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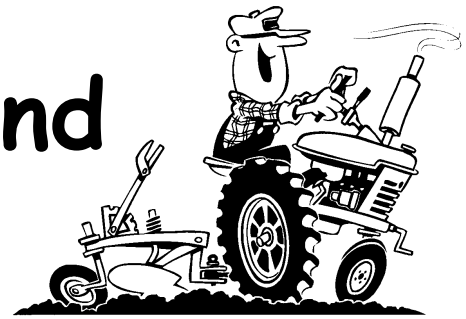
Cultivating Cumberland

December - 2015 VOL. 20, ISSUE 12



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Attachments:
FSMA Produce Safety Final Rule

2016 NJ Agricultural Convention & Trade Show Schedule

Environmental Steward Training Program

Cooperative Extension of Cumberland County

1915-2015

NAP Producer Meeting

December 15, 2015 at 9:00 am

Vineland FSA Office
1318 S Main Road Bldg. 5A
Vineland, NJ 08360

Please join us to learn about the **Non-Insured Crop Disaster Assistance Program (NAP).** The provisions of NAP, including the new buy-up coverage options will be discussed. All current participants and interested producers are encouraged to attend.

Persons with disabilities who require accommodations to attend or participate in this meeting/event/function should contact Angela Andreoli at 856-205-1225 extension 2 or Federal Relay Service at 1-800-877-8339 by December 9, 2015.

Angela Andreoli, CED
Vineland, NJ

Atlantic/Cape May/ Cumberland FSA
(856) 205-1225, ext.2

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Rutgers Cooperative Extension 100 Years of Service in Cumberland County

Food & Drug Administration Release Final Rules

Wesley Kline, Ag Agent/Food Safety Trainer

Food and Drug Administration on February 13 released groundbreaking final rules that will help produce farmers and food importers take steps to prevent food safety problems before they occur.

The FDA Food Safety Modernization Act (FSMA) Produce Safety rule is now final, and the earliest compliance dates for some farms begin one year after the effective date of the final. The rule establishes, for the first time, science-based minimum standards for the safe growing, harvesting, packing, and holding of fruits and vegetables grown for human consumption.

This rule was first proposed in January 2013. In response to input received during the comment period and during numerous public engagements that included public meetings, webinars, listening sessions, and visits to farms across the country, the FDA issued a supplemental notice of proposed rulemaking in September 2014. The proposed revisions were designed to make the originally proposed rule more practical, flexible, and effective.

The final rule is a combination of the original proposal and revisions outlined in the supplemental proposal, with additional changes as appropriate. The definition of “farm” and related terms were revised in the final Preventive Controls for Human Food rule, and the same definitions of those terms are used in this rule to establish produce safety standards. Operations whose only activities are within the farm definition are not required to register with FDA as food facilities and thus are not subject to the preventive controls regulations. A factsheet from FDA is attached to this newsletter which will give you a summary of the Produce Safety Final Rule. The complete Produce Safety Final Rule can be seen at http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334114.htm.

The agency also released a Final Environmental Impact Statement on the rule’s provisions, Foreign Supplier Verification Programs (FSVP) Final Rule and the Accredited Third-Party Certification Final Rule. For these documents along with a webinar series on the final rules go to http://www.fda.gov/Food/GuidanceRegulation/FSMA/default.htm

Worker Protection Standard Revisions

Pat Hastings, Pesticide Safety Coordinator, Rutgers University

The revisions to the Worker Protection Standard [40 CFR part 170] were published in the Federal Register by this past Tuesday, November 2, 2015 [under the authority of sections 2 through 35 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)]. There were no substantive changes made to the final rule as published.

Compliance effective dates kicked in when the rule was published in the Federal Register. We have not seen any press releases or other notifications by EPA.

The rule will become effective **January 1, 2016**.

Implementation will be in 2 phases:

1. One year later, agricultural employers and handler employers will be required to comply with most of the new requirements on **January 2, 2017.**

2. Two years later, agricultural employers and handler employers will be required to comply with certain new requirements on **January 1, 2018 or later** (*as noted below)*, as provided in 40 CFR 170as follows:

- Display requirements for pesticide safety information and pesticide application and hazard information [per 170.311(a)(3)]
- Requirements for suspending applications [per 170.505(b)]
- Training requirements for workers [per 170.401(c)(3)] and training requirements for handlers [per 170.501(c)(3)]. EPA intends to make available to the public training materials that may be used to conduct training conforming to the requirements. Employers must implement the new training curriculum by **January 1, 2018 (or 180 days after EPA announces the training materials are available, whichever is later**).

The final rule is published at www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2011-0184-2510. Additional information on the rule is available at: www2.epa.gov/pesticide-worker-safety/revisions-worker-protection-standard.

Jersey Fresh On-Line Store Opens

Lynne Richmond, NJ Department of Agriculture

Just in time for holiday shopping season – the Jersey Fresh Shop is here! Find the perfect Jersey Fresh stocking stuffer or gift in time for the holidays on the official Jersey Fresh online store. Plus, all proceeds go right back to supporting NJ farmers through the Jersey Fresh program. Happy Shopping! http://www.cafepress.com/jerseyfreshshop

Scarlet Fire Dogwood

Rutgers, The State University

Introducing our 1st *C. kousa* in 45 years of breeding. The plant combines attributes such as disease/pest resistance and cold/heat tolerance with attractive, unique deeply pink-colored shimmering bracts in a medium-size eye-catching tree, with bracts lasting 6-8 weeks.

From the world's foremost dogwood breeding program, Our newest Rutgers Release:

- 1st consistently dark pink-to-fuchsia bracted *Cornus kousa*
- Can flower as early as 2nd year, heave display soon after
- Medium-to-large 5' bracts last 6+ weeks
- Color stable in 90° NJ Summer
- Grows to 10' in 8 years
- USDA Plant Hardiness Zones 5 - 8

As a commitment to NJ's nursery and agriculture industry, Rutgers' NJAES has arranged that this brilliant new plant be made available to NJ commercial growers prior to its general release. There is a very limited availability for Spring 2016 of 1 year old BR liners. Orders must be placed by mid-December on a first-come-first-served basis. Plants would be shipped in January through April.

For ordering, minimums and limits, deposit, and all other information contact:

- Ann Sisk, After Hours Nursery, 931-469-7807, email: afterhoursnursery@edge.net or visit: http://www.afterhoursnursery.com/
- Alex Neubauer, Hidden Hollow Nursery, 931-398-9343, email: alex@hiddenhollownursery.com or visit: http://hiddenhollownursery.com/
- For 2017 orders: Fred Shadow 931-967-4541, email: tnvalnsy@yahoo.com or visit: http://www.tennesseevalleynursery.com/

EPA Issues Sulfoxaflor Final Cancellation Order

On November 12, 2015, EPA cancelled the registrations of sulfoxaflor-containing products as required in a September 10, 2015, decision by the Ninth Circuit Court of Appeals. The court determined that EPA did not have sufficient data to unconditionally register these products at the labeled rates. The cancellation affects Transform® WG, Closer® SC, XXpire® WG, Seeker™ and Sequoia™ insecticide products, which contain sulfoxaflor.

EPA's cancellation order addresses the distribution, sale and use of product in the channels of trade and product held by growers. EPA will allow:

(1) continued use of existing stocks of the products already in the hands of end users, provided that users comply with the terms of the preexisting label, and

(2) limited distribution or sale of existing stocks only for the purposes of facilitating the return of material to the manufacturer, proper disposal, or lawful export.

Dow AgroSciences

Food Safety Workshops
December 2015 - March 2016

February 11 – Food Safety Modernization Act Training for Grower Certification, 2016 NJ Ag Conv. & Trade Show, Harrah's Resort, Atlantic City, NJ. Cost included in convention registration, 9:00 am-4:00 pm.

February 24 – Food Safety Modernization Act Training for Grower Certification, Mercer County Cooperative Extension, 930 Spruce St., Trenton, NJ, $50, 9am – 4pm. To register call 609-989-6830.

March 2 – Advanced Food Safety & Audit Training, Cumberland County Cooperative Extension, 291 Morton Ave., Rosenhayn, NJ; $50 includes lunch; 9:00 am – 4 pm. To register call 856-451-2800 x1.

March 9 – Blueberry Food Safety Training, Marucci Center for Blueberry & Cranberry Research & Ext., 125A Lake Oswego Rd., Chatsworth, NJ, $50 includes lunch; 9:00 am - 4:00 pm. To register call 609-726-1590.

March 23 – Food Safety Modernization Act Training for Grower Certification, Snyder Research and Extension Farm, 140 Locust Grove Rd., Pittstown, NJ; $50 includes lunch; 9:00 am – 4:00 pm. To register call 856-451-2800 x1.

TOPICS:

- Third Party Audit Standards
- How to develop a food safety plan for your operation
- Produce sampling results from 2015
- Food Safety Modernization Act
- Risk Assessment
- Writing Standard Operating Procedures

This material is based upon work supported by USDA/NIFA under Award Number 2012-49200-20031 and NJDA/USDA Specialty Crop Block Grant #12-25-B-1685

Calendar of Important Events

Indicates the newly added event since last calendar

December 2015

December 7
Water Management and Drainage, Rutgers Cont. Ed, New Brunswick; $195 by 11/23; $210 after; 9am-4pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271

December 8-10
Great Lakes Fruit, Vegetable and Farm Market EXPO, Devos Place Conf. Center, Grand Rapids, Mich. For info visit: www.glexpo.com, call Jennifer Dickie 734-677-0503 or email: jdickie@managedbyamr.com

December 8-10
Green Expo Turf & Landscape, Borgata Hotel Casino & Spa, Atlantic City, NJ; Members $225, non-members $325 by 11/16. For more information call 973-812-6467 or visit: www.njturfgrass.org

December 10
It's Not the Economy, It's You!, Rutgers Cont. Ed, New Brunswick; $195 by 11/23; $210 after; 9am-3:30pm. For more info visit: www.cpe.rutgers.edu or call 848932-9271.

December 14
NJ Fertilizer Recertification Program, Rutgers Cont. Ed, New Brunswick; $145. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

December 15-17
Integrated Pest Management, Rutgers Cont. Ed, New Brunswick; $195 by 12/1; $210 after for 1 day; $395 by 12/1; $430 after for 3 days; 9am-4pm. For more info visit: www.cpe.rutgers.edu or call by 848-932-9271. Pesticide credits: (1 day) 5 credits in 3A & 3B and 8 credits in 13. (3 days) 16 credits 3A, 3B and 13.

December 18
Growing Ornamental Plants, Rutgers Cont. Ed, New Brunswick; $195 by 12/4; $210 after, 9am-3:30 pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271

December 21
Basics of Turfgrass Management, Rutgers Cont. Ed., New Brunswick; $195 by 12/7; $210 after; 9am-3:30pm. Pesticide credits: 10 in 3B & 2 in CORE. For info visit: www.cpe.rutgers.edu or call 848-932-9271.

December 22
Common Sense Business and Pricing, Rutgers Cont. Ed, New Brunswick; $195 by 12/8; $210 after; 9am-4pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 2016

January 4-5
Kentucky Fruit and Vegetable Conference, Embassy Suites Hotel, Lexington, Ky. For more information call John Strang 859-257-5685 or email: jstrang@uky.edu

January 5
Pest Management of Ornamental Landscape Plants, Rutgers Cont. Ed, New Brunswick; $195 by 12/22; $210 after; 9am-3:30pm. Pesticide credits: 2 CORE; 8 in 2, 3A, 6B, 8C and PP2. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 6-8
Illinois Specialty Crops, Agritourism and Organic Conference, Crowne Plaza Hotel and Conference Center, Springfield, Ill. For more information call 309-557-2107 or email: cblary@ilfb.org

January 8 (1x wk through March 18th)
Landscape Plants: Identification, Selection and Application, Rutgers Cont. Ed, New Brunswick; $895 by 12/21; $950 after; 8:30-noon. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 7-10
SE Regional Fruit & Vegetable Conference & Trade Show, Savannah, Ga. For more information visit: www.seregionalconference.com

January 7, 12, 14 & 19
Irrigation Systems: Design and Installation, Rutgers Cont. Ed, New Brunswick; $695 by 12/21; $725 after; 9am-4pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 11
Managing Diseases of Ornamental Plants, Rutgers Cont. Ed, New Brunswick; $195 by 12/21; $210 after; 9am-3:30pm. Pesticide credits: 10 in 3A; 8 in 2 and 2 in 10. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 15 (1x wk through March 4th)
Landscape Design I: The Basics, Rutgers Cont. Ed, New Brunswick; $745 by 1/4; $795 after; 1-4:30 pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 18-20
2016 OPGMA Congress, Kalahari Resort & Convention Center, Sandusky, Ohio. For more information visit: www.opgma.org

January 19-21
Indiana Hort Congress, Wyndham Indianapolis West, Indianapolis. For info visit: www.inhortcongress.org

January 19-21
Empire State Producers Expo, Syracuse, N.Y. For info visit: www.hort.cornell.edu/expo

January 24-26
Wisconsin Fresh Fruit & Vegetable Conference, Wisconsin Dells, Wisconsin. For more information visit: www.wiberries.org

January 27-30
Practical Tools and Solutions for Sustaining Family Farms Conference, Lexington, Ky. Southern Sustainable Agriculture Working Group. For more information visit: www.ssawg.org

January 27
Organic Turfgrass Management, Rutgers Cont. Ed, New Brunswick; $195 by 1/13; $210 after; 8:30am-3:15pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 28-29
Iowa Fruit and Vegetable Growers Annual Conference, Ankeny, Iowa. For more information call Adam Hohl 319-316-2650 or email: info@ifvga.org

January 28
Park Management and Liability Issues, Rutgers Cont. Ed, New Brunswick; $195 by 1/14; $210 after; 9am-3:30pm. For more info visit: www.cpe.rutgers.edu or call 848-932-9271.

January 29-31
2016 Georgia Watermelon Convention, King & Prince Resort, St. Simons, GA. For more information visit: http://www.georgiawatermelonassociation.org

February 2016

February 2-4
Mid-Atlantic Fruit & Vegetable Convention, Hershey, PA. For more information visit: www.mafvc.org

February 6-12
IFTA 59th Annual Conference, Michigan. For more information visit: www.ifruittree.org

February 9-11
New Jersey Agricultural Convention & Trade Show, Harrah's Convention Center, Atlantic City, NJ. For more information visit: www.njveggies.org

February 25-27
MOSES Organic Farming Conference, La Crosse, Wis. For more info visit: www.mosesorganic.org

March 2016

March 2-4
2016 North American Raspberry & Blackberry Conference, Williamsburg, Va. For more information visit: www.raspberryblackberry.com

April 2016

April 2
NJ Junior Breeder and Young Farmer Symposium, Rutgers University School of Environmental and Biological Science, Round House, College Farm Road, New Brunswick. For more info call 609-984-4389 or email: lynn.mathews@ag.state.nj.us

REGULARLY SCHEDULED MEETINGS

✔ Indicates meeting will be held at RCE of Cumberland County

✔	✔	✔
Pesticide Certification Exam Schedule—Cumberland County **291 Morton Avenue** **Millville, NJ 08332** **(Between Rosenhayn & Carmel)** 2016 Jan 28 Mar 24 Sept 22 Oct 20 **To Register call 609-984-6614** **For directions call 856-451-2800** **********	**Cumberland County Agriculture Development Board** **Soil Conservation Office** **1516 Highway 77** **Deerfield Street, NJ 08332** 2015 Dec 9 **Reg. Meetings start at 7 p.m.** **Call DeAnn at 856-453-2211** **********	**Cumberland County Board Of Agriculture** **291 Morton Avenue** **Millville, NJ 08332** **(Between Rosenhayn & Carmel)** **7 pm meetings** 2015 Dec 17 2016 Jan 21 Feb 18 Mar 17 Apr 21 May 19 Sept 15 Oct 20 Nov 17 Dec 15 **For info call Hillary Barile,** **President 856-453-1192** **********

Cumberland County Improvement Authority (CCIA)
Pesticide Container Recycling
9:00 a.m. to 12 Noon
Cumberland County Solid Waste Complex
169 Jesse's Bridge Rd. (located off Route 55 Exit 29)
Deerfield Township, New Jersey
Questions? Call Division of Ag & Natural Resources, NJ Dept. of Ag 609-292-5532

2016 Dates published when received

Sincerely,

James R. Johnson
Agricultural Agent
Nursery Management Commercial
Internet: jjohnson@njaes.rutgers.edu

Wesley L. Kline, Ph.D.
Agricultural Agent
Vegetable & Herb Production
Internet: wkline@njaes.rutgers.edu

Have you visited the Cumberland County website for the

Present and/or past issues of “Cultivating Cumberland”? It’s a great

resource for information and dates……...

http://Cumberland.njaes.rutgers.edu/

RUTGERS
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Food Safety Modernization Act

Produce Safety Final Rule

Introduction

The FDA Food Safety Modernization Act (FSMA) Produce Safety rule is now final, and the earliest compliance dates for some farms begin one year after the effective date of the final rule (see “Compliance Dates” below). The rule establishes, for the first time, science-based minimum standards for the safe growing, harvesting, packing, and holding of fruits and vegetables grown for human consumption.

This rule was first proposed in January 2013. In response to input received during the comment period and during numerous public engagements that included public meetings, webinars, listening sessions, and visits to farms across the country, the FDA issued a supplemental notice of proposed rulemaking in September 2014. The proposed revisions were designed to make the originally proposed rule more practical, flexible, and effective.

The final rule is a combination of the original proposal and revisions outlined in the supplemental proposal, with additional changes as appropriate. The definition of “farm” and related terms were revised in the final Preventive Controls for Human Food rule, and the same definitions of those terms are used in this rule to establish produce safety standards. Operations whose only activities are within the farm definition are not required to register with FDA as food facilities and thus are not subject to the preventive controls regulations.

For operations that meet the farm definition, exemptions and modified requirements for the Produce Safety are explained in “Exemptions and Variances” and in the Coverage and Exemptions/Exclusions flowchart

Key Requirements

1. Agricultural Water

- **Water quality**: The final rule adopts the general approach to water quality proposed in the supplemental rule, with some changes. The final rule establishes two sets of criteria for microbial water quality, both of which are based on the presence of generic *E. coli*, which can indicate the presence of fecal contamination.
  - No detectable generic *E. coli* are allowed for certain uses of agricultural water in which it is reasonably likely that potentially dangerous microbes, if present, would be transferred to produce through direct or indirect contact. Examples include water used for washing hands during and after harvest, water used on food-contact surfaces, water used to directly contact produce (including to make ice) during or after harvest, and water used for sprout irrigation. The rule establishes that such water use must be immediately discontinued and corrective actions taken before re-use for any of these purposes if

generic *E. coli* is detected. The rule prohibits use of untreated surface water for any of these purposes.

- The second set of numerical criteria is for agricultural water that is directly applied to growing produce (other than sprouts). The criteria are based on two values, the geometric mean (GM) and the statistical threshold (STV). The GM of samples is 126 or less CFU of generic E.coli per 100 mL of water and the STV of samples is 410 CFU or less of generic E.coli in 100 mL of water.
  - The GM is an average, and therefore represents what is called the central tendency of the water quality (essentially, the average amount of generic *E. coli* in a water source).
  - STV reflects the amount of variability in the water quality (indicating *E. coli* levels when adverse conditions come into play—like rainfall or a high river stage that can wash waste into rivers and canals). Although this is an over simplification, it can be described as the level at which 90 percent of the samples are below the value.
  - The FDA is exploring the development of an online tool that farms can use to input their water sample data and calculate these values.
  - These criteria account for variability in the data and allow for occasional high readings of generic E.coli in appropriate context, making it much less likely (as compared to the originally proposed criteria for this water use) that a farm will have to discontinue use of its water source due to small fluctuations in water quality.
  - These criteria are intended as a water management tool for use in understanding the microbial quality of agricultural water over time and determining a long-term strategy for use of water sources during growing produce other than sprouts.
- If the water does not meet these criteria, corrective actions are required as soon as is practicable, but no later than the following year. Farmers with agricultural water that does not initially meet the microbial criteria have additional flexibility by which they can meet the criteria and then be able to use the water on their crops. These options include, for example:
  - Allowing time for potentially dangerous microbes to die off on the field by using a certain time interval between last irrigation and harvest, but no more than four consecutive days.
  - Allowing time for potentially dangerous microbes to die off between harvest and end of storage, or to be removed during commercial activities such as washing, within appropriate limits.
  - Treating the water.
- **Testing**: The final rule adopts the general approach to testing untreated water used for certain purposes proposed in the supplemental notice, with some changes. The rule still bases testing frequency on the type of water source (i.e. surface or ground water).
  - In testing untreated surface water—considered the most vulnerable to external influences—that is directly applied to growing produce (other than sprouts), the FDA requires farms to do an initial survey, using a minimum of 20 samples, collected as close as is practicable to harvest over the course of two to four years. The initial survey findings are used to calculate the GM and STV (these two figures are referred to as the “microbial water quality profile”) and determine if the water meets the required microbial quality criteria.
  - After the initial survey has been conducted, an annual survey of a minimum of five samples per year is required to update the calculations of GM and STV.

- The five new samples, plus the previous most recent 15 samples, create a rolling dataset of 20 samples for use in confirming that that the water is still used appropriately by recalculating the GM and STV.
  - For untreated ground water that is directly applied to growing produce (other than sprouts), the FDA requires farms to do an initial survey, using a minimum of four samples, collected as close as is practicable to harvest, during the growing season or over a period of one year. The initial survey findings are used to calculate the GM and STV and determine if the water meets the required microbial quality criteria.
- After the initial survey has been conducted, an annual survey of a minimum of one sample per year is required to update the calculations of GM and STV.
- The new sample, plus the previous most recent three samples, create a rolling dataset of four samples for use in confirming that that the water is still used appropriately by recalculating the GM and STV.
  - For untreated ground water that is used for the purposes for which no detectable generic *E. coli* is allowed, the FDA requires farms to initially test the untreated ground water at least four times during the growing season or over a period of one year. Farms must determine whether the water can be used for that purpose based on these results.
- If the four initial sample results meet the no detectable generic *E. coli* criterion, testing can be done once annually thereafter, using a minimum of one sample. Farms must resume testing at least four times per growing season or year if any annual test fails to meet the microbial quality criterion.
  - There is no requirement to test agricultural water that is received from public water systems or supplies that meet requirements established in the rule (provided that the farm has Public Water System results or certificates of compliance demonstrating that the water meets relevant requirements), or if the water is treated in compliance with the rule's treatment requirements.

2. Biological Soil Amendments

- **Raw Manure**: The FDA is conducting a risk assessment and extensive research on the number of days needed between the applications of raw manure as a soil amendment and harvesting to minimize the risk of contamination. (A soil amendment is a material, including manure that is intentionally added to the soil to improve its chemical or physical condition for growing plants or to improve its capacity to hold water.)
  - At this time, the FDA does not object to farmers complying with the USDA's National Organic Program standards, which call for a 120-day interval between the application of raw manure for crops in contact with the soil and 90 days for crops not in contact with the soil. The agency considers adherence to these standards a prudent step toward minimizing the likelihood of contamination while its risk assessment and research is ongoing.
  - The final rule requires that untreated biological soil amendments of animal origin, such as raw manure, must be applied in a manner that does not contact covered produce during application and minimizes the potential for contact with covered prdouce after application.
- **Stabilized Compost**: Microbial standards that set limits on detectable amounts of bacteria (including *Listeria monocytogenes*, *Salmonella* spp., fecal coliforms, and *E. coli*

0157:H7) have been established for processes used to treat biological soil amendments, including manure. The rule includes two examples of scientifically valid composting methods that meet those standards. Stabilized compost prepared using either of these methods must be applied in a manner that minimizes the potential for contact with produce during and after application.

3. Sprouts

- The final rule includes new requirements to help prevent the contamination of sprouts, which have been frequently associated with foodborne illness outbreaks. Sprouts are especially vulnerable to dangerous microbes because of the warm, moist and nutrient-rich conditions needed to grow them.
  - Between 1996 and 2014, there were 43 outbreaks, 2,405 illnesses, and 171 hospitalizations, and 3 deaths associated with sprouts, including the first documented outbreak of *Listeria monocytogenes* associated with sprouts in the United States.
- Requirements specific to sprouts include, for example:
  - Taking measures to prevent the introduction of dangerous microbes into or onto seeds or beans used for sprouting, in addition to treating seeds or beans that will be used for sprouting (or relying on prior treatment by the seed/bean grower, distributor, or supplier with appropriate documentation).
  - Testing of spent sprout irrigation water from each production batch of sprouts, or in-process sprouts from each production batch, for certain pathogens. Sprouts cannot be allowed to enter commerce until it is ascertained that these required pathogen test results are negative.
  - Testing the growing, harvesting, packing and holding environment for the presence of Listeria species or *Listeria monocytogenes*.
  - Taking corrective actions if spent sprout irrigation water, sprouts, and/or an environmental sample tests positive.
- Sprout operations will have less time to come into compliance with the rule than farms growing other produce. They will have one to three years to comply based on the size of their operation, with no additional time to meet the water requirements.

4. Domesticated and Wild Animals

- The rule addresses concerns about the feasibility of compliance for farms that rely on grazing animals (such as livestock) or working animals for various purposes. It establishes the same standards for these animals as it does for intrusion by wild animals (such as deer or feral swine). Farmers are required to take all measures reasonably necessary to identify and not harvest produce that is likely to be contaminated.
  - At a minimum, this requires all covered farms to visually examine the growing area and all covered produce to be harvested, regardless of the harvest method used.
  - In addition, under certain circumstances the rule requires farms to do additional assessment during the growing season, and if significant evidence of potential contamination by animals is found, to take measures reasonably necessary to assist later during harvest. Such measures might include, for example, placing flags outlining the affected area.

- Although the final rule does not require establishing waiting periods between grazing and harvest, the FDA encourages farmers to voluntarily consider applying such intervals as appropriate for the farm's commodities and practices. The agency will consider providing guidance on this practice in the future, as needed.
- As was stated in the supplemental notice, farms are not required to exclude animals from outdoor growing areas, destroy animal habitat, or clear borders around growing or drainage areas. Nothing in the rule should be interpreted as requiring or encouraging such actions.

5. Worker Training and Health and Hygiene

- Requirements for health and hygiene include:
  - Taking measures to prevent contamination of produce and food-contact surfaces by ill or infected persons, for example, instructing personnel to notify their supervisors if they may have a health condition that may result in contamination of covered produce or food contact surfaces.
  - Using hygienic practices when handling (contacting) covered produce or food-contact surfaces, for example, washing and drying hands thoroughly at certain times such as after using the toilet.
  - Taking measures to prevent visitors from contaminating covered produce and/or food-contact surfaces, for example, by making toilet and hand-washing facilities accessible to visitors.
- Farm workers who handle covered produce and/or food-contact surfaces, and their supervisors, must be trained on certain topics, including the importance of health and hygiene.
- Farm workers who handle covered produce and/or food contact surfaces, and their supervisors, are also required to have a combination of training, education and experience necessary to perform their assigned responsibilities. This could include training (such as training provided on the job), in combination with education, or experience (e.g., work experience related to current assigned duties).

6. Equipment, Tools and Buildings

- The rule establishes standards related to equipment, tools and buildings to prevent these sources, and inadequate sanitation, from contaminating produce. This section of the rule covers, for example, greenhouses, germination chambers, and other such structures, as well as toilet and hand-washing facilities.
  o Required measures to prevent contamination of covered produce and food contact surfaces include, for example, appropriate storage, maintenance and cleaning of equipment and tools

Exemptions

The rule does not apply to:

- Produce that is not a raw agricultural commodity. (A raw agricultural commodity is any food in its raw or natural state)

- The following produce commodities that FDA has identified as rarely consumed raw: asparagus; black beans, great Northern beans, kidney beans, lima beans, navy beans, and pinto beans; garden beets (roots and tops) and sugar beets; cashews; sour cherries; chickpeas; cocoa beans; coffee beans; collards; sweet corn; cranberries; dates; dill (seeds and weed); eggplants; figs; horseradish; hazelnuts; lentils; okra; peanuts; pecans; peppermint; potatoes; pumpkins; winter squash; sweet potatoes; and water chestnuts
- Food grains, including barley, dent- or flint-corn, sorghum, oats, rice, rye, wheat, amaranth, quinoa, buckwheat, and oilseeds (e.g. cotton seed, flax seed, rapeseed, soybean, and sunflower seed)
- Produce that is used for personal or on-farm consumption
- Farms that have an average annual value of produce sold during the previous three-year period of $25,000 or less

  The rule provides an exemption for produce that receives commercial processing that adequately reduces the presence of microorganisms of public health significance, under certain conditions.

  The rule also provides a qualified exemption and modified requirements for certain farms.
- To be eligible for a qualified exemption, the farm must meet two requirements:
  - The farm must have food sales averaging less than $500,000 per year during the previous three years; and
  - The farm's sales to qualified end-users must exceed sales to all others combined during the previous three years. A qualified end-user is either (a) the consumer of the food or (b) a restaurant or retail food establishment that is located in the same state or the same Indian reservation as the farm or not more than 275 miles away.
- A farm with the qualified exemption must still meet certain modified requirements, including disclosing the name and the complete business address of the farm where the produce was grown either on the label of the produce or at the point of purchase. These farms are also required to establish and keep certain documentation.
- A farm's qualified exemption may be withdrawn as follows:
  - If there is an active investigation of an outbreak of foodborne illness that is directly linked to the farm, or
  - If FDA determines it is necessary to protect the public health and prevent or mitigate an outbreak based on conduct or conditions associated with the farm that are material to the safety of the farm's produce that would be covered by the rule.
- Before FDA issues an order to withdraw a qualified exemption, the agency:
  - May consider one or more other actions to protect public health, including a warning letter, recall, administrative detention, refusal of food offered for import, seizure and injunction.
  - Must notify the owner, operator, or agent in charge of the farm, in writing, of the circumstances that may lead FDA to withdraw the exemption, provide an opportunity for response within 15 calendar days of receipt of the notification, and consider actions taken by the farm to address the issues raised by the agency.
- A withdrawn exemption may be reinstated if (as applicable):
  - The FDA determines that the outbreak was not directly linked to the farm, and/or

- The FDA determines that the problems with conduct or conditions material to the safety of the food produced or harvested at the farm have been adequately resolved, and continued withdrawal of the exemption is not necessary to protect public health or prevent or mitigate an outbreak of foodborne illness.

Variances

The rule also permits states, tribes, or foreign countries from which food is imported into the U.S. to submit a petition, along with supporting information, to FDA requesting a variance(s) from one or more of the requirements of this rule.

- The rule enables a state, tribe, or country, if it concludes that meeting one or more of the rule's requirements would be problematic in light of local growing conditions, to request variances to those requirements. The state, tribe, or foreign country must demonstrate that the requested variance is reasonably likely to ensure that the produce is not adulterated and provides the same level of public health protection as the corresponding requirement(s) in the rule.
- The final rule makes it clear that federally recognized tribes may submit a variance petition.
- The request for a variance must be submitted by a competent authority, meaning a person or organization that is the regulatory authority for food safety for the state, tribe, or foreign country.
- A foreign government does not need to have a systems recognition arrangement or equivalence agreement with the FDA to obtain a variance.
- The variance request must include relevant and scientifically valid information specific to the produce or activity. Information could relate to crops, climate, soil, geography or environment, as well as the practices of that particular region.
- Examples of types of variances that may be granted include a variance from the agricultural water microbial quality criteria for water used during growing covered produce (other than sprouts) using a direct water application method, a variance from the microbial die-off rate used to determine the time interval between the last irrigation and harvest and/or the accompanying maximum time interval; and a variance from the approach or frequency for water testing for water uses subject to the rule's microbial quality criteria.

Compliance Dates

Compliance dates for covered activities, except for those involving sprouts, after the effective date of the final rule are:

- Very small businesses, those with more than $25,000 but no more than $250,000 in average annual produce sales during the previous three year period : four years
- Small businesses, those with more than $250,000 but no more than $500,000 in average annual produce sales during the previous three year period: three years
- All other farms: two years
- The compliance dates for certain aspects of the water quality standards, and related testing and recordkeeping provisions, allow an additional two years beyond each of these compliance dates for the rest of the final rule

Compliance dates for modified requirements for farms eligible for a qualified exemption are:

- For labeling requirement (if applicable): January 1, 2020
- For retention of records supporting eligibility for a qualified exemption: Effective date of the final rule
- For all other modified requirements:
  - Very small businesses, four years after the effective date of the final rule
  - Small businesses, three years after the effective date of the final rule

Compliance dates for covered activities involving sprouts after the effective date of the final rule are:

- Very small businesses: three years
- Small businesses: two years
- All other farms: one year

Environmental Impact Statement

The FDA has also released the Final Environmental Impact Statement (EIS), which places the Produce Safety rule in the context of its likely impact on the environment, including human health and socioeconomic effects. The Draft EIS was published in January 2015. The FDA considered public comments submitted in the two months that followed in drafting the Final EIS. The FDA considered the findings of the Final EIS in finalizing the produce rule.

- The EIS evaluated actions that FDA proposed in the original and supplemental rules, as well as a number of alternative actions for each of the provisions identified as having the potential to result in significant environmental impacts. The provisions of the final rule represent FDA's preferred alternatives, which are detailed in a Record of Decision (ROD). The ROD addresses how the EIS findings were incorporated into decisions about the final rule. The agency's preferred alternatives are those that the FDA believes best fulfill the agency's statutory mission and responsibility, giving consideration to economic, environmental, technical and other factors.
- A significant beneficial impact on public health is expected due to the anticipated decrease in the number of illnesses tied to produce contamination.
- As in the Draft EIS, the Final EIS notes that any produce regulation that causes a farmer to use ground water instead of surface water could exacerbate existing groundwater shortages, although added flexibility in the water provisions make such a management decision unlikely.
- The Final EIS also concludes that Native American farmers may be disproportionately affected by any increases in operating costs necessitated by the produce rule since their average income is 30 percent less than that of other farmers.

Assistance to Industry

The FDA is developing several guidance documents on subjects that include:

- General guidance on implementation and compliance.
- A Small Entity Compliance Guide that explains the actions a small or very small business must take to comply with the rule.

- Other documents, including guidance on sprouts, are being considered and prioritized. Plans for training and technical assistance are well under way. They include:
- Establishing the FDA FSMA Food Safety Technical Assistance Network, already operational, to provide a central source of information to support industry understanding and implementation of FSMA.
- The FDA is developing a comprehensive training strategy that includes collaboration with:
  - The Produce Safety Alliance;
  - The Sprout Safety Alliance;
  - The National Institute of Food and Agriculture in the U.S. Department of Agriculture (to administer a grant program to provide food safety training, education and technical assistance to small and mid-size farms and small food processors, beginning farmers, socially disadvantaged farmers, and small produce merchant wholesalers); and
  - Cooperative agreement partners (to develop training programs for sustainable agriculture and tribal operations).
- The FDA also plans to work with cooperative extension units, land grant universities, trade associations, foreign partners, the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), and other stakeholders to develop a network of institutions that can provide technical assistance to the farming community, especially small and very small farms.
- FDA has entered into a cooperative agreement with National Association of State Departments of Agriculture (NASDA) to help with the implementation of the produce safety regulations.

Food and Drug Administration Fact Sheet updated 11/13/15

Tuesday Morning, February 9, 2016

Sweet Corn

Wildwood 3 & 4

Ray Samulis
Burlington County Ag Agent, RCE

9:30 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

9:45 - Update on Sweet Corn Insecticides with Changing Insect Pressures
-- Kris Holmstrom,
IPM, Research Project Coordinator, RCE

10:15 - Current Economics and Marketing Trends of the Sweet Corn Industry
-- Bruce Eckland, National Agricultural Statistics Service, USDA

10:45 - Results of the Sweet Corn Control Bird Control Study.
- What's Wrong with My Sweet Corn?
-- Ray Samulis, Burlington County Ag Agent, RCE

11:45 – Questions, Comments and Re-certification Credits 1A=2, PP2=2, 10=2 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Technologies for Marketing and Promotion

Wildwood 5 & 6

Kenesha Reynolds-Allie
Warren Co. Ag Agent, RCE

9:30 - Developing Wine Marketing Strategies for the Mid-Atlantic Region
-- Abigail Miller, Penn State University

10:00 - The Value in Having a Social Media Presence
-- Sarah Cornelisse, Sr.
Extension Assoc., Penn State University

10:30 - Advertising in Agriculture: Social Media and Online Presence
-- Jim & Scott Quarella,
President & Vice President of Bellview Winery

11:00 – How to Humanize Your Brand
-- Jessica Media,
CEO of Jessica Ann Media

11:30 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

11:45 - Questions, Comments and Re-certification Credits 1A=, PP2=, 10= .CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Organic

Wildwood 9

Joe Heckman
Extension Specialist in Soil Fertility, RCE

9:30 - Low Soil Inorganic N is not so Yield-Limiting in Established Organic Systems
-- Alison M. Grantham, Penn State University

10:00 - Compost and Row Covers for Nutrient and Insect Pest Management in Organic Cucurbits.
-- Elsa Sanchez, Penn State University,

10:30 - Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

10:45 - Organic Seed Requirements & Choosing Compliant Materials for Organic Production.
-- Erich Bremer, NJDA

11:15 - How the IR4 Program Helps Organic Growers
-- Jerry Baron, IR4 Rutgers University

11:45 – Questions, Comments and Re-certification Credits 1A=2, PP2=1, 10=2, CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Wine Grapes I

Wildwood 10

Gary Pavlis
Atlantic County Ag Agent, RCE

9:30 - Should You be Growing Grapes? Pros, Cons and Site Selection
-- Gary Pavlis, Atlantic County Agriculture Agent, RCE

10:00 - What Should you Grow? Grape Variety Selection.
-- Joseph Fiola, Small Fruit Specialist, University of Maryland

10:30 - Things to Remember Before Ordering your Vines
-- Hemant Gohil, Gloucester County Agriculture Agent, RCE

11:00 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

11:15 - Vineyard Establishment
-- Daniel Ward, Extension Specialist in Pomology and Viticulture, RCE

11:45 - Economics of Growing Grapes
-- Daniel Ward, Extension Specialist in Pomology and Viticulture, RCE

12:15 – Questions, Comments and Re-certification Credits 1A=4, PP2=2, 10=2, CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Hydroponics/ Aeroponics

Wildwood 11

A.J. Both
Ext. Specialist in Ag Engineering, RCE

9:30 – Aeroponics
-- Ed Harwood,
Chief Technology Officer for Aero Farms, LLC, Ithaca, NY

10:00 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

10:15 - Nutrient Management
-- Rosa Raudales,
Extension Specialist, University of Connecticut

10:45 – Rethinking Growth using Aeroponics
-- Frank Fendler,
Co-Founder Aero Development Corporation

11:15 - Crop Lighting
-- A.J. Both,
Extension Specialist in Ag Engineering, RCE

11:45 – Questions, Comments and Re-certification Credits 1A=3, 10=2 .CCA Credits: CM=0.0 IPM=0.0, PD=0.0

12:00 to 1:30 pm	Mandatory Annual Training Documents for the FMNP Vendors with Q&A in room **Wildwood 8** **-- Dorothy Ngumezi and Jose Quann,** both from the NJDOH and **Bill Walker,** NJDA
1:30 to 2:30pm	Farm to School In New Jersey: Learn How Your Farm Can Become Involved

	-- **Beth H. Feehan**, Farm to School coordinator, NJDA

Tuesday Afternoon, February 9, 2016

Farm Safety

Wildwood 3 & 4

Ray Samulis
Burlington County Ag Agent, RCE

2:15 - Changes to the Worker Protection Standards for Farm Workers & Handlers
-- Michelle Casella, Gloucester County Ag Agent, RCE

2:45 - Proper Use of Personal Protective Equipment While Spraying
-- Pat Hastings, Pesticide Safety Education Program Coordinator, NJAES, RU

3:15 - Solving Farm Hazards With Innovative Farm Safety & Health Programs
-- Jim Carrabba, Farm Safety Specialist New York Center for Ag Medicine and Health

3:45 - Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

4:00 - Understanding Where the REAL Farm Safety Issues are on New Jersey Farms and Protecting Children Working on the Farm
-- Ray Samulis, Burlington County Ag

Direct Marketing /Agritourism(AT)

Wildwood 5 & 6

William Hlubik
Middlesex County Ag Agent, RCE

2:15 - How to Handle Large Crowds at Your AT Events
--- Timothy VonThun, VonThun Family Farm

2:45 Tips for Hiring and Managing Employees for Direct Markets and AT Events
-- Gillian Armstrong, Assitant.for RCE &NJAES
-- Bill Hlubik, Middlesex County Ag Agent, RCE

3:10 - Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

3:25 - Grower Panel – Young Farmers with Great Ideas for Direct Marketing & AT
-- Bill Hlubik, Moderator
-- Stephen Specca
-- Wes Johnson
-- Jim Johnson
-- Gillian Armstrong
-- Tim VonThun

4:30 Agritourism Need Not be a Risky Business-Protecting People From Pesticides on Your Property,
-- Pat Hastings, Pesticide Safety Education Program Coordinator, NJAES, RU

Alternative Production-Animals

Wildwood 9

Bob Mickel
Hunterdon County Ag and Regional Livestock Agent RCE

2:15 - The Role of Pasture in Organic Agriculture and Livestock Farming Systems,
-- Joseph Heckman, Extension Specialist in Soils, RCE

3:00 - Grazing and Value Added Lamb Production"
-- Robert Mickel Hunterdon County Ag Agent, RCE

3:45 - Selection and Feeding Concepts for Beef Cattle Production"
-- Robert Mickel Hunterdon County Ag Agent, RCE

4:30 – TBA
-- Mike Westendorf Specialist in Livestock and Dairy, RCE

5:00 – Questions, Comments and Re-certification Credits: 1A=1,

Wine Grapes II

Wildwood 10

Hemant Gohil
Gloucester County Ag Agent, RCE

2:15 - Pruning and Canopy Management
-- Joseph Fiola, Small Fruit Extension Specialist, University of Maryland

2:45 - Insect Pests in Vineyard
-- Anne Nielsen, Extension Specialist in Entomology, RCE

3:15 - Controlling Diseases in Vineyard
-- Peter Oudemans, Extension Specialist in Pathology, RCE

3:45 - What Works and What Doesn't - Growers Perspective
-- Mark Carduner, Owner, Working Dog Vineyard

4:15 - A Word About the Wine
-- Gary Pavlis, Atlantic County Ag Agent, RCE

4:45 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

5:00 - Questions, Comments and Re-certification Credits 1A=4, PP2=2, 10=4 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Greenhouses

Wildwood 11

A.J. Both
Extension Specialist in Ag Engineering, RCE

2:15 - Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

2:30 - Greenhouse Vegetables
-- Peter Konjoian, President of Research, Konjoian's Floriculture Education Services, Andover, MA

3:00 - Virtual Grower Software
-- Jennifer Boldt, Research Horticulturist, USDA-ARS, Univ. of Toledo

3:30 - Making water wetter: Using adjuants profitably
-- Judy McWhorter, National Sales Manager Pace 49, Inc.

4:00 - Cold Season Crop Production in High Tunnels
-- Becky Sideman, Sustainable Horticulture Specialist, Univ. of New Hampshire

4:30 – Questions, Comments and Re-certification Credits 1A=3, 10=3 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Field & Forage Crops

Wildwood 12

Bill Bamka
Burlington County Ag Agent, RCE

2:15 - Recommended Production Practices for Growing Hay in NJ – Fertility
-- Steve Komar, Sussex Ag Agent, RCE

2:45 - Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

3:00 - Rutgers Field Crop Research Update
-- Kelly Steimle and
-- Rachel Jeronimus Salem County Program Associates, RCE

3:30 - Disease Issues in a Soybean - Vegetable Rotation
-- Nathan Kleczewski, Ext. Plant Pathologist, Univ. of Delaware

4:00 - Herbicide Resistant Weeds-Current Status in NJ Field Crops
-- Bill Bamka, Burlington county Ag Agent, RCE

4:30 – Questions, Comments and Re-certification Credits 1A=4, PP2=4, 10=4 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Bees

Wildwood 13

Joe Ingerson-Mahar
Vegetable IPM Coordinator, RCE

2:15 -Bee Health and Pollinator Services
-- Carley Miller, Penn State University

2:45 - Farmers Beware Issues Regarding Renting Bees
-- Tim Schuler, NJDA

3:15 - Bee Protection at the Federal Level
-- Jerry Baron, IR-4

3:45 - Wild Bees Can Help With Pollinating Concerns
-- Michael Roswell, NJAES

4:15 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

4:30 - Questions, Comments and Re-certification Credits 1A=1, PP2=1, 10=2, CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Agent, RCE 4:45 – Questions, Comments and Re-certification Credits: CORE=4, PP2=2, CCA Credits: CM=0.0 IPM=0.0, PD=0.0	5:00 – Questions, Comments and Re-certification Credits CORE=1, PP2=1, CCA Credits: CM=0.0 IPM=0.0, PD=0.0	2A=1, 10=4				

Wednesday Morning, February 10, 2016

Small Fruit/Strawberry

Wildwood 3 & 4

Peter Nitzsche
Morris County Ag Agent, RCE

9:30 - Update on Rutgers NJAES Strawberry Breeding Program
-- Peter Nitzsche, Morris County Ag Agent, RCE

10:00 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

10:15 - Recent Research on Strawberry Disease Management
-- Natalia Peres, Professor Plant Pathology, Univ. of Florida

10:45 - Bramble Production in High Tunnels
-- Kathy Demchak, Senior Extension Associate, Penn State University

11:15 - Growing and Marketing Small Fruit at Dickey Farms
-- David Dickey, Owner Dickey Farms

11:45 - An Update on Spotted Wing Drosophila Management
-- Cesar Rodriguez-Saona, Specialist in Blueberry/Cranberry Entomology, RCE

12:15 – Questions, Comments and Re-certification Credits 1A=4, PP2=3, 10=5 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Pesticide Efficacy

Wildwood 5 & 6

Bill Sciarappa
Monmouth County Ag Agent, RCE

9:30 - Pesticide Updates
-- Patricia Hastings, Pesticide Safety Education Program Coordinator, NJAES, RU

10:00 - Avoiding Pesticide Drift & Other Environmental Concerns,
-- Michelle Casella, Gloucester County Agricultural Agent, RCE

10:30 - Reading the Label - Easier Said Than Done
-- Jenny Carleo, Cape May Agriculture Agent, RCE

11:00 - Pesticide Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

11:15 - Pesticide Formulations and Efficacy
-- William Scherzinger, FMC Scientist - Research & Technology Center

11:45 – Questions, Comments and Re-certification Credits CORE=5, 1A=5, PP2=1, 10=5 ,3AB=5, CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Cole Crops and Lettuce

Wildwood 10

Wes Kline
Cumberland County Ag Agent, RCE

9:30 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

--9:45 - New Basil Varieties to Manage Downy Mildew
-- Robert Pyne, Dept. of Plant Biology and Pathology, RU

10:15 - Update on the Rutgers Lettuce Varieties,
-- William Sciarappa, Monmouth County Ag Agent, RCE

10:45 - Broccoli Production in Warm Weather
-- Thomas Bjorkman, School of Integrative Plant Science – Horticulture, Cornell University

11:15 - Managing Diseases in Cole Crops,
-- Meg McGrath, Extension Specialist Cornell University.

11:45 – Questions, Comments and Re-certification Credits 1A=4, PP2=2, 10=4 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Alternative Crops

Wildwood 12

Michelle Casella/Bill Bamka
Gloucester/Burlington County Ag Agents, RCE

9:30 - Christmas Tree Production and Profitability
-- Robert Bruch
NJDA-Retired and Christmas Tree Farmer

10:00 - Feasibility of Hops Production in NJ
-William Bamka
Burlington County Ag Agent, RCE

10:30 - How to Make Big Bucks Off of an Acre of Specialty Peppers in NJ
-– Raymond Samulis
Burlington County Ag Agent, RCE

11:00 - Incorporating Summer Cover Crops for Crop Improvement
-- Michelle Casella
Gloucester County Ag Agents, RCE

11:30 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

11:45 - Questions, Comments and Re-certification Credits 1A=4, PP2=1, 10=4 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Peppers/Tomatoes

Wildwood 11

Andy Wyenandt
Extension Specialist in Vegetable Plant Pathology, RCE

9:30 - Update on Pepper Disease Management,
-- Andy Wyenandt, Extension Specialist in Vegetable Plant Pathology, RCE

9:55 - Exotic Peppers for Greater Profit Potential,
-- Tom Orton Extension Specialist in Vegetables, RCE &
-- Albert Alyeni, Professor Plant Biology, Rutgers

10:10 - Update on Tomato Disease Management
-- Meg McGrath, Extension Specialist. Cornell University

10:35 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

10:45 - Launching the Rutgers 250 tomato in New Jersey,
-- Tom Orton, Extension Specialist in Vegetables, RCE &
-- Pete Nitzsche, Morris County Ag Agent, RCE

10:55 - Trap Crops to Protect Your Peppers from Stink Bugs
-- Brett Blauuw, Entomology Dept Rutgers

11:15 - Post-harvest Sanitation for Fresh Market Tomatoes
-- Wesley Kline, Cumberland County Ag Agent, RCE

11:45 – Questions, Comments and Re-certification Credits 1A=4, PP2=2, 10=3 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

12:00 to 1:30 pm	Mandatory Annual Training Documents for the FMNP Vendors with Q&A in room **Wildwood 8** **-- Dorothy Ngumezi and Jose Quann,** both from the NJDOH and **Bill Walker**, NJDA
1:30 to 2:30 pm	Farm to School In New Jersey: Learn How Your Farm Can Become Involved **-- Beth H. Feehan**, Farm to School coordinator, NJDA

Wednesday Afternoon, February 10, 2016

Blueberries

Wildwood 3 & 4

Gary Pavlis

Atlantic County Ag Agent, RCE

2:15 - Highbush Blueberry Marketing Update
-- Speaker TBA

3:00 - Blueberry Virus Discovery
-- Jim Polashock, Plant Pathology, USDA-ARS

3:20 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

3:35 - What We Know and What We Don't Know About Spotted Wing Drosophila
-- Cesar Rodriguez-Saona, Specialist in Entomology, RCE

3:55 - Understanding and Measuring the Biology of Soil Health
-- Peter Oudemans, Specialist in Plant Pathology, RCE

4:15 - A Short Story About Honey Bee Health During 2015
-- Dean Polk, Fruit IPM Agent, RCE

4:35 - Questions, Comments and Re-certification Credits 1A=2, PP2=3, 10=4 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Season Extension

Wildwood 5 & 6

Richard VanVranken

Atlantic County Ag Agent, RCE

2:15 - Getting that Early Season Jump Start - Vine Crops and Other Vegetables
-- Michelle Cassella, Gloucester County Ag Agent, RCE

2:45 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

3:00- Getting the Most Out of High Tunnels
-- David Dickey, Owner Dickey Farms

3:30 - Maintaining Marketability Post-Harvest
-- Rick VanVranken, Atlantic County Ag Agent, RCE

4:00 - Opportunities to Extend the Season Way Beyond Fresh,
-- Lou Cooperhouse, Director, Rutgers Food Innovation Center

4:45 - Questions, Comments and Re-certification Credits 1A=3, 10=3 ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Squeezing More $ Out of Your Soil

Wildwood 10

Steve Komar

Sussex County Ag Agent, RCE

2:15 - Micro Nutrients: When Do They Pay?
-- Bill Bamka, Burlington County Ag Agent, RCE

2:45 - Alternative Fertilizer Sources: Impact on Yield and Profitability
-- Stephen Komar,
Sussex County Ag Agent, RCE

3:15 - Soil pH, Soil Structure and Soil Water Influences on Plant Growth.
-- Michelle Casella, Gloucester County Ag Agent, RCE

3:45 - Measuring Soil Health and Estimating Biological Nitrogen Return
-- Bill Sciarappa, Monmouth County Ag Agent, RCE

4:15 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

4:30 – Questions, Comments and Re-certification Credits 1A=4, 10=4, CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Vine crops/Pumpkins

Wildwood 11

Michelle Casella/Andy Wyenandt

Gloucester County Ag Agent/Specialist in Vegetable Pathology, RCE

2:15 – Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

2:30 - Update on Fungicide Programs for Downy Mildew Control in Three Cucurbit Crops (Charlie Maier Research Grant)
-- Andy Wyenandt, Extension Specialist in Vegetable Pathology, RCE

3:00 - Update on Disease Management in Cucurbit Crops,
-- Steve Rideout, Ext. Specialist of Plant Pathology, Virginia Tech, & Director of Eastern Shore AREC

3:30 - Comparing Plasticulture to Strip Tillage for Muskmelon and Summer Squash,
-- Elsa Sanchez, Horticultural Systems Management, Penn State

4:00 - Post Harvest Considerations with Cucurbit Crops
-- Michelle Casella, Gloucester County Ag Agent, RCE

4:30 – Questions, Comments and Re-certification Credits 1A=4, PP2=3, 10=4, CCA Credits: CM=0.0 IPM=0.0, PD=0.0

Food Safety

Wildwood 12

Meredith Melendez

Mercer County Ag Agent, RCE

2:15 Farm Food Safety Decision Tree Project
-- Gretchen Wall, Cornell University

3:00 What Auditors are Finding, 3rd Party Audits
-- Christian Kleinguenther, NJDA

3:45 Farm Food Safety Liability Considerations
-- Laura Fischer, Farm Commons

4:45 - Information from Our Exhibitors
-- Wayne Knerr, Helena Chemical

5:00 - Questions, Comments and Re-certification Credits 1A=, PP2=, 10= ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

NO Credits Yet

Thursday All Day, February 11, 2016

Food Safety

Wildwood 3 & 4

Wes Kline
Cumberland County Ag Agent, RCE
and
Meredith Melendez
Mercer County Ag Agent, RCE

8:30 AM to 4:30PM
The Food Safety Modernization Act will have a requirement that at least one person from each farm who are not exempt will need to be trained. The seven hour training will be offered in Atlantic City and at three two other locations in New Jersey during 2016. Materials for the training are being provided through a grant from the Risk Management Agency. Certificates will be issued from the Association of Food and Drug Officials (AFDO). Growers will need to cover the cost of the certificates; and certificates will not be issued without payment! A $35 check or cash payment is due at the training.

IPM: Know Your Target Before You Shoot

Wildwood 5 & 6

Joe Ingerson-Mahar
Vegetable IPM Coordinator, RCE
and
Kris Holmstrom
IPM, Research Project Coordinator, RCE

8:30 – Vegetable Insect ID Workshop

10:30 – Vegetable Insect Management of Key Insects Pests

11:30 - Questions, Comments and Re-certification Credits 1A=, PP2=, 10= ,CCA Credits: CM=0.0 IPM=0.0, PD=0.0

NO Credits Yet

Basil Workshop

Wildwood 10

Andy Wyenandt
Extension Specialist in Vegetable Pathology, RCE

8:30 – Strategies for Improving Sweet Basil Production and Disease Management,
-- Jim Simon, Professor Rutgers University

9:00 -- Occurrence and Impact of Downy Mildew on Sweet Basil in 2015,
-- Meg McGrath, Extension Specialist in Vegetable Pathology, Cornell University

9:15 -- Managing Basil Downy Mildew- New Jersey Perspective,
-- Andy Wyenandt, Extension Specialist in Vegetable Pathology, RCE

9:40 -- Managing Basil Downy Mildew- New York Perspective,
-- Meg McGrath, Extension Specialist in Vegetable Pathology, Cornell University

10:00 -- Managing Downy Mildew- Florida's perspective
-- Rick Raid, Professor, Everglades Research and Extension Center, University of Florida

10:30 -- New Pesticide Registrations and Updates from IR-4
-- Kathryn Homa, IR-4, Rutgers University

11:00 -- Breeding Basil for Resistance to Downy Mildew and Fusarium: Where are we now?
-- Robert Pyne, Rutgers University
-- Kathryn Homa. Rutgers University
-- Jim Simon, Professor Rutgers University

Afternoon Session

1:00 - Genetics of the Basil Downy Mildew Pathogen.
Updates from U Mass
-- Li-Jun Ma
-- Robert Wick

1:30 - Summarizing the Basil Workshop,
-- Jim Simon, Professor Rutgers University

2:00 - Planning Collaborative Upcoming Research on Basil, 2016: Researchers and Extension Agents

Alumni Association

Upon commencement, Rutgers Environmental Stewards automatically become members of the Rutgers Environmental Stewards Alumni Association (RESAA). They have access to the RESAA website to share updates and information, networking opportunities and success stories. They can be recongnized for their on-going environmental activities, share expertise and participate in continuing education at periodic meetings.

Comments from our students:

"This course has given me the confidence to be able to find information that will help solve these environmental issues."

"This information has enabled me to better be a source of information for stewardship of a watershed/estuary."

"This course has allowed me to leave an impact on environmental issues through getting involved with local organizations."

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For more information, visit us at njaes.rutgers.edu.

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Departmentof Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers NJ Agricultural Experiment Station, is an equal opportunity program provider and employer.

For more information, please log on to:
envirostewards.rutgers.edu

For current information visit us at
envirostewards.rutgers.edu

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RUTGERS
New Jersey Agricultural Experiment Station

Environmental Steward Training Program

Winner -
Governor's Environmental Excellence Achievement Award for Environmental Education 2007

Providing Training and Experience to Solve Environmental Problems in New Jersey

Rutgers Environmental Stewards

Graduates of this program become knowledgeable about the basic processes of earth, air, water, and biological systems. They increase awareness of techniques and tools used to monitor and assess the health of the environment. They gain an understanding of the research and regulatory infrastructure of state and federal agencies operating in New Jersey that relate to environmental issues. They are also given an introduction to group dynamics and community leadership.

Students will be taught to **recognize the elements of sound science and public policy based in science** while aquiring a sense of the limits of current understanding of the environment.

The goal of the Rutgers Environmental Stewards Program is to give graduates knowledge to expand public awareness of **scientifically based information** related to environmental issues and **facilitate positive change in their community.**

Offspring of the Master Gardener Program

The Rutgers Environmental Stewards Program is a descendant of the popular Rutgers Master Gardener Program. One of the most significant differences however is **Environmental Stewards may complete their training serving as interns for non-profit and governmental organizations**, in addition to the interning with faculty and staff at the New Jersey Agricultural Experiment Station (NJAES).

If you are interested in environmental issues and desire to learn more about the science behind them, you are an excellent Steward candidate. The **60 plus hours of training** does not replace a degree in science, but helps citizens appreciate better what they don't know and where to go to educate themselves when presented with a real world environmental problem.

Communication, conflict resolution and leadership skills are also taught in this program to better enable Stewards to be **effective in community action and political discourse**, where most environmental issues play out.

If you are interested in becoming a Rutgers Environmental Steward, please contact one of the following sites:

Central/Duke Farms

Training Location: Duke Farms, Hillsborough, NJ
Normal Class Time: Thursdays, January to May; 6:30 pm to 9:30 pm.
Contact: Deb Thomas, dthomas@dukefarms.org, Duke Farms Foundation, 80 Route 206, Hillsborough, NJ 08844, 908-722-3700, ext. 4

Central/Middlesex County

Training Location: RCE of Middlesex County, Davidson Mill Pond Park, 42 Riva Ave., North Brunswick, NJ 08902
Normal Class Time: Wed. 6:30-9:30 pm January - May
Contact: Michele Bakacs, bakacs@njaes.rutgers.edu, 42 Riva Ave., North Brunswick, NJ 08902, 732-398-5274

Coastal Region

Training Location: Atlantic County Utility Authority, 6700 Delilah Road, Egg Harbor Township, NJ
Normal Class Time: Weds. 9:30 am-12:30 pm Jan - May
Contact: Amy Menzel, amenzel@acua.com, P.O. Box 996 Pleasantville, NJ 08232, 609-272-6950, ext. 6934

Passaic

Training Location: RCE of Passaic County, 1310 Route 23 North,Wayne, NJ 07470
Normal Class Time: Monday nights, 6:30 PM to 9:30 PM.
Contact: Jo-Ann Pituch, pituch@njaes.rutgers.edu, 1310 Route 23 North, Wayne, NJ 07470, 973-305-5740

Warren/North

Training Location: RCE of Warren County, 165 Rt 519 South, Belvidere, NJ 07823
Normal Class Time: Tuesdays, January to May; 9:30 am to 12:30 pm.
Contact: Milly Rice, marnavy@hotmail.com, Ag and Resource Mgmt. Secretary, 908-475-6505