COMPOST HAPPENS

Managing Food Safety Risks in Biological Soil Amendments

The webinar will begin promptly at
11:00 am Pacific / 12:00 pm Mountain

University of Idaho Extension | Washington State University Extension | Cooperative Extension | Oregon State University

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Managing Food Safety Risks
in Biological Soil Amendments

With Ariel Agenbroad, University of Idaho Extension

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Webinar Tips

- Close all other programs running on your computer
- Check your sound – problems with clarity, speed, etc. switch to the phone
  - Call-in number provided in the welcome email
  - Mute computer sound when using phone
- Type in questions for speakers (or for help with viewing & sound) into question box
- Handouts are available to download on your computer

"FSMA?"

- The Food Safety and Modernization Act, or FSMA for short, was signed into law on January 4, 2011.
  - Gives FDA the authority to regulate food from farm to fork
  - Establishes science-based minimum standards for safe growing, harvesting, packing and holding of fresh fruits and vegetables
- First sweeping food safety regulation overhaul in a very, very, very long time.

The Produce Safety Rule

- The Produce Safety Rule is one of 7 new federal rules pertaining to food production, processing, transportation and importation
- Other rules include:
  - Preventative Controls for Human Food (processed food)
  - Preventative Controls for Animal Food
  - Sanitary Transportation of Human and Animal Food

Are you covered by the Produce Safety Rule?

- You will need to know your:
  - Types of produce you grow
  - Average annual gross sales of produce
  - Average annual gross sales of all food
  - Percentage sold directly to a "qualified end user," or:
    - Individual or family
    - Restaurant
    - Local grocery store or retail food store

"If I'm not covered, why am I here?"

- Many small farms ***will not*** be required to comply with all the new federal food safety regulations
- **However, *all* farms are responsible for producing, packing, transporting and selling safe food!**
- How the rule will affect you and *your* farm will depend on what you grow, how much you sell, and who your customers are

"Ok, where do I start?"

- First, know where you fit into the picture.
  - Are you covered? Exempt?
- Second, understand the records you need to keep in order to document and prove your exemption
- Third, realize that the practices outlined in the rule ***will*** reduce the risk of produce contamination on farms of any size. ***Where can you make changes?***

Soil Amendments and Human Waste

- This section of the rule covers the use of biological soil amendments of animal origin, particularly:
  - Manures and Manure Teas
  - Other biological amendments
  - Composts and Compst Teas

Why should we be concerned?

- Animal manures often contain bacteria, viruses or parasites that can potentially make people sick if:
  - used as a soil amendment in its raw state
  - applied to the edible portion of growing crops
  - it contaminates hands, clothes, shoes, equipment, tools or fresh produce
  - stored in a way that allows for leaching, drift or runoff

What are *your* risks on farm?

- **What type of soil amendments do you use?**
  - Raw manure, composted manure, chemical, etc.
- **What crops receive soil amendments?**
  - Fresh produce or agronomic crops
- **When do you apply them?**
  - Days to harvest, time of year
- **How do you apply them?**
  - Incorporated, injected, surface applied
- **How much and how often do you apply them?**
  - Excessive application can lead to environmental impacts

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Manure is a good thing...

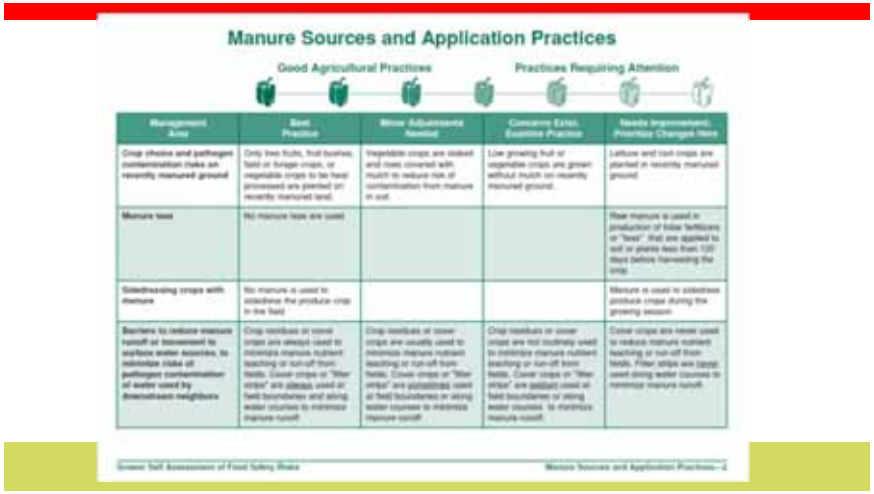
- Increases soil tilth, fertility, and water holding capacity
- Turns waste into a valuable resource for integrated crop and livestock farms
- Builds relationships with other farms raising animals
- Widely available and cost effective

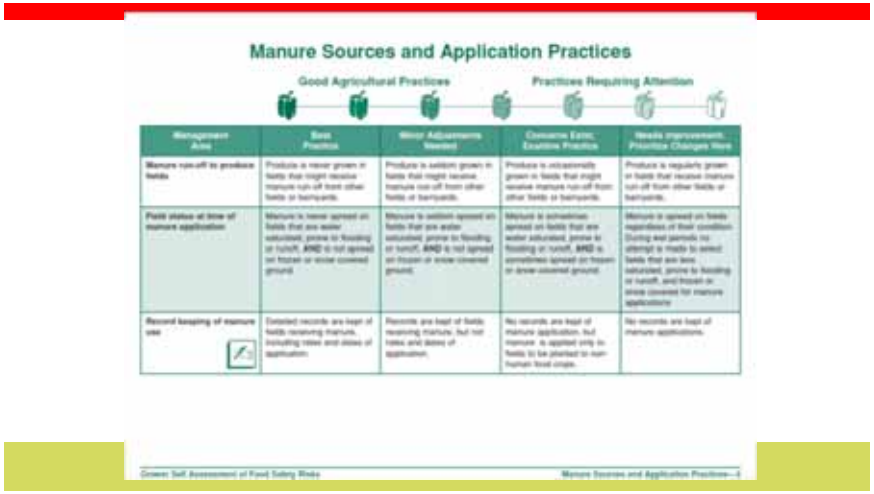
...Until it's not a good thing

- All manures can carry human pathogens
- Some animals tend to be reservoirs for certain pathogens
  - Cattle vs. chickens
- Many things can impact the shedding of pathogens in manure

Best Practices

- Assess the production, storage and use of animal manures on your farm
- Map the transport and storage of raw manures
- Do not apply raw manures or teas to growing crops
- Protect raw manures from leaching, run off, drift, and accidental transport by equipment, tools, clothing and hands





What about other animal products?

- Non-manure amendments of animal origin should be processed to eliminate pathogens
- Most commercial products will have been processed in this way

BONE MEAL
BLOOD MEAL
FEATHER MEAL
FISH EMULSION

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Non-animal wastes

- Examples include:
  - Produce preparation waste or food products removed from their packaging
  - Yard waste
  - Cull vegetables or fruits
- Should not be considered zero risk because they could still contain:
  - Chemical hazards
  - Physical hazards
  - Biological hazards
- However, these products are not subject to the same rules as manure

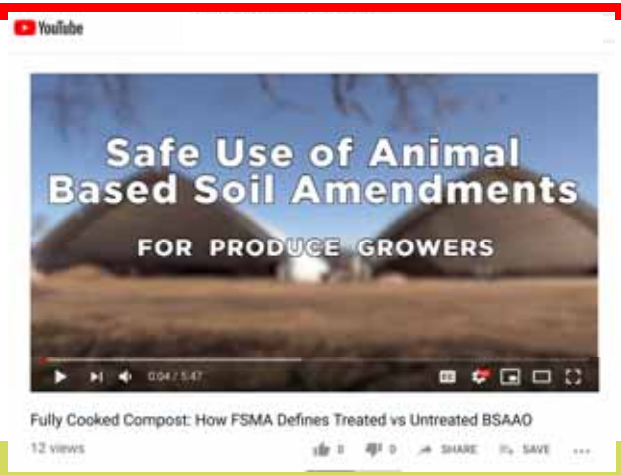
Talking about compost

- The produce safety rule puts animal waste compost and animal manures into one of two groups:

TREATED	UNTREATED
Composted using a documented, scientifically valid method	Anything else

Examples of untreated soil amendments

- Raw manure
- 'Aged' or 'stacked' manure
- Untreated manure slurries
- Untreated manure teas
- Agricultural teas with supplemental microbial nutrients
- Any soil amendment mixed with raw manure



Why would I want my compost to qualify as "treated"?

- Can apply at any time during the growing season
- Can apply directly to edible crops
- Can use in potting mixes and other applications

But I buy all my compost!

- What is the method being used by the compost processor?
- Do they keep records of time and temperature?
- Can they provide you with these records?
- If you are not exempt from the rule, you need to keep these records

Ok, what if don't have the time/ equipment/expertise to compost?

- Consider all your biological soil amendments to be "untreated"
- Follow the recommendations for applying raw manure (conforms to the National Organic Standard)
  - 120 days prior to the harvest of a product whose edible portion directly contacts he soil surface or soil particles
  - 90 days prior to the harvest of a product whose edible portion **does not** have direct contact with soil surface or soil particles.

Changed my mind. I want to compost

Must use a scientifically valid process:

1. Aerated static composting: aerobic, minimum 131°F (55°C) for 3 days, followed by curing with proper management to ensure elevated temperatures throughout all materials
2. Turned composting: aerobic, minimum of 131°F (55°C) for 15 days, minimum 5 turnings, followed by curing
3. Other scientifically valid, controlled composting processes

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Tips on storing compost and manures

- Minimize runoff, leaching, and wind drift to reduce contamination of crops, water sources, and handling areas by soil amendments
- Do not store in locations that are likely to experience runoff or areas that are close to water sources
- Keep raw manure and finished compost in separate areas to prevent cross-contamination
- Minimize animal access to compost piles

Safe handling recommendations

- Designate specific equipment and tools for handling soil amendments
- Develop procedures to clean and sanitize equipment and tools that contact soil amendments and fresh produce
- Direct traffic (foot, equipment) around soil amendment storage or processing areas to reduce the risk of cross-contamination

Summary: reducing the risk on your farm

- Do not apply raw manures to growing produce crops
- If you use raw manures, allow a time interval of 90-120 days between application and harvest
- Use a scientifically valid method of composting to treat raw manures
- Carefully store, manage, and transport raw and treated soil amendments separately

Webinar Recording & Resources

Upcoming Webinars:
www.cultivatingsuccess.org

Food Safety Resources:
https://www.uidaho.edu/extension/food-safety-for-produce-growers

Next Steps

Please complete our post-webinar evaluation!
https://www.surveymonkey.com/r/ProduceSafetyRule

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