Due Diligence, Food Safety and Locally Grown Produce

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Organic – product was grown/produced in a manner consistent with sustainable agriculture as described by grower

“Certified” organic as above EXCEPT agronomic practices were validated by third party audit

Sustainable agriculture – concept that inputs to land will not damage but will build health of soil and environment
Locally grown – a concept that products are grown or produced within a given area or region;

- Less than a day drive;
  Regional may be more;
- May be small or large farm;
- May not be safer or healthier;
- Organic has nothing to do with it;
- Sustainable has nothing to do with it.
What consumers think “local” means.

- Grown 25 miles or less from purchase point: 38%
- Grown 100 miles or less from purchase point: 28%
- Grown in your state: 26%
- Grown in your region of the U.S.: 7%
- Other: 1%
Consumers perceive that locally grown may be safer

Pirog and Larson, 2007
What consumers are concerned about in produce

- Bacteria: 84%
- Pesticide residues: 74%
- Bio-terrorism: 72%
- Foreign objects: 63%
- Genetic engineering: 49%

Percent who "somewhat" or "strongly" agree with concern type
Establishment's preferred source for locally produced foods

- From a Farmer's Market
- Direct from a farmer
- Direct from a farmer's co-op
- From a local manufacturer or processor
- From a foodservice distributor
- N/A

Amit, 2007
“Our commitment to using ingredients from more sustainable sources is the best of both worlds,” said Ells. “From a sustainability perspective, we are supporting local agriculture and family owned farms.”

Steve Ells, founder, chairman and co-CEO Chipotle Restaurants
Food Safety is high on food services requirements for acceptability of locally grown

<table>
<thead>
<tr>
<th>Schools</th>
<th>Restaurants</th>
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<tbody>
<tr>
<td>competitive prices,</td>
<td>product costs,</td>
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<tr>
<td>consistent quality,</td>
<td>labor time to prepare the</td>
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<tr>
<td>adequate supplies,</td>
<td>food,</td>
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<tr>
<td>standard packaging,</td>
<td>safety of food served to</td>
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<tr>
<td>ease of ordering,</td>
<td>patrons,</td>
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<tr>
<td>delivery frequency,</td>
<td>working with multiple</td>
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<td>dependability,</td>
<td>vendors,</td>
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<td>transportation and</td>
<td>payment procedures,</td>
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<tr>
<td>distribution, and</td>
<td>obtaining an adequate supply</td>
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<tr>
<td>food safety concerns.</td>
<td>of food.</td>
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Legally speaking – food borne illnesses is big business.

Several large law firms make their living chasing toilets rather than ambulances.

Mr. Marler is an advocate of locally grown but does not know the facts.
Produce does cause some illness

1990 – 2007 over 36,000 cases of foodborne illness attributed to produce related foods:

<table>
<thead>
<tr>
<th>Food product</th>
<th>% of contribution</th>
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<tbody>
<tr>
<td>Salad greens/lettuce</td>
<td>36%</td>
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<tr>
<td>Fruits/berries/melons</td>
<td>17%</td>
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<tr>
<td>Vegetables sprouts</td>
<td>29%</td>
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<tr>
<td>Home canned</td>
<td>3%</td>
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<tr>
<td>Processed retail</td>
<td>15%</td>
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Is this a lot of cases?  Consider that CDC estimates 76 million cases of FBI EACH YEAR  36,000 over 17 years…
Food Safety

What causes produce to be unsafe?

Microbiological hazards are considered the biggest risk to the food industry.

Microorganisms are important because:
- loss of shelf life and product quality
- major cause of food borne illness

HAZARDS

Chemical
Physical
Biological
Fruits and vegetables

Agricultural products can be exposed to microbial contamination through a variety of sources.

Once contaminated fresh produce often not heated to destroy pathogens.
How does produce become contaminated?

Environmental sources of contamination
Handling and human sources of contamination

These sources may have a variety of pathogenic microbes associated with them.

These microbes include:
- Parasitic protozoans
- Fungi
- Viruses
- Bacteria
Noah probably had gastroenteritis
HOW do we prevent hazards from reaching the consumer?

HAZARDS

Chemical
Physical
Biological
Due Diligence?

Due Diligence is a concept that a food producer, processor or food management employer has carried out every reasonable step to protect the food they work with.

If they can prove due diligence in a court of law which is questioning them about their food safety practices and they can prove due diligence, it is more likely that no charges can be brought against them for negligence in case of food poisoning etc to others.

Works in UK may not work in US civil courts…
Legally Speaking

A due diligence defence can be established if you can show that:

You have taken all reasonable steps to ensure that the food you sell complies with the law or;

The offense was the fault of another person or company.
Demonstration of Due Diligence

An assessment of the foreseeable risks to the consumer throughout the flow of the food – pre-planting to fork;

An appropriate system for managing those risks (in context of ability) – GAPs/HACCP;

Evidence of a continuous compliance (that the system is being adhered to) aka – recordkeeping, third party audits;

A process to actively seek out and incorporate new knowledge;

Appropriate planning for correction
Due Diligence for Locally Grown

Adherence to Good Agricultural Practices (GAPs) and Good Hygienic Practices (GHPs).

Establishment of a record keeping system that allows documentation of soil inputs, harvesting and other equipment cleanliness, employee health, etc…

Establishment of a trace or recall system

Establishment of a training system for employees

Maintenance of water quality and source

Maintenance of environmental around farm

Others…
Basic principles of produce microbial safety

Principle 1. Prevention of microbial contamination of fresh produce is favored over reliance on corrective actions once contamination has occurred.

Principle 2. Fresh produce can become microbiologically contaminated at any point along the farm-to-table food chain. The major source of microbial contamination with fresh produce is associated with human or animal feces.

Principle 3. Practices using animal manure or municipal biosolid wastes should be managed closely to minimize the potential for microbial contamination of fresh produce.
Principle 4. To minimize microbial food safety hazards in fresh produce, growers, packers, or shippers should use good agricultural and management practices in those areas over which they have control.

Principle 5. Whenever water comes in contact with produce, its source and quality dictates the potential for contamination. Minimize the potential of microbial contamination from water used with fresh fruits and vegetables.

Principle 6. Worker hygiene and sanitation practices during production, harvesting, sorting, packing, and transport play a critical role in minimizing the potential for microbial contamination of fresh produce.
Principle 7. Follow all applicable local, state, and Federal laws and regulations, or corresponding or similar laws, regulations, or standards for operators outside the U.S., for agricultural practices.

Principle 8. Accountability at all levels of the agricultural environment (farm, packing facility, distribution center, and transport operation) is important to a successful food safety program.
Implementation of Good Agricultural Practices

http://postharvest.ucdavis.edu

http://www.gaps.cornell.edu
Farms can do a lot

Learn about the risks.
Develop a plan – focus each step
Provide tools for staff
Document your actions.
Strive to reduce risks.
Producin Safe Food

- Establish system to document use of GAPs on farm and during transit along the food chain
- Ensure clean and appropriate food contact surfaces and packages are used
- Be able to provide certification and/or evidence of liability protection
On-Farm Food Safety

- Production – GAPs
  - Safe water
  - Manure management
- Harvest
- Post-Harvest
  - Processing
  - Packing
  - Transportation
On-Farm Food Safety Focus

Workers:
- Health
- Practices
- Training

Training Focus:
- Handwashing
- Cleaning and Sanitizing
  Contamination
- Cross-Contamination
Documentation: Put Actions in Writing

- Develop written policies
  - Of production and handling practices
  - For hired workers (templates available at “www.iowahaccp.iastate.edu”)
    - Visitor access especially if U Picks
- Keep records - Certified Organic Producers already keep records
- Document
  - Insurance – liability if selling to markets
  - Water tests
  - Temperature log
  - Employee health and training
  - Cleaning schedules
Proper Facilities, Education, and Training
Zero-Risk/Pathogen Free is Mission Impossible

- **BUT** Action Steps (some are easy and inexpensive fixes) can **REDUCE** the Risk
- People want and need fruits and vegetables for many reasons – taste and health
- Producers need to show best practices are used
So What?

- Customers have awareness of potential risks
- Producers must practice precautions to demonstrate *reasonable care*
- Producers should keep documentation
- Checklists for Buyers and Sellers at [www.iastatelocalfoods.org](http://www.iastatelocalfoods.org)
- Foodservices will often request this information, especially if serving elderly or children
- Insurance carrier negotiation?
- Market quality and safety aspects of your products (Some preliminary survey research indicates people will pay premium for assurances)
Good Agricultural Practices Can Reduce Food Safety Risks

- Good Agricultural Practices (GAPs) for food safety include Best Management Practices (BMPs) to protect the environment.
- These same practices that reduce losses of soil and nutrients can reduce risk of microbial contamination of produce.
- Keeping records of production practices allows regular updates of plans.
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What do your customers want?
What they don’t want!
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