IPM Institute of North America

Harnessing Marketplace Power to Improve Health, Environment and Economics

Madison IPM Policy Review Task Force: IPM Basics and Benefits

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

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PSI Potato Sustainability Initiative

Lamb Weston — Seeing Possibilities in Potatoes

Basic American Foods™

National Potato Council

Canada

Simplot

University of Idaho

The Sustainability Consortium

McCain

Kraft Heinz

Canadian Horticultural Council

Les Fermes Cavendish Farms

Sustainable Food Group

Whole Foods Market — Responsibly Grown

Whole Foods Market

Field to Market — The Alliance for Sustainable Agriculture

USDA Organic

Green Shield Certified — Pest control. Peace of mind.

Excellence in Integrated Pest Management — ipm — IPM STAR CERTIFIED — www.ipminstitute.org

Sustainably Grown Certified — SCS Global Services

Organic & IPM Working Group

Pesticide Risk Tool™ — Science Informing Decisions

California Cut Flower Commission

Good things come from Sysco™

Tick IPM Working Group

IPM Voice

General Mills — Making Food People Love

The Pest Defense for Healthy Schools

ECO apple — Local done right.

Growing Wisconsin — Department of Agriculture, Trade and Consumer Protection — datcp.wi.gov

efi

Ninth International IPM Symposium March 2018

The Andersons

nea — National Education Association — nea.org — Education Support ESP Professionals

truearth Certified







iPiPE — Integrated Pest Information Platform for Extension and Education

Partnership for AG Resource Management — sustainability | profitability | science

Who We Are

IPM Institute of North America



Dr. Tom Green
Director



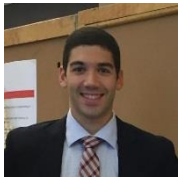
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Integrated Pest Management

A sustainable, science-based **decision-making process** combining biological, cultural, physical and chemical tools to identify, manage and **reduce risk from pests and pest management** in a way **that minimizes overall economic, health and environmental risks.**

National Roadmap for IPM

USDA Office of Pest Management Policy

Updated September 21, 2018

IPM is a Continuum!

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I'm the real IPM baby!





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Common Pests in Communities

- Bed bugs, head lice
- bees/wasps
- rodents
- ants
- flies
- cockroaches
- mosquitoes, ticks
- termites
- birds
- grubs, weeds



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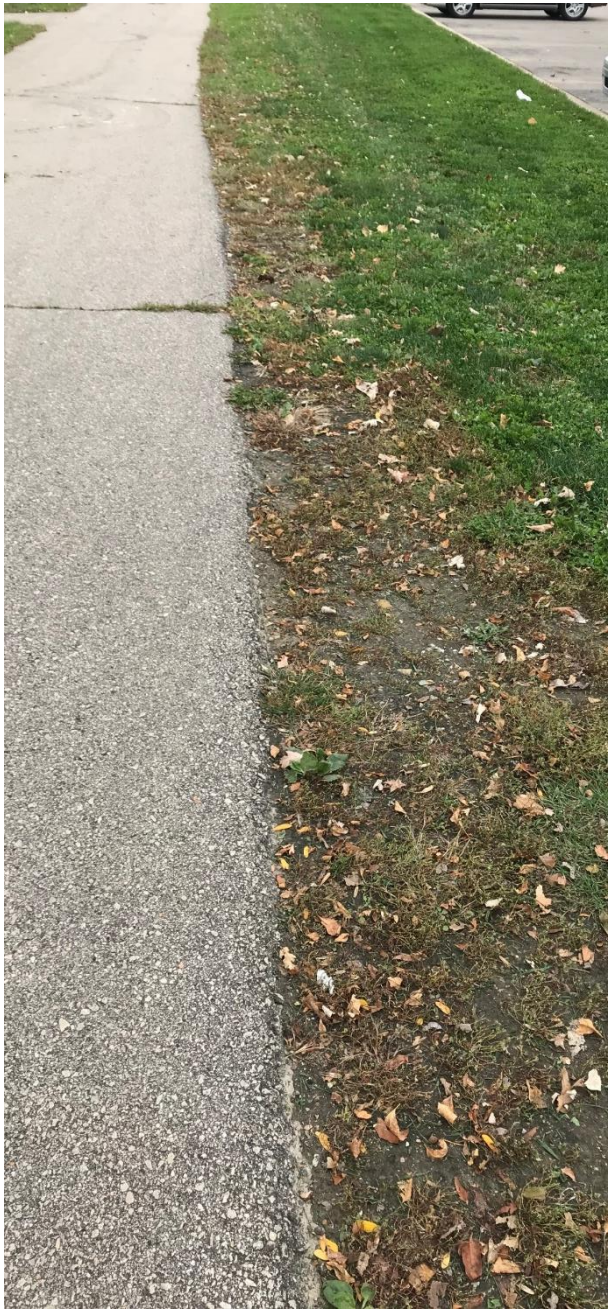




- Key question: Why is the pest there?
- Key tactics:
  - **Prevention**
  - Understanding pest biology/ecology/behavior
  - Monitoring pest populations
  - Inspection for pests, pest-friendly conditions
  - Thresholds for action
  - Least-risk options when intervention warranted
- IPM tactics are critical elements of Organic and natural approaches








Step 1. *Spring Lawn Care:*

March through April

Step 1 lays the groundwork for your grass. Superior will apply:
Custom blended fertilizer. This fertilizing treatment is applied in the early spring to replenish nutrients that were lost over the winter. The application will return your lawn to a thick carpet of deep green color.
Pre-emergent crabgrass control. This step also involves the application of a crabgrass control mixture. By applying this to your lawn now, you'll protect your summer grass from the bane of every summer yard—ugly crabgrass.
Broadleaf weed control. As soon as the weather permits, Superior Lawn Care will apply this weed control to prevent and control spring weeds.

Step 2. *Early Summer Lawn Care:*

May through June

Step 2 ensures that your grass is strong and resilient as weeds and insects appear for the summer season. Superior will apply:
Custom blended fertilizer. We use a fertilizer blend that is designed to be delivered directly into the plant's system to create a healthy, strong lawn and resist the stress of summer.
Broadleaf weed control. Dandelions and other summer weeds are controlled with this summer weed application.
Surface insect control. This treatment protects your grass from insects like chinch bugs and sod webworms, which will destroy patches of lawn during the hottest part of the summer.

Step 3. *Summer Lawn Care:*

July through August

Step 3 helps to maintain your lawn during the high-stress period of the hottest summer months.
Custom blended fertilizer. We use a balanced, non-burning fertilizer, which is a slow-release formula designed to keep your lawn healthy during hot, humid weather.
Broadleaf weed control. The application controls summer weeds that have popped up, especially during periods of hot, dry weather.

Step 4. *Fall Lawn Care:*

September through October

Step 4 provides nutrition for your lawn's fall growing season.
Custom blended fertilizer. This fertilizer is used to promote grass and root growth in the fall.
Broadleaf weed control. Late-season weeds will be controlled with this mixture.

Step 5. *Late Fall Lawn Care:*

November through December

Custom blended dormant winter fertilizer. Protects your lawn from the winter cold with this fertilizer, which provides nutrients for root development and resists disease. It also prepares grass for the spring application, which promotes a fast green-up.

are's five-step program will give you a dense, green, carpeted lawn throughout the spring, summer,

Product substitution won't work

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Best practices

- Soil test! Correct pH, fertility
- Increase organic matter
- Grow grass where grass will grow!
- Right cultivar for right location
- Mulch, mowing strips
- Deep irrigation
  - Frequent, shallow irrigations don't promote deep root growth
- Mow high, remove ≤ 1/3 turf blade
  - Provides for more photosynthesis, more energy to roots
- Aerate and over seed
  - Correct compaction, outcompete weeds





Products when needed

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Organic

- Finalsan Pro®, soap
  - Alternative to glyphosate

Low risk, not organic

- Tenacity® (mesotrione) selective broadleaf herbicide
- Use on mature turfgrass, Kentucky bluegrass, perennial ryegrass
- Avoid use on fine fescue, close to bentgrass

It's about growing grass!

- humic acid, organic liquid and granular fertilizers

Table 4. A selection of available pest control options for organic and reduced risk lawn care.

Weed control options	Program	Target	Cost*	Efficacy (relative to conventional)
5-7% acetic acid	organic	all plants	$	poor
hand pulling	organic	all plants	$$$	variable
Corn gluten meal	organic if non-GM	pre-emergent for grassy and broadleaf weeds	$$	moderate
20% acetic acid	reduced risk	all plants	$	moderate
carfentrazone-ethyl	reduced risk	selective post emergent for broadleaf weeds	$$	similar
FeHEDTA	reduced risk	broadleaf weeds, especially dandelions	$$	moderate
mesotrione	reduced risk	selective pre and post emergent for grassy and broadleaf weeds	$$	similar
penoxsulam	reduced risk	broadleaf weeds	$$	similar

https://learningstore.uwex.edu/Assets/pdfs/A3958.pdf



Chip Osborne
Expert

https://osborneorganics.com

An Ounce of Prevention…

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No roosting site here

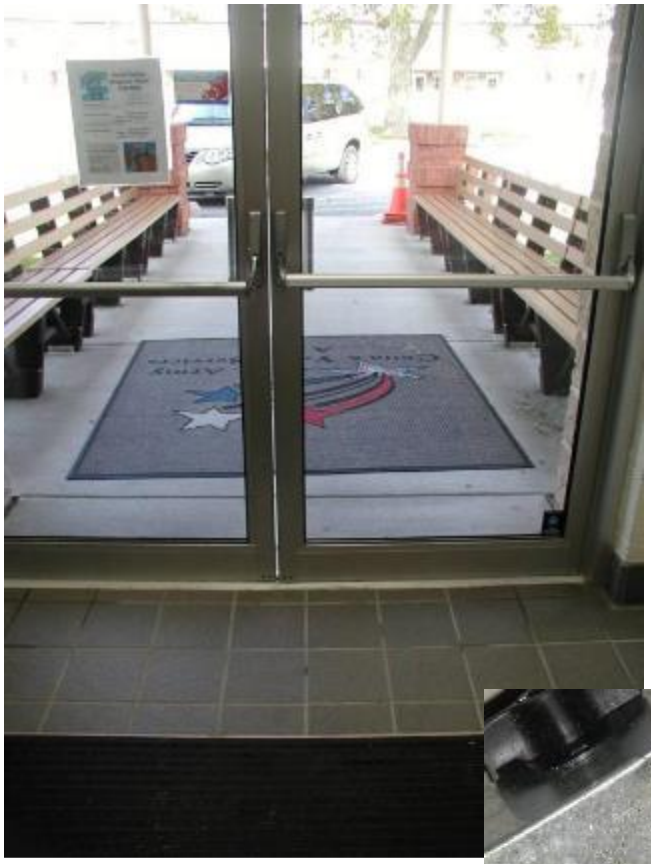
Bird Heaven!

The school on the right spent $10,000 shortly after construction on bird netting. Netting was ineffective due to corrugations in the metal roofing. Birds were using the netting to support nests!

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Pennywise…







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Effective door sweeps alone can cut pest complaints by 65%.





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Benefits?

- Fewer staff (and student) absences
- Improved productivity
- Fewer pests, fewer costly pest complaints
- Greater staff satisfaction
- Lower liability
- Food safety
- Fire safety
- Energy, water conservation
- Better buildings
- Direct pest management costs
- Indirect costs

Pest Risks: Asthma

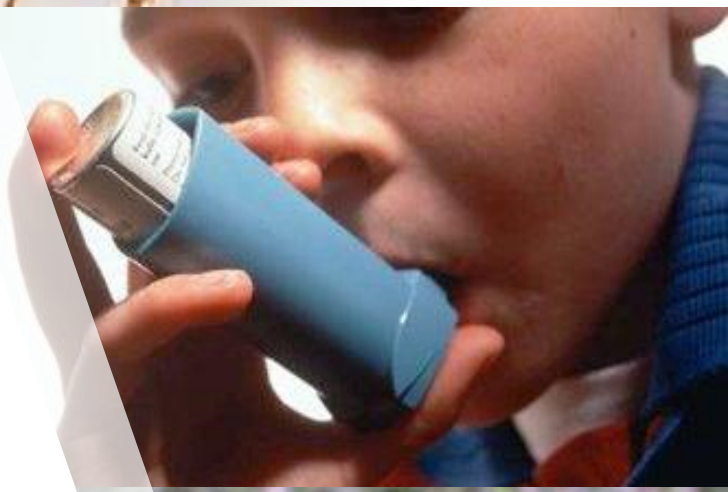
- Asthma is the number one cause of school absences
  - *More than **12.8 million** school days lost every year!*

- 8% of children nationally and growing.
  - Up to 30% in some urban centers.
  - Affects 9.7% of women > 18 years of age

- Treating children costs >$3.2 billion/year!

- Asthma symptoms can result from and be triggered by exposure to cockroaches, rodents, **dust mites,** cleaning products, aerosols including pesticides.







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School systems: **90% reduction in pesticide use; 85% reduction in pest complaints.**

Costs: No more than conventional

Gouge *et al. 2006. Amer. Entomol.*

Public buildings: **93% reduction in pesticide use; 89% reduction in pest complaints;** 55 buildings over 11 years.

Greene and Breisch. 2002. J. *Econ. Entomol.*



Effective door sweeps alone can cut pest complaints by 65%.



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How much does each pest complaint cost you?

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1. Stop work, log complaint.
2. Receive complaint.
3. Evaluate complaint.
4. Take action.
5. Log action, close report.

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Wouldn't you like to cut those costs by 90%?

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Happy Staff?







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Liability

- **Rodents:** Transmit Hantavirus, typhus, SARS; trigger asthma attacks.
- **Birds:** Carry viruses and other diseases. Airborne droppings can cause histoplasmosis.
- **Flies:** Feed on feces, garbage in one minute, and on food the next. Flies carry staph, *E. coli* and *Salmonella.*
- **Cockroaches:** Cause asthma and trigger attacks. They carry germs that can cause pneumonia, diarrhea and food poisoning.
- **Pesticides:** Accidents, unknown risks (glyphosate, Imprelis®)







Food Safety?



Properly clean and maintain floor drains = Improved fly control and food safety!

Clean trash handling areas. Decaying organic matter = flies in as little as two days!












Teasdale
SYSCO



Beautiful commercial kitchen include excellent features including equipment on wheels, and good floor clearance for cleaning and inspection. Floor drains are generally easily accessible and fitted with plastic strainers for easy access.





Great access to typically “hard-to-reach” areas for cleaning and inspection.

Hopatcong schools closed after electrical fire at administration building



By Justin Zaremba | NJ Advance Media for NJ.com
Email the author
on January 07, 2015 at 8:30 AM, updated January 07, 2015 at 8:38 AM

Print

Sponsored by: New Jersey Lottery

HOPATCONG – Borough schools were closed today after an electrical fire occurred at the administration building the night before.

At about 11:14 p.m., sporadic power outages were reported throughout the borough, and, shortly after, patrols responded to Hopatcong High School on a report of smoke in the boiler room,



Hopatcong schools were closed Wednesday after an elect
fire shut damaged the administration building the night b

Mario Tama/Getty



20-25% of electrical fires?

Electrical fire closes Rising Sun High School

BY: WMAR Staff
POSTED: 5:37 AM, Mar 18, 2015
UPDATED: 7:29 AM, Mar 18, 2015



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Fire Safety? Energy Conservation?



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Water Conservation?



Better Buildings?







But pests are best predicted by the condition of homes, not the use or nonuse of pesticides.

Housing characteristic		% with rodents
Cracks/holes in interior	Yes	37.6
	No	7.7
Interior leaks in past year	Yes	35.8
	No	13.1

NYC Health

It Takes a Team!

IPM is PEOPLE management!

- ***Everyone has role to play.***

- ***"Do what you're already doing, just think pests!"***
  - ***Maintenance, cleaning professionals***
  - ***School health professionals***
  - ***Food service professionals***
  - ***Teachers, administrators, parents, students.***

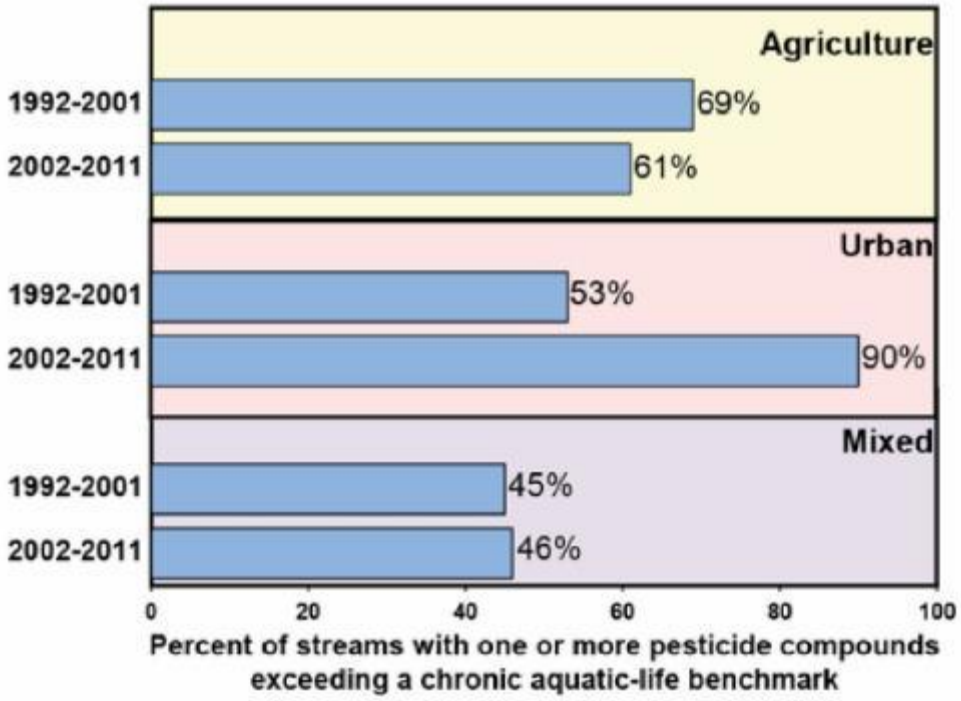
Indirect costs?



What's a squirrel worth?

Indirect costs?

Aquatic organisms?

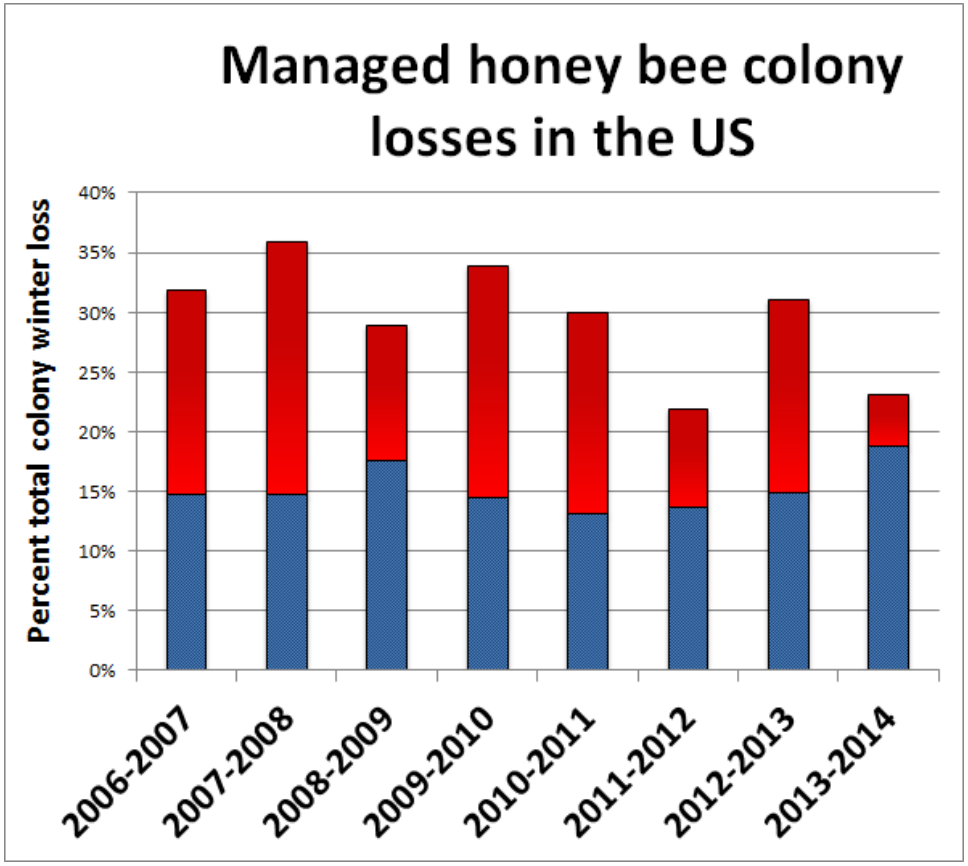


Stone, Gilliom and Ryberg. 2014 Pesticides in U.S. Streams and Rivers: Occurrence and Trends during 1992–2011. *Environ. Sci. Technol. 48*(19):11025–11030.

- **From 2002-2011, pesticides above levels of concern for aquatics in 90% of URBAN monitoring sites, up from 53% in the prior decade.**
- **Fipronil was the most frequently found, followed by dichlorvos.**
- **Samples above levels of concern for human health way down in second decade. During the first decade, chorpyrifos and diazinon declined, with pyrethroids increasing.**
- **Changes in pesticides found driven by regulation and new products.**
- ***Not the whole story: Neonicotinoids, fungicides not included.***

Indirect costs?

- **Pollinators? ~$29 billion!**
- ***Read pesticide labels for new and pre-existing cautions.***





Benefits

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- ✓ Fewer staff and student absences
- ✓ Better student performance
- ✓ Fewer pests, fewer costly pest complaints
- ✓ Greater staff satisfaction
- ✓ Lower liability
- ✓ Food safety
- ✓ Fire safety
- ✓ Energy, water conservation
- ✓ Better buildings
- ✓ Pest management contract costs
- ✓ Indirect costs

Visit pestdefenseforhealthyschools.com!

Online training resource
for **nine key groups in schools**:

1. Facility Managers
2. Maintenance
3. Administration
4. Teachers
5. Food Service
6. Custodians
7. Grounds
8. School nurse
9. Technician/PMP



Look for a General Facilities module coming soon!



Download

Pest Prevention by Design

(for structures)

Use it for training

Give it to clients, customers

Look for

Pest Prevention by Design for Landscapes next year!

https://sfenvironment.org/download/pest-prevention-by-design-guidelines

IPM Institute of North America

Harnessing Marketplace Power to Improve Health, Environment and Economics

Let us know how we can help!

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Whole Foods Market 2014 Supplier Award for Outstanding Quality Assurance
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