COMMENTS ON PROPOSED PRODUCE and PREVENTIVE CONTROLS RULES:
FDA-2011-N-0921-0199 and FDA-2011-N-0920-0188

INTRODUCTION

Thank you for this opportunity to comment on the proposed produce safety standards. As the GAPs Outreach Coordinator for the University of Vermont Extension’s Center for Sustainable Agriculture, since 2010, I have helped 180 small and mid-scale farms understand and implement basic food safety practices on their farms. I have worked closely with over 20 farms in successfully obtaining GAPs certification. The purpose of these comments is to share my impressions and concerns about how the proposed rules may affect Vermont’s produce sector based on this experience. While my comments are informed by my experience as an Extension educator, my views are my own and do not necessarily reflect the views of UVM Extension.

According to the USDA 2007 census, Vermont has 500 vegetable farms and over 100 tree fruit farms. Collectively, the value of fruits and vegetables produced on these farms was over $29 million. Apples are one of the state’s larger-scale commodity products. Several farms specialize in berry production. The majority of these farms are small to mid-sized family-owned farms, under 100 acres. Farms that grow produce in Vermont are highly diversified in a number of different ways: they grow multiple types of crops on their farms, rather than specializing in just a few; many of them also raise poultry, goats, beef, and other livestock; they have multiple income-generating enterprises including farm stands, CSAs, agritourism, and value-added processed products. They sell their produce through multiple market channels, rather than just one. These include farm-to-school and farm-to-institution aggregators, local cooperatives and restaurants as well as wholesale markets. Like many small-scale farms throughout the U.S., diversification allows these Vermont farms the flexibility of spreading risk across multiple crops or enterprises (if one crop or enterprise does not do well, another can pick up the slack).

The result of this diversification is a robust local food system that is supporting a rural economy, delivering fresh produce to local schools and hospitals, and helping new and limited resource farmers enter farming. However, such diversification creates a complicated landscape for understanding how specific proposed sub-sections of the produce and preventive controls rules would affect small and mid-sized farms and our local and regional food system. The farms for which interpreting the rules is going to be the most challenging, are those farms that fall on the cusp of $500,000 to qualified end users, and those that would be considered “mixed-facilities.” For example, many of our larger farms buy-in raw produce from other farms. One farm may do this on an occasional, as-needed basis when they fall short of a crop, while another may do it as a regular practice to fill CSA shares. We have “food hubs” that aggregate and distribute produce for smaller farms that are just getting started, that keep the identity of

2 Ibid. p. 15
3 Ibid. p. 15
the originating farm intact and distinctly associated with the produce. Other food hubs may aggregate and co-mingle produce that is gleaned from numerous farms for distribution to the charity system. While the majority of Vermont farms will probably fall under the “exempt” category, I have heard farmers and agricultural service providers express concerns that the way that the proposed rules are currently written make it difficult for farmers to understand if their business is covered or not, and will limit their ability to grow or expand to new enterprises.

In passing the Food Safety Modernization Act, congress charged the FDA with crafting rules that would: have scale appropriate options for small, mid-sized, and direct-market agricultural operations; would not undermine beneficial on-farm conservation and wildlife practices; would complement regulations for certified organic production; would support value-added processing; and streamline and reduce unnecessary paperwork for farmers and small processors. The FDA is to be commended on the work they have done so far to meet those charges. The recommendations I have submitted below are my suggestions for ways the proposed rules might be adjusted to meet these charges in a way that would clarify the regulations and their subsequent impact on small and mid-scale and diversified produce growers in Vermont and hopefully other parts of the nation who primarily market to qualified end-users. Because I am concerned about the impact that the FDA’s produce rules will have on produce buyers’ behavior, I have included some recommendations that are beyond the scope of this request for comments, but that I believe will result in a better resolution toward the intended goals of reduction of food borne illnesses associated with fresh produce, and an economically robust and environmentally sustainable food system.

GENERAL COMMENTS AND RECOMMENDATIONS

Request for second comment period after revision of rules based on this comment period

Concern: While there is great pressure being exerted on the FDA to implement the rules according to the timeline initially dictated by congress, because of the scope of impact of FSMA, it is worth taking more time to get the rules right.

- Recommendation: Businesses, consumers and state-level regulatory agencies should have the opportunity to comment on the revisions to the proposed rules.

Need for more science on the relationships between microbial ecology, food borne illness outbreaks, food production and distribution systems and scale

Concern: In almost every conversation I have with produce growers in Vermont, they state concern that the risk of food borne illness outbreaks increases with the consolidation and concentration of food production and large-scale distribution. Yet to them, it appears that the bulk of the proposed solutions are focused on individual businesses changing their behaviors, rather than an approach that looks at our food system as a whole and explores the relationships between different components of that system, the role that scale may play in the incidence of outbreaks, and how this may be addressed. We should have a better understanding of how different farming practices affect populations of pathogens within microbial communities. We know that the simplification of biological systems can result in the reduced resilience to new stressors. In addition to focusing on practices for reducing the risk of microbial contamination on individual farms, it would be good to know if there are types of agricultural production or distribution systems that create conditions that favor reproduction and cross-
contamination of pathogenic microbes? If so, what might be done at a systems-wide level to address these factors?

- **Recommendation:** Fund research on the ecology of microbial communities and relationships between different types of agricultural production throughout the food system: Explore what effect production systems and farming practices that promote ecological diversity have, if any, on the prevalence of pathogenic microbes. Do farm ecosystems that have more biotically rich and diverse microbial communities in their soils/livestock guts, have lower frequency of pathogenic microbes? Examples of such research could include 1) short and long-term impact on pathogenic microbes in farm soil communities if a farm uses raw manure vs. chemical fertilizer vs. compost as soil amendment; 2) impact of confined animal feedlots (CAFOs) on the prevalence of pathogenic microbes and the incidence of cross-contamination of pathogens originating from CAFOs across the landscape or along the food chain (i.e. contamination of produce farms from nearby CAFOs).

**Need for clear authority and funding for States to regulate “exempt” farms**

**Concern:** States are being expected to regulate producers that are not covered by the full rules (i.e. those farms that fall under the modified and qualified exemptions), however there is currently no federal funding to establish and implement such programs. State agencies are in the best position to develop scale-appropriate solutions for exempt farms and processors, yet they need funding to implement these programs.

- **Recommendation:** State agencies of agriculture should be clearly authorized and funded to develop scale-appropriate food safety certification programs for farms and processors that are exempt from FSMA.

**Need for Consistency with GAPs Audit Standards**

**Concern:** Currently smaller farms subject to the modified version of the proposed rules are not required to comply with the record-keeping requirements. If the FDA is not requiring farms to have food safety plans but the produce marketplace is shifting towards favoring farms with food safety plans and GAPs Audits, then de facto, farms that sell wholesale will have to have GAPs plans. Requiring all farms, regardless of size, to have a food safety plan will keep the playing field even and not bias buyers in favor of farms that can afford private third-party audits. In addition, it will create a culture of food safety by ensuring that all farm owners, operators, and workers are trained in the fundamentals of produce safety practices.

- **Recommendation:** All farms, regardless of size, should have to have a food safety checklist or plan that is reviewed on an annual basis. Farmers should be required to keep at least a few records. (See “Tiered Approach” table at end of comments for how this could apply to farms of different scales).

- **Recommendation:** The FDA should fund Extension and others to provide training to small-scale farms to: 1) conduct risk assessments 2) write and implement food safety plans and 3) train employees in best practices.
Concern: USDA personnel have stated in personal communication that the USDA GAPs will not change its current standards to less stringent standards. However, many of the FSMA proposed standards appear less stringent than the USDA GAPs standards. When the FDA says that they can only require standards that are supported by science, yet they are less stringent than the USDA GAPs audit, this is very confusing for farmers who are both subject to the proposed rules and who are required to do a GAPs audit by their buyers.

- Recommendation: Because the marketplace is most likely to adopt the most stringent standards, the least confusing and most efficient strategy for the produce industry would be if the FSMA standards match the USDA’s GAPs standards. For example, if one requires disinfectant in processing water, both should require disinfectant in processing water. However, all of the standards – for both FSMA and GAPs should be supported by scientific evidence. Therefore, if a USDA GAPs standard is not supported by scientific evidence it should be removed or adjusted.

Definition of “Covered” Produce

Concern: Under the proposed rules, produce that is usually cooked or goes through a kill step is not covered by the produce rules. However, there are always exceptions to what produce is usually cooked. For example, in Vermont, parsnips are often served raw in schools to encourage children to try new vegetables. Because many medium and small-scale farms grow multiple types of crops, to keep things as simple as possible for farms, all fresh produce, both produce that is eaten raw, and produce that is usually eaten cooked, should be covered under the produce rule.

- Recommendation: The list of produce that is not covered should be revisited. Either all produce should be covered by the produce rule, whether the RAC is normally cooked or not, or some of the crops should be taken off of the list and others added.

Costs to Farms of Different Scales, and Designing Scale Appropriate Rules (Using Gross Sales to Determine Exemptions)

Concern: Our analysis of the costs of GAPs audit and certifications in Vermont indicate that the FDA’s estimates for costs to producers are low. However, even if the FDA estimates are on the low side, there is an economy of scale for the implementation of food safety practices, equipment, and infrastructure that favors large-scale industrial production systems. Based on our experience with GAPs, we know the largest costs are usually associated with making packsheds and storage areas cleanable. A significant percentage of Vermont’s produce growers are using old dairy barns as their wash and pack sheds. It will be costly for them to make the appropriate modifications. Rough estimates based on improvements made by some of the larger operations in the state are that infrastructure and equipment costs could run from $9,000 to $30,000 for individual farms, and $3 to 7 million for all members of the producer associations to make the minimal improvements to their packsheds. This does not include the cost of switching from wood to plastic pallets, and other similar costs, nor does it include the cost of labor associated with additional record keeping.

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4 Hardesty, S and Kusunose, Y (2009). Growers’ Compliance Costs for the Leafy Greens Marketing Agreement and Other Food Safety Programs. UC Small Farm Program Research Brief
Because most farms in Vermont that grow produce fall between the $25,000 and $500,000 categories, and operate on extremely tight margins, I am concerned that implementing all of the proposed rules may slow down or discourage some farms from trying to scale up, add wholesale components, or add processing to their operations. Of greater concern is that it may discourage some farms from entering wholesale markets, or growing in order to stay under the $500,000 level and qualify for end-user exemptions based on the Tester-Hagen Amendment. In addition, because so many of our farms are diversified, and grow produce in addition to producing other products, there is a good chance that the rules could have negative consequences for farms that only have a very small amount of sales from produce, yet they would still fall under the covered category. For example, diversified farms that get the bulk of their gross sales from milk, meat, hay, or maple syrup, but who also grow a small amount of produce (such as berries or pumpkins), may simply stop growing fruits and vegetables because the costs associated with complying at that level are prohibitive for them.

Recommendation for Scale-Appropriate Approach that lessens Disproportionate Costs to Smaller Farms:

- Actual physical hygiene and sanitation practices required should be the same for all farms, but requirements for training, testing, record-keeping and documentation of corrections and verification should be tiered by farm category based on gross sales associated with regulated produce and processed foods only (not all human and animal food sales). (See additional comments under Record-Keeping and Personnel and Training).

- Congress should re-write FSMA so that only regulated product, that is, food covered by the produce and preventive control rules (i.e. produce for human consumption or high-risk processed foods) be used to calculate a farm’s total gross food sales— not as currently written to include all food sold by the farm, both human and animal (hay, dairy, low-risk processed foods)

- Farms that do under $100,000 in gross sales of fresh, whole produce or low-risk processed foods should be required to keep an annual checklist of practices, and label or post signage at point of purchase with farm name, and complete address where produce was grown (see attached “FSMA Exempt” checklist and Rhode Island GAPs audit checklist, below)

- Farms that do between $100,000 and $5 million in gross sales of fresh, whole produce should be required to take a training, similar to the federally mandated Pesticide Safety Education Management Education Program (PSEP) and maintain a written food safety plan based on a simple GAPs audit, such as the Rhode Island GAPs Audit (http://www.uri.edu/ce/ceec/pdfs/GAP_audit.pdf). (The Harmonized GAPs Audit form is overly burdensome for small diversified farms in terms of record keeping.) Record-keeping for farms this size should be restricted to:

http://www.uvm.edu/~susagctr/whatwedo/producesafety/GAPsResources/gapharlow.pdf

6 Memo to Jolinda LaClair, Vermont Agency of Agriculture, Food and Markets Need for Food Safety Capital Improvement Funding for Vermont’s Produce Industry

7 Becot, Nickerson, Conner and Kolodinsky, Cost of Food Safety Certification on Fresh Produce Farms in Vermont http://horttech.ashspublications.org/content/22/5/705.full.pdf+html
Employee training verification form (See attached)
Sales receipts for traceability records
Rodent control records (when rodent traps checked and if any rodents found)
And if applicable:
  ▪ 3 water tests for surface irrigation water
  ▪ Application dates for raw manure
  ▪ Temperature and turning records for on-farm compost

- Farms that do over $5 million in annual gross sales of fresh, whole produce should be required to comply with the FSMA produce safety rules, with the inclusion of the recommendations for subsections listed below under Comments on Subsections. See chart at end of comments for a visual summary of this tiered approach.

Relationship between Produce Rule and Preventive Controls for “Mixed-Facilities”

Concern: Many farms in Vermont are creating value-added products such as jams and preserves to use up extra produce, attract new customers/expand their market and create additional revenue. These are usually sold through CSA shares or at a farm stand. Most of the farms that do this make the majority of their gross sales from fresh, whole produce and only a small amount of their gross sales may come from the value-added product. Sometimes these products are actually loss leaders, other times, the farm is simply experimenting with a product to try it out. Other farms buy-in some processed product. My concern is that the costs associated with implementing a HACRP would deter small farms that do between $250,000 and $5 million for mostly non-covered foods (animal food, whole produce, or low-risk processed foods), and largely sell to qualified end-users within 275 miles would be discouraged from expanding their businesses.

- Recommendation: Only farms that sell over $5 million of gross sales of regulated processed foods should have to have HACRPs and be registered as facilities (i.e. the definition of very small business should be set at over $5 million, and should not cover all human and animal food, but only high-risk processed foods).

- Recommendation: The list of low-risk foods should be expanded. The revised list should include: breads, cookies, jams and jellies, fruit pies, vinegars, candies, fruit syrups, maple syrups and candies, dried herbs and spices, coffees and teas, and baked goods without dairy or egg containing cream or custard fillings.

Concern: The proposed preventive control rules state that warehouses that store raw fruits and vegetables intended for further distribution or processing must comply with the preventive controls rules. Many small and start-up farms and food hubs in Vermont are using creative ways of aggregating whole, fresh produce as a way to share expensive resources and achieve economies of scale. Often these arrangements are used to collect and distribute food to the charity system. There is a lack of clarity in FSMA on how some of these collective arrangements would be addressed. A HACRP plan for one of these facilities would be expensive to implement. Because produce that is stored is usually low-risk (most of these, such as potatoes and winter squash are currently on the exempt produce list). If all farms were required to have a basic checklist of food safety practices, or a food safety plan, a HACRP plan, which is more appropriate for processed foods, would be unnecessary. If all farms that do over $5 million in gross sales are required to add disinfectant to their processing water for leafy greens or
produce that can intake water when immersed in dunk tanks, that would reduce the risks of microbial contamination on higher-risk crops that may be co-mingled.

- **Recommendation:** Farms that buy-in less than $1 million of produce or processed foods from other farms or businesses in clearly labeled containers should not be considered facilities. Traceability should be achieved by requiring all farms to ship their produce in containers that are clearly labeled with farm name and business address.

### Who Should Register as Facilities

**Concern:** Having a database to identify the names and locations of all covered operations would enhance traceability in the event of a recall. It could also enhance governmental ability to allocate inspection resources, and provide data for improved outreach and technical assistance to farms. However, in listening sessions with the FDA, it was clear that these responsibilities would usually lie with State Agencies of Agriculture, or Departments of Health. Therefore, it would make more sense for farms to register with their state agencies or departments and not with the federal government. Many states have existing databases that could be used. For example, in Vermont, the Vermont Food Atlas could potentially provide some of the information necessary for the above benefits.

- **Recommendation:** Only farms that sell over $5 million of gross sales of processed foods to wholesale markets should be regulated as facilities.

- **Recommendation:** Since states will largely be responsible for inspections, any registration lists should be kept and administered by states, not the FDA. In the case of an outbreak, information could be shared with the FDA as needed. States should receive funding for maintaining these lists.

### Establishment of Alternatives

**Concern:** Currently there is much confusion about where to get science-based information that would be considered valid by the FDA to allow for an alternative practice or protocol.

- **Recommendation:** The FDA should make clear and specific criteria for science-based alternative practices, share this information with all state departments of agriculture, and Extensions, and post on the FSMA website.

### Withdrawal of Exemption

**Concern:** The conditions under which a farm’s exemption could be withdrawn are unclear and therefore could be understood and implemented very subjectively.

- **Recommendation:** The rules should provide clear criteria and a fair process for determining whether a farm’s exemption should be withdrawn. This should be based on measurable evidence (pathogen swabs with counts over a certain threshold, etc...). The rules should also include a clear process for re-instituting a farm or facility’s status if that business’s exemption has been withdrawn.

### Need for Clear and Specific Language
Concern: Much of the language in the proposed rule is vague and subjective: it will be challenging for farmers to determine what is “reasonable,” “adequate” etc… Actions that might be reasonable or adequate in a farmer’s eyes might not be considered “reasonable” or “adequate” in an FDA inspector’s eyes.

- Recommendation: as much as possible and where there is sufficient scientific evidence, language in the proposed rules should either be more specific, or clarify a protocol for action if a farmer’s interpretation of “reasonable” and “adequate” is different from an FDA or state inspector’s interpretation.

COMMENTS AND RECOMMENDATIONS ON SPECIFIC SUBSECTIONS

Record Keeping

Concern: The FDA is to be applauded for minimizing record keeping and paperwork as much as possible. However, there are two problems with the proposed rules as they stand. The first is that the rules need to be clearer about what will happen to a farm if they are inspected and do not have records in place. For example, smaller farms that cannot afford to have designated staff keeping records might be penalized if they follow the spirit of the law but do not keep records.

Because GAPs certification is being driven in part by buyers’ concerns about liability, GAPs audits rely heavily on record keeping and documentation. It currently appears that GAPs audits will become the industry standard for produce safety assurances. If this is the case, GAPs audits will essentially render obsolete the FDA’s attempt to streamline and reduce unnecessary paperwork for farmers and small processors. Because records can be falsified, and do not prove that operations are following procedures, and because record-keeping requirements are disproportionately burdensome for smaller, beginning, and diversified farms, record-keeping should be kept to a minimum for small and midscale farms. Actual physical hygiene and sanitation practices required should be the same for all farms, but requirements for training, testing, record-keeping and documentation of corrections and verification should be tiered by farm category based on total annual sales associated with regulated products only (see recommendations above for Costs to Farms & Scale-Appropriate Approach).

Requiring all farms, regardless of size, to have a food safety plan will keep the playing field even and not bias buyers in favor of farms that can afford private third-party audits. In addition, it will create a culture of food safety by ensuring that all farm owners, operators, and workers are trained in the fundamentals of produce safety practices.

- Recommendation: For farms doing under $5 million in gross sales and selling more than 50% of produce or food to qualified end-users within 275 miles from the farm, records should be limited to (I am recommending farms that do between $100,000 and 5 million be required to do a training similar to the Pesticide Safety Education Program):
  - Employee training verification form (See attached)
  - Sales receipts for traceability records
  - Rodent control records (when rodent traps are checked and if any rodents are found)
  - And if applicable:
    - 3 water tests for surface irrigation water
    - Application dates for raw manure
    - Temperature and turning records for on-farm compost
Virginia Nickerson  
Burlington, Vermont  
Comments on Produce and Preventive Controls Rules  
( FDA-2011-N-0921 and FDA-2011-N-0920-0188)

- **Recommendation:** Instead of requiring extensive and often redundant record keeping, funding should be provided to state agencies and Extensions to teach produce safety, provide technical assistance, improve aging infrastructure and equipment, and for inspections and enforcement. In my conversations with growers as a GAPs educator, my impression is that these investments in measureable actions will do far more to improve hygiene and sanitation practices and promote a culture of food safety on all farms than record-keeping requirements.

- **Recommendation:** Any testing of produce should not be required by the FDA but required by specific buyers.

**Agricultural Water**  

*Testing of Surface Water for Irrigation*  

**Concern:** Many Vermont produce operations irrigate using ponds, streams or rivers. Larger farms may irrigate from multiple surface sources. Currently to our knowledge, there is no way to test water quality on-farm, so water samples must be sent away. To do this every 7 days, when labs often have a long-turn around period, will be impractical financially and logistically for most Vermont farms, and means the farm would receive the information after produce has already been irrigated and potentially harvested and/or sold. If a Vermont farm irrigates from 4 sources for 5 months, taking samples from each source every 7 days and sending them to the state Health Department lab (the least expensive lab in the state) for $15/sample, it would cost approximately $2,100/ season. This does not include postage or time required to take the samples. These costs are considerably lower than in many other states. More importantly, since random contamination of any individual sample can happen if a flock of geese defecates overhead, it is difficult to understand how any monitoring system that is not constant would provide knowledge that a body of water is of a certain quality at all times.

- **Recommendation:** Until a low-cost effective test is available for farmers to use on-farm, the produce rules should use the current USDA GAPs requirements for testing surface waters used for irrigation three times per year: the beginning of season, peak use, and harvest time. This schedule is more realistic in that farmers would conduct a general assessment of their water quality and irrigation system at the beginning of each season, with sufficient lead-time for taking corrective action if they have test results higher than 235 colony-forming units. The time of greatest concern should be when overhead irrigating occurs just prior to harvest, especially for leafy greens.

- **Recommendation:** Expand existing funding of NRCS programs for farmers to add practices that protect, maintain and improve quality of aquifers and surface waters using produce safety as a criterion for determining farmer eligibility for assistance. Provide farmers with small acreage incentive-based grants for drip irrigation systems and fencing. Such incentive-based programs would help to encourage specialty crop operations and the adoption of more sustainable agriculture practices.

*Water Used in Harvesting, Packing, and Holding of Produce*  

**Concern:** The language in the current proposed rules is not at all clear, and needs to be made much more explicit. It states that wash water must be potable at the start of produce washing and appears to imply that it must be kept potable (zero E.coli and zero total coliforms) throughout. This is impossible even if a disinfectant, UV or ozone treatment is being used. There will be times when the water
surpasses these levels simply due to soil building up in the water. There is also a requirement that farmers must visually monitor the quality of water for buildup of organic material, but currently there are no good science-based guidelines for how to do this using low-cost methods. This needs research.

- **Recommendation:** The final rule should include a cost-effective recommendation for visually monitoring wash water and clearer criteria/guidelines for when farms should change water (for example, Trevor Suslow’s secchi disc method). This should take into account that smaller and mid-scale scale farms often do not use hydro-coolers, mechanized flumes, or spray belts, but rinse product in dunk tanks that are filled and emptied by hand.

- **Recommendation:** Farms that do over $5 million in gross sales should be required to include a disinfectant in their wash water if leafy greens or produce that can intake water through a temperature differential are immersed in dunk tanks.

- **Recommendation:** Since water used in packing is an important potential source of cross-contamination, funding should be made available for research on cost-effective ways for small and mid-scale farmers to monitor wash-water quality.

**Manure and Compost (Biological Soil Amendments of Animal Origin)**

**Concern:** Vermont has a strong commitment to sustainable agriculture practices, which include good nutrient management. In 2012, Vermont had 142 certified organic vegetable farms\(^8\). More produce operations are not certified as organic, yet seek to follow organic and sustainable agriculture principles, these include the use of manure, compost, and integrating livestock and rotational grazing as part of their soil stewardship.

The proposed rules’ interval of 9 months between application of raw manure and harvest of crops is 5 months longer than the interval currently practiced by most farms in Vermont, where there is a short window for manure application to protect surface waters from nutrient run-off. The additional five months will present a real challenge for operations that are rotating livestock and do not have sufficient acreage to accommodate this interval, as well as farms that are using raw manure on crop land. In addition, the proposed manure and compost rules conflict with the National Organic Program standards and principles of organic and sustainable agriculture around soil stewardship.

If the proposed rules are implemented, more farms may seek to use artificial fertilizer instead of manure or compost, this would cause problems for livestock producers’ nutrient management plans, and decrease the amount of organic matter in our soils. Farms may switch to buying compost versus making it on their farm, causing them to purchase an in-put that they could make themselves. The proposed rules might discourage some farms from having both animals and produce enterprises on their operations. This would not only diminish the economic flexibility provided by having diverse enterprises but would negatively affect soil health.

- **Recommendation:** FSMA should actively encourage good soil stewardship by being explicit that application of raw manure and/or compost if handled properly does not inherently pose a threat to food safety.

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\(^8\) 2012 Statistics on Certified Organic Agriculture in Vermont
• Recommendation: The waiting period between the application of raw manure and harvesting crops should stay at 120 days. This should encompass grazing practices as well.

• Recommendation: Research should be conducted on the impact of hard freezes on survivorship of manure-related pathogens in northern climates.

• Recommendation: Instead of requiring microbial testing for compost, the rules should require keeping of compost pile temperatures and number of times turned. Compost records for farms that make their own compost should be consistent with the National Organic Program standards. Compost made under aerobic conditions should be maintained at a minimum of 131°F for three days followed by curing. Turned systems should maintain a minimum of 131°F for 15 days with at least five turnings followed by curing. Farms that follow these standards should not be required to wait 45 days to apply compost if it does not come in direct contact with the edible portion of the plant, as the proposed 45 day waiting period is in conflict with NOP standards.

Domesticated and Wild Animals

Concern: Most farms already seek to keep wild animals out of their fields as much as possible because of the damage wild animals can have on their profitability. One of the important tools they use to minimize the presence of wild animals is farm dogs. However, there appears to be little science on the risk to produce safety presented by farm dogs. Similarly, Draft animals are important resources for both Anabaptist farmers and farmers who are trying to reduce their carbon footprint and reliance on petrochemicals.

Pollinators and other beneficial wildlife such as bats and insectivorous birds play important roles in maintaining the health and productivity of agricultural ecosystems. Riparian buffers, hedgerows, windbreaks, and pollinator plantings protect soil health and water quality as well as providing habitat for beneficial insects and wildlife. As written, the proposed rules could be interpreted to discourage the use of hedgerows, windbreaks and domestic animals in farm systems.

• Recommendation: The FDA should work with scientists from the NRCS, EPA, NOP and agricultural ecologists to include language that promotes on-farm conservation practices for healthy ecosystems such as riparian buffers, which provide important water quality protection, and hedgerows and windbreaks, which can conserve soil and provide habitat for beneficial insects such as pollinators.

• Recommendation: A 120-day waiting period should be the interval between the presence of grazing livestock and harvesting produce crops if the land is exposed to annual hard freezes and snow cover (with the exception of grazing pigs, which should require a longer waiting period).

• Recommendation: The rules should specifically include support for farms dogs and grazing livestock as part of sustainable agricultural practices, as long as livestock and domestic animals are managed in a way to reduce the risks of microbial contamination via manure and animal feces.

Personnel Qualifications and Training

Concern: In order to create a true nationwide culture of produce safety, it is essential to make education about basic on-farm hygiene and sanitation and food safety practices readily available to all
farm owners, operators, and workers. However, farmers need more and better employee training materials available to them. Currently, there are a number of training materials available for large-scale farms in Spanish. The feedback I have heard from Vermont farmers, who are smaller, have less mechanization, are more diversified (so the tasks are different), and use an Anglo-European or Jamaican workforce, is that the existing worker training materials are not appropriate for their needs.

- **Recommendation:** Farms that do under $100,000 in produce sales should be required to train their employees in the basic principles and practices of hygiene and sanitation using a basic checklist. See the attached employee training verification for a good model.

- **Recommendation:** Growers doing over $100,000 in sales of produce should have to take and pass a basic test that demonstrates they have core knowledge of food safety principles and practices, and then attend education events to maintain their knowledge/certification over time, using a credit-based system similar to the PSEP. The federally mandated Pesticide Safety Education Management Education Program (PSEP), and Cornell’s Pesticide Management Education Program [http://pmep.cce.cornell.edu/](http://pmep.cce.cornell.edu/) are good models for how to structure such a program.

- **Recommendation:** Fund research on best practices for adult education with farm workers and effective strategies for behavior change around food safety. FSMA authorizes a new competitive grants program to train farmers and processors on food safety. While there is a great deal of scientific research on the microbiology in lab settings of produce safety, there is a lack of research on effective strategies or best practices that result in behavior change of farm workers. The FDA, perhaps in partnership with the Center for Produce Safety and Pew Charitable Trust, should fund research on best practices for farm owner and employee training.
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### Summary of Key Recommendations for Scale Appropriate Rules

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<th>Option 2: Proposal for tiered requirements if Congress does not revise FSMA’s threshold Exemptions</th>
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<td><strong>Category of farm, based on amount of total gross sales averaged over 3 years for fresh, whole produce only</strong></td>
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<tr>
<td><strong>Total gross sales for fresh produce only under $100,000 to qualified end users</strong></td>
<td><strong>Total food sales (all foods) under $25,000</strong></td>
</tr>
</tbody>
</table>
| o Annual Checklist of practices (see attached)  
o Label or signage at point of purchase with farm name, and complete address where produce was grown | o Annual Checklist of practices (see attached)  
o Label or signage at point of purchase with farm name, and complete address where produce was grown |
| **Total sales for fresh produce between $100,000 and 5 million** | **Total food sales between $25,001 – 500,000 with over 50% of sales are to qualified end-users** |
| o Annual Training similar to PSEP  
o Written food safety plan based on Rhode Island GAPs or USDA Conventional GAPs  
o Record-keeping restricted to:  
o worker training verification  
o 3 water tests for surface irrigation water  
o raw manure application dates  
o compost records  
o pest control records  
o traceability records | o Annual Training similar to PSEP  
o Written food safety plan based on Rhode Island GAPs or USDA Conventional GAPs  
o Record-keeping restricted to:  
o worker training verification  
o 3 water tests for surface irrigation water  
o raw manure application dates  
o compost records  
o pest control records  
o traceability records |
| **Total sales for fresh produce to** | **Total food sales over $500,000, but over** |  
| o Covered by FSMA standards, including | o Written food safety plan based on Rhode |
Virginia Nickerson  
Burlington, Vermont  
Comments on Produce and Preventive Controls Rules  
( FDA-2011-N-0921 and FDA-2011-N-0920-0188)

<table>
<thead>
<tr>
<th>wholesale markets over $5 million</th>
<th>suggestions for changes to FSMA discussed in this document</th>
<th>50% of sales are to qualified end-users</th>
<th>Island GAPs or USDA Conventional GAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total food sales over $500,000, 50% of sales are to wholesale market or out of state or over 275 miles</td>
<td>o FSMA standards, including suggestions for changes to FSMA discussed in this document</td>
<td></td>
</tr>
</tbody>
</table>