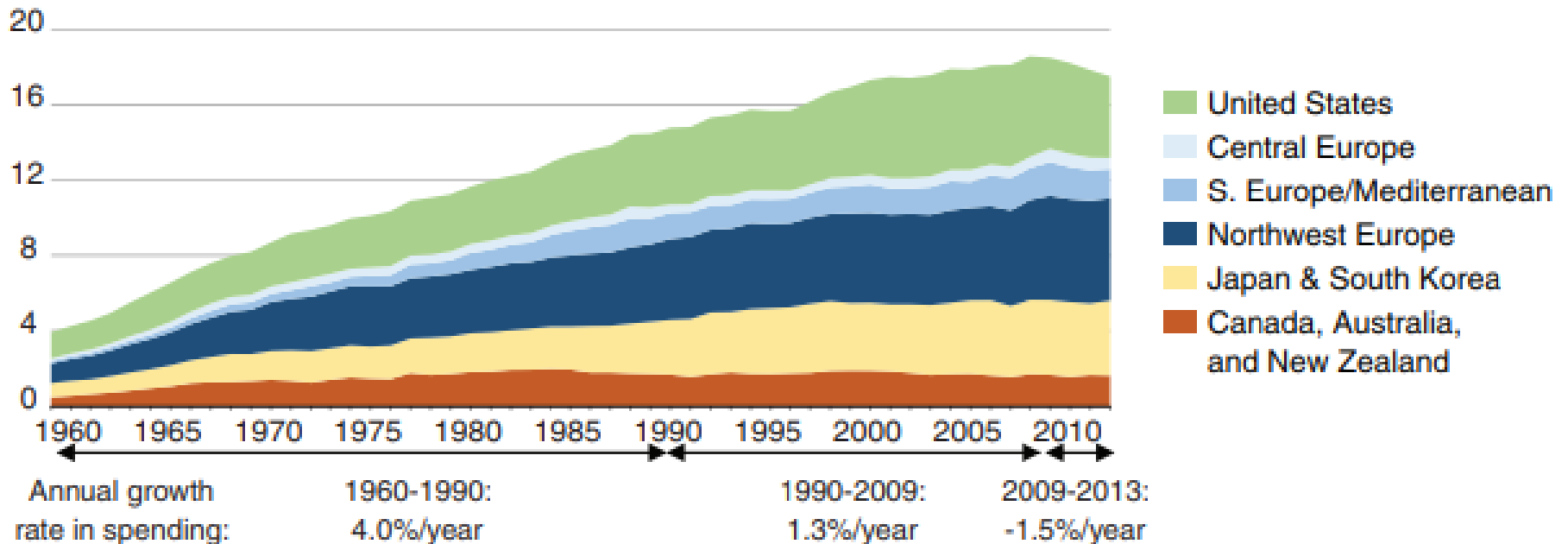


- Questions?
- Suggestions for additional funders?

# The elephant. Are we heading towards a world where the only research that gets done is that which generates private sector revenue?

After many years of increase, real public agricultural R&D investment in high-income countries has fallen since 2009

Constant 2011 international dollars, billion



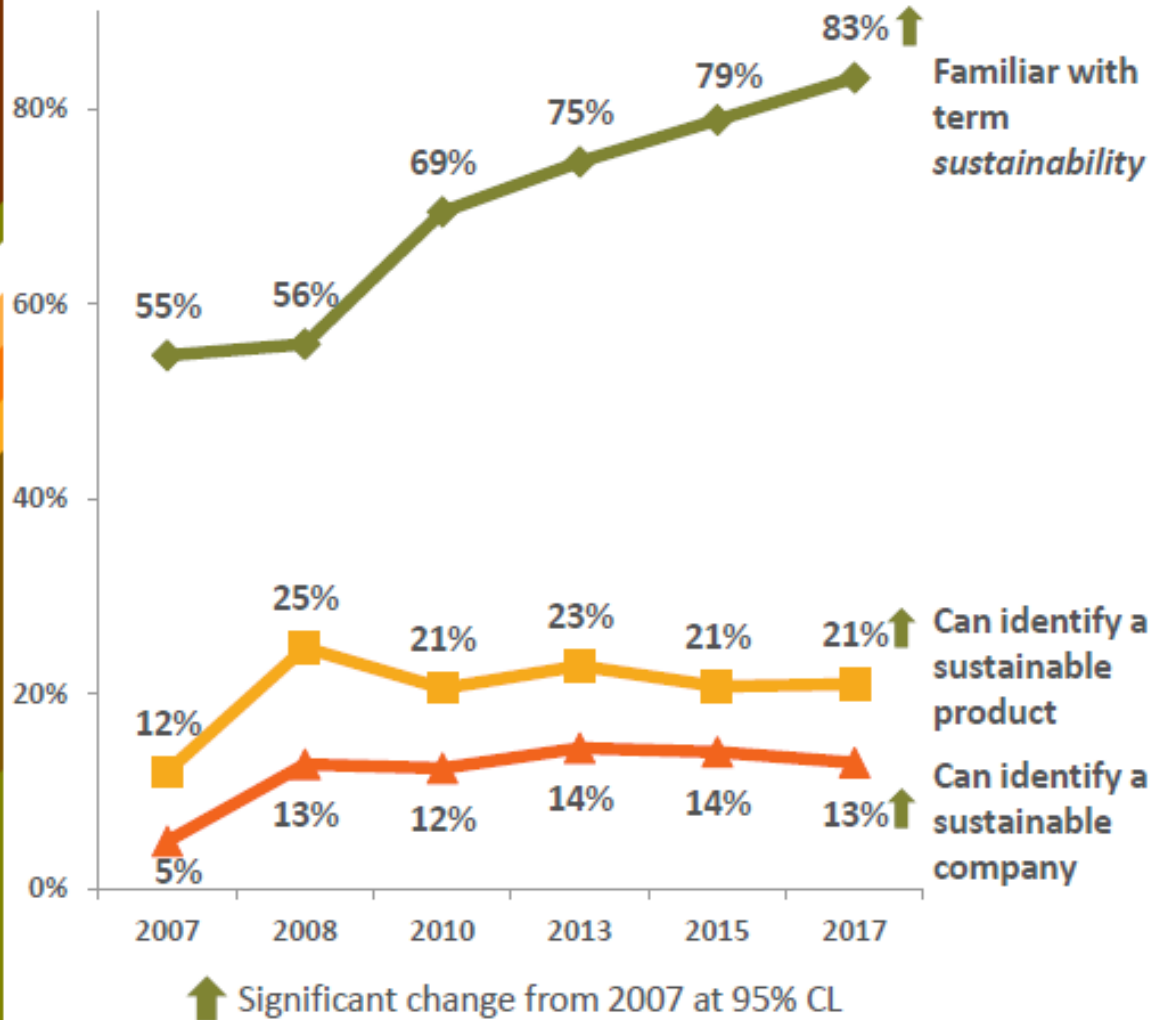
*Agricultural Research Investment and Policy Reform in High-Income Countries*

Paul W. Heisey and Keith O. Fuglie, USDA ERS 2018

[https://www.ers.usda.gov/webdocs/publications/89114/err249\\_summary.pdf?v=0](https://www.ers.usda.gov/webdocs/publications/89114/err249_summary.pdf?v=0) 29

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# Familiarity with *sustainability* reached an all-time high in 2017



This gap between familiarity and concrete association may represent an opportunity for a company to establish a competitive advantage.

A company that can explain in simple terms the connection between actions it takes and sustainability can improve its image with those who are in the World of Sustainability.

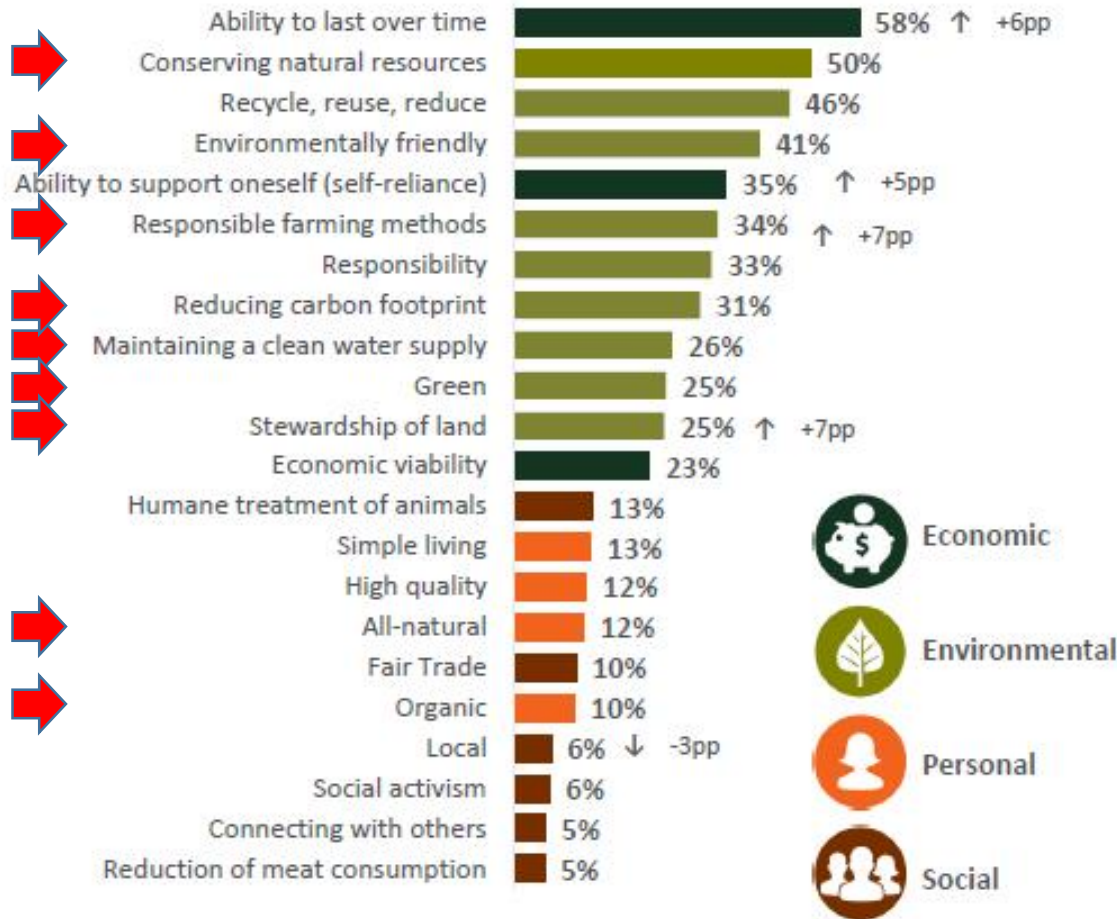


# Sustainability as a concept is connected to self-reliance and the land and, therefore, not always reflective of consumers' key interests

## Sustainability Means...

*Consumer-defined Dimensions*

Among those familiar with the term





# Personal well-being drives sustainable food purchases

## Importance of Sustainability in Food and Beverage Purchasing

Top 2 Box — 4 or 5 (very important) on 5pt scale



# Shoppers often use the ingredient panel to assess transparency, looking for specific evidence of more sustainable ingredients



## To Feel a Company Is Open and Honest About Ingredients, I Want to Know They Are...

