GAPs... Food Safety for Direct Marketers

Donna Pahl
University of Maryland
What is GAPS??

- Good Agricultural Practices for Food Safety
  - Written Food Safety Plan that addresses potential contamination of crops
  - Implementation of Food Safety Plan
  - Documentation that plan is followed
- Most farmers are already following Good Agricultural Practices
- Many are not documenting their practices
Hazards in Foods

A Hazard is something that could cause harm to the consumer

Hazards commonly associated with fresh produce are:

- Biological hazards
- Chemical hazards
- Physical hazards
Bacteria Replicate by Binary Fission

Each bacterial cell divides into two when conditions are appropriate for its growth.
Five important categories to manage when enacting GAPs on your farm:

- Water Use
- Compost/Manure Use
- Worker Education
- Wildlife/Pets
- Sanitation of Toilets and Harvest Materials
Foodborne Illnesses in the US

- CDC “estimates” that each year roughly 1 out of 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases.

- Reporting system for food borne illness has improved significantly in the past 10 years

- 2007 data from CDC – Total of 1,097 outbreaks with 21,244 illnesses reported
Outcomes of Data

- Major buyers of fruits and vegetables have begun requiring producers to be audited for compliance to Good Agricultural Practices standards

- Outbreaks and illnesses caused by one or two bad actors can kill the market for everyone
Federal Legislation

- H.R. 2751 – FDA Food Safety Modernization Act has passed Congress
- Will enable FDA to more quickly determine cause of illness through trace back
- Authorizes FDA to mandate a recall
- Requires the Secretary of Health and Human Services to create regulations for production of fresh fruits and vegetables within one year
Federal Legislation

- Exemption for Direct Farm Marketing
  - Average for three years of food sold by farm directly to consumers is more than sold to other buyers and;
  - Is less than $500,000 annually
  - Secretary of Health and Human Services can revoke exemption if there is a problem
MDA/U of MD Joint Programs

- GAP training
  - Additional trainings are being planned
  - Specific topics depending on producers needs
- Publications on implementing a GAPs program
- One to one assistance with plan writing
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dpahl@umd.edu
  301-405-4372
  Cell – 410-440-2047
MDA GAPs Program

- Intended to assist Direct Marketers with implementing a GAPs Program
- Program is voluntary
  - Must meet requirements to be certified
- Basic Food Safety Program for Farm
- Existing audit/certification program requirements have been simplified
  - USDA Audit requires a plan and audit for each commodity
  - Traceback
- Assist producers in becoming prepared for new FDA rules
- Assist producers in meeting future requirements for selling through Maryland Farm to School Program
MDA GAPs Program

- Voluntary Basic Program for Direct Marketers
  1. Attend Training
  2. Complete a self assessment
     - U of MD Checklist
     - National GAPS Program Self Assessment
  3. Develop a written plan based on the assessment
  4. MDA will conduct an on site evaluation to assist the producer with improving their plan
     - MDA certification if site evaluation is passed
     - No fees for participating – using USDA specialty crop grant money
MDA GAPs Program

- Essential as proof that you are following a Food Safety Plan
- Keeps you from relying on your memory
- MDA inspectors will review documentation
  - You may have to show records to a buyer or regulatory agency (FDA)
- They provide proof of your good intent
- Provide your best defense in a lawsuit
- Gives you a record for review of your farm operation
USDA Audits

- MDA auditors qualified to conduct the USDA audit
- Requirement of buyers
- Producers that pass the audit receive USDA certification
- Listed as certified on USDA’s website
Cost Share Assistance

- USDA Specialty Crop Money
- USDA Audits – MDA required to charge federal rate
- Grant money is used to reimburse producers a portion of these fees
  - First $400.00 of certification costs
  - 75% of costs over $400.00
GAPs Materials

- MDA is providing
  - Worker Hygiene Training videos
  - Hand Washing Signs
  - Toilet Use Signs
How can you “implement” GAPs, right now?
Establishing GAPs protocol

- Implement the **most effective** GAPs for the **lowest cost**
- These measures can go a long way in lowering the risk of contamination on your farm.
- **Consider high-risk crops first when enacting GAPs.**
  - Examples: tomatoes, leafy greens, cantaloupes
Important categories to manage when enacting GAPs on your farm:
GAPs Checklist

• What is the name of your farm?
_______________________________________

• Who is responsible for monitoring GAPs on your farm and completing this checklist?
_______________________________________

• Date Completed ____________

• What high-risk crops do you grow on your farm?
_______________________________________
### 1) Water Usage

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>What irrigation method(s) are you using?</td>
<td></td>
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<tr>
<td>What source of irrigation water do you use?</td>
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</tr>
<tr>
<td>• Surface water</td>
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</tr>
<tr>
<td>Is the water source located in a low-lying area that can receive runoff and sediments?</td>
<td></td>
</tr>
<tr>
<td>• Well</td>
<td></td>
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<tr>
<td>Is the casing and well cap secure and sealed from the environment?</td>
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<tr>
<td>How far is the distance between the well and any sources of contamination (septic system, etc.).</td>
<td></td>
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</tbody>
</table>
Agricultural Water Sources

- Water for agricultural uses may come from:
  - Municipal water systems
  - Wells
  - Surface sources
  - Rivers, streams, irrigation ditches, ponds, and canals
Water Quality

- Factors that affect water quality:
  - Groundwater
    - Soil type
    - Depth of groundwater
    - Coverage of water source
  - Surface water
    - Environmental factors: rainfall, temperature, UV radiation, turbidity, soluble organic matter
  - Location to sewage discharge

http://greenerloudoun.wordpress.com/category/pollution/
Water Management

- Choose the **application method** and treatment to reduce risk
  - Indirect contact
    - Drip irrigation
  - Direct contact
    - Overhead irrigation, pesticide applications, packinghouse water
## 1) Water Usage, cont’d

<table>
<thead>
<tr>
<th>Questions</th>
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</thead>
<tbody>
<tr>
<td>Do you have the water sources tested regularly for <em>E. coli</em>? Do you have record of these water tests?</td>
<td></td>
</tr>
<tr>
<td>• Surface water: 3 times a season</td>
<td></td>
</tr>
<tr>
<td>• Well: Once a season</td>
<td></td>
</tr>
<tr>
<td>What source of water are you using for surface Application (such as spraying and frost protection) to plants?</td>
<td></td>
</tr>
<tr>
<td>What water source are you using in your packinghouse?</td>
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</tbody>
</table>
Wash Water Quality (Post-Harvest)

- Use potable water for all produce washing, cooling, dipping, icing, and processing.

- Water comes into **direct contact** with produce immediately before packing and consumption.

http://www.ch2o.com/ag/agriculture.htm
http://vermontvalleyfarm.files.wordpress.com/2011/07/dsc06706.jpg
## 2) Compost and Manure Use

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Do you use manure on growing areas?</td>
<td></td>
</tr>
<tr>
<td>• Is manure applied and incorporated into soils at least 120 days prior to harvest?</td>
<td></td>
</tr>
<tr>
<td>• Do barriers exist to reduce manure runoff into water sources and production fields?</td>
<td></td>
</tr>
<tr>
<td>• Are records kept of rates and dates of manure application and harvest dates?</td>
<td></td>
</tr>
</tbody>
</table>
2) Compost and Manure Use (cont’d)

<table>
<thead>
<tr>
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<th>Answers</th>
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<tbody>
<tr>
<td>Do you use compost on growing areas?</td>
<td></td>
</tr>
<tr>
<td>• Are you familiar with compost procedures, including aeration, temperature, and equipment sanitation?</td>
<td></td>
</tr>
<tr>
<td>• Do you keep compost records, including temperature, date, and when turned?</td>
<td></td>
</tr>
<tr>
<td>• Where are you storing on-farm compost before application to fields? Do barriers exist to reduce compost runoff and infiltration into soil?</td>
<td></td>
</tr>
</tbody>
</table>
# 3) Worker Education

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<tbody>
<tr>
<td>Do you have worker training for handwashing and personal hygiene? Do you have records?</td>
<td></td>
</tr>
<tr>
<td>Are signs posted reminding workers of personal hygiene requirements? Are these signs posted in the workers’ native language?</td>
<td></td>
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<tr>
<td>Are workers educated in GAPs procedures on the farm? Are they told of SOPs and asked to follow them?</td>
<td></td>
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4) Sanitation of Toilets, Harvest Materials

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<tr>
<td>Do field workers have access to a toilet and handwashing station?</td>
<td></td>
</tr>
<tr>
<td>Are records kept for toilet cleaning?</td>
<td></td>
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<tr>
<td>Do you clean picking baskets and harvest materials after use?</td>
<td></td>
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</tbody>
</table>
5) Wildlife and Pets

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<tr>
<td>Do you attempt to restrict wild animals and pets from entering production areas?</td>
<td></td>
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<tr>
<td>Are rodents, birds, and other animals restricted from packing areas?</td>
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</tr>
<tr>
<td>Do you keep records of wildlife problem areas?</td>
<td></td>
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<tr>
<td>Are field walked before harvest to check for animal manure? Are these areas marked to avoid picking crops around fecal contamination?</td>
<td></td>
</tr>
</tbody>
</table>
### 6) Good Handling Practices

<table>
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<tbody>
<tr>
<td>Do you allow animals (domestic or wild) in trucks and packing areas?</td>
<td></td>
</tr>
<tr>
<td>Do you clean the packinghouse and transportation areas (including trucks) regularly?</td>
<td></td>
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</tbody>
</table>
Resources

• USDA GAPs Audit Form
  • http://www.ams.usda.gov/AM Sv1.o/gapghp

• Cornell GAPs website
  • www.gaps.cornell.edu

• Checklist for Direct Marketers
  • Contact: Donna Pahl, University of Maryland
    • dpahl@umd.edu
    • (301)405-4372