



**2015/2016**

**Annual  
Report**

Massachusetts  
Department of  
Agricultural  
Resources



# THE COMMONWEALTH OF MASSACHUSETTS

EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS



## Department of Agricultural Resources

251 Causeway Street, Suite 500, Boston, MA 02114  
617-626-1700 fax: 617-626-1850 www.mass.gov/agr



CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lt. Governor

MATTHEW A. BEATON  
Secretary

JOHN LEBEAUX  
Commissioner

As I'm sure was the case with my predecessors, I began my tenure with great challenges and great opportunities. I'm also sure that duality is the reality that the constituents this Department serves also face. Looking back at 2015 and 2016, I'm filled with pride at the accomplishments of our dedicated staff; both new and old. More so, I feel a momentum toward building a greater, more robust MDAR that is able to handle both the responsibilities of the present with an eye toward tackling the challenges of the future, ever mindful of the legacy we've inherited. I would encourage you to review this report to learn more about the Divisions that constitute the Department and the work they've done.

Speaking of major challenges, our Commonwealth faced an abnormally long and severe drought in the summer of 2016 that created problems throughout agriculture. Losses incurred by some of our farmers were significant, serving to underscore the unpredictability of our changing climate. Farmers don't have the luxury of time to discuss global policies, but proactive governments can ill afford to ignore these problems. In that spirit, the Baker-Polito Administration, EEA Secretary Matthew Beaton and MDAR were proud to address the issue of climate change resiliency in a substantive way, by bolstering existing resources like Agricultural Environmental Enhancement Program (AEEP) and working with stakeholders to identify new opportunities to help build our constituents' ability to "weather the storms" of the future.

Per legislation, I co-chaired the Cranberry Revitalization Task Force. The Task Force, a group representing industry stakeholders and government agencies, sought to fully identify problems facing the cranberry industry in Massachusetts and work toward a menu of tangible solutions. Recommendations ranged from budgetary to non-budgetary and focused on key topics like renovation, technology and innovation and exit strategies. The Report produced is reflective of the legislative mandate, and will remain a blueprint not just in the short term but for years to come.

Administratively, MDAR weathered our own storm when we said goodbye to ten longtime employees who took advantage of the Administration's Early Retirement Program. Given the size of our Agency, losing staff is like losing a member of the family. In this case, we also lost over two hundred years of experience. I have consistently been impressed and amazed at how well our team has filled any void, doing their best to ensure a seamless transition for our constituents. It stands as another testament to the dedication of the people that make up this Department.

Though the multiple activities of MDAR's divisions, programs, and personnel are detailed throughout this Report, I want to personally recognize and applaud the efforts of all our managers, supervisors and staff to craft effective policies and practices. I particularly want to recognize and thank the team in the Commissioner's office: Chief of Staff Alisha Bouchard, Agricultural Economist Catherine deRonde, Executive Assistant Sheila Theodore, and Assistant Commissioner Jason Wentworth, for their efforts to keep the department moving ahead and to keep me focused.

Despite changes, both internal and external, we continue to look at what we do and how we do it and ask, "Can we do better?" In that spirit, we were pleased to participate in the 2016 Regulatory Review. Under Governor Baker's Executive Order 562, each agency was tasked with a full review of all regulations to identify superfluous

or overly burdensome regulations, and to make changes through a full public process. Through this exercise, MDAR has hopefully provided some regulatory relief to our constituents while retaining the spirit of the regulation.

Looking at 2015 and 2016 in retrospect, I'm still amazed at how an agency this small can do so much and serve so many. I've learned in this time that there is something new to learn every day. Listen to the farmers, to the stakeholders, to those in the field ensuring that agriculture in Massachusetts survives and thrives. Listen to staff. Within their words lie the keys to not just weather the storm but also prosper. Sometimes, during bad seasons, a farmer's greatest hope is to break even...but always with an eye toward success the following season. Our philosophy at the Massachusetts Department of Agricultural Resources mirrors that ethos; meet challenges head on and work to support our dual mission. I'm honored to be a part of a team effort to do just that.

A handwritten signature in black ink, appearing to read "John Leary". The signature is fluid and cursive, with the first letter of each word being significantly larger and more stylized than the others.



*Commissioner Lebeaux dispensing with his official duties.*

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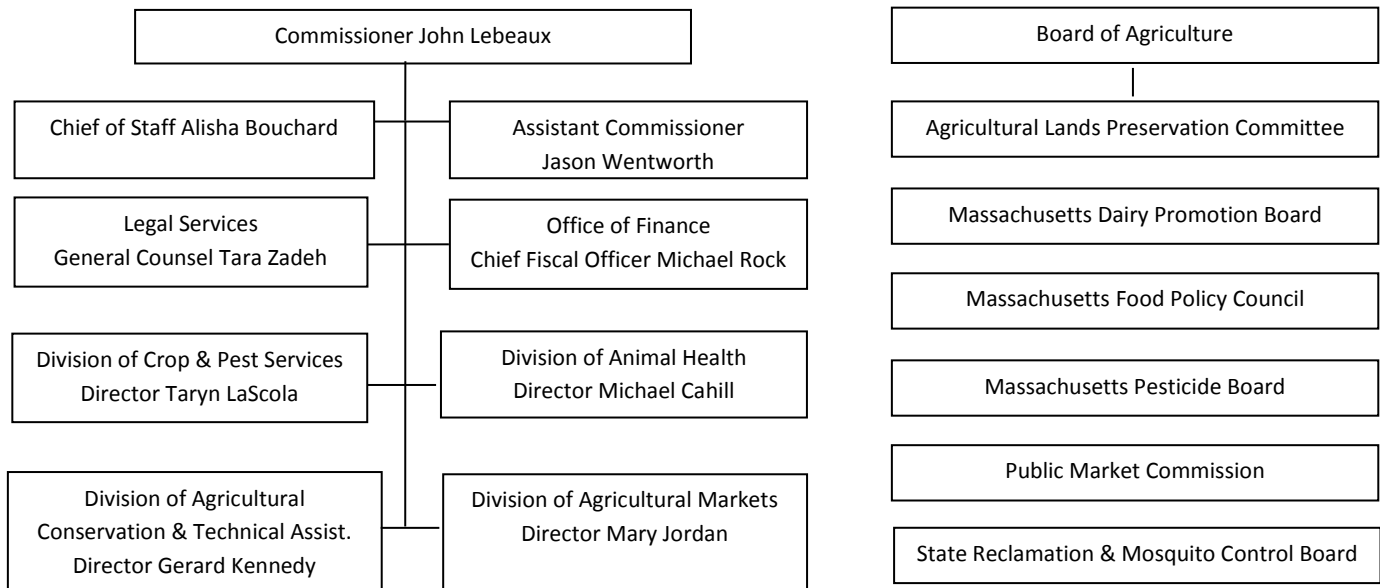
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# AGENCY ORGANIZATIONAL OVERVIEW

**MISSION:** The Massachusetts Department of Agricultural Resources’ (MDAR) mission is to help keep the Massachusetts’ food supply safe and secure, and to work to keep Massachusetts agriculture economically and environmentally sound.

**HISTORY:** MDAR has a long and illustrious history dating back prior to the creation of the US Department of Agriculture. As early as 1852, the various county presidents of the Agricultural Societies across Massachusetts came together to create the Board of Agriculture, a body that has, over the years, evolved into the current Board of Agriculture and the Massachusetts Department of Agricultural Resources within the Executive Office of Energy and Environmental Affairs.





# SNAPSHOT of MASSACHUSETTS AGRICULTURE

## AGRICULTURAL ECONOMIST

Catherine de Ronde

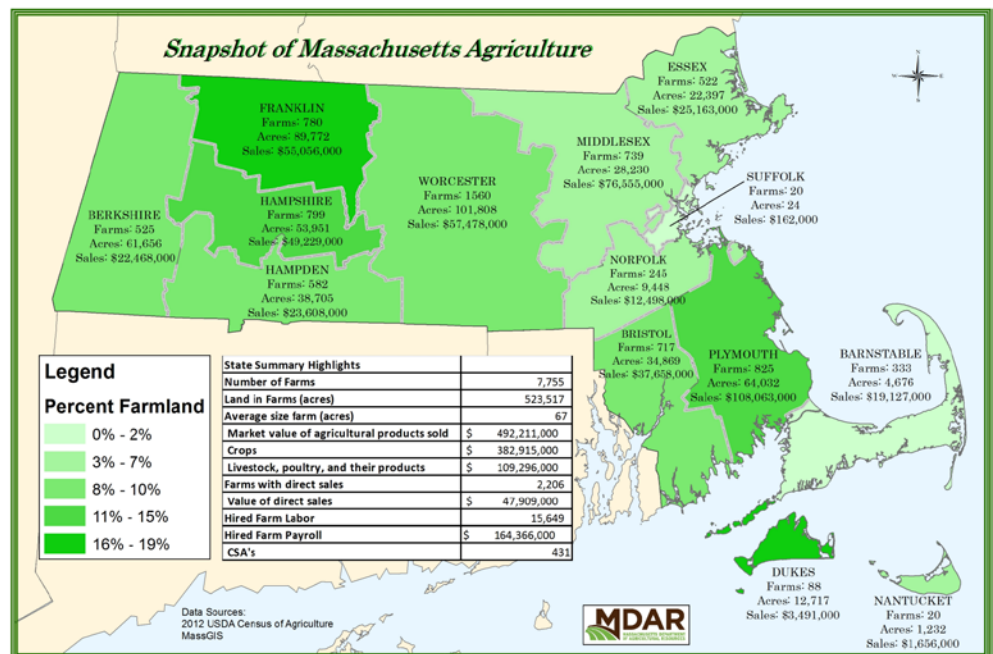
Massachusetts has approximately 7,755 farms in production on over 520,000 acres. The industry provides employment to nearly 28,000 farm employees and has an annual market value of over \$492 million dollars. The majority of farms are individually or family owned (82%) and fall into the category of “small farms” (95%) according to the USDA definition of sales below \$250,000. The average farm is 68 acres in size with \$64,000 in annual sales.

The economic impact of agriculture extends far beyond the farm gate. Massachusetts farms support a variety of ancillary businesses, including feed and equipment dealers and agricultural processing businesses. Agricultural processing is estimated to contribute an additional \$13 billion to the total agricultural value and an additional 60,000 jobs in Massachusetts.

Massachusetts is the third most densely populated state in the country and among the top three states for farmland value at \$10,400 per acre. In addition to these factors, a short growing season, harsh winters, competition for land, high labor costs and high national competition make farming in Massachusetts a unique and challenging occupation. Despite such challenges, farming is part of our heritage and community and while on a national scale the US has seen a decline in farms and farmland, Massachusetts is one of a few states to show an increase in both. Massachusetts farmers have emerged as agricultural entrepreneurs, with many taking advantage of diversified farming and direct marketing to meet upcoming trends and demands.

## GREENHOUSE & NURSERY

The greenhouse and nursery industry, Massachusetts’ top agricultural sector, has a market value of \$158 million, accounting for approximately 28% of the state’s agricultural output. Approximately 1,000 commercial greenhouse and nursery businesses currently operate in the state. The industry has suffered over the last few years, primarily due to competition and marketplace uncertainty. Competition has been a result of the expansion of garden centers at “big-name” national home improvement stores, which benefit from economies of scale, allowing competitive pricing. Marketplace uncertainty has been driven by uncertainty in the housing market, which is inherently linked to greenhouse and nursery sales. Since the 2008 housing market downturn, housing sales, particularly new home construction, have significantly decreased, and greenhouse and nursery sales have followed suit. USDA Census data shows that the percentage of total market share for this sector has been on the decline since 2002 (at 40%), and market value has seen fairly significant swings (a 10% increase from 2002 to 2007, followed by a 14% decline between 2007 and 2012). The housing market is now on the rebound, providing the state’s greenhouse



and nursery industry with some relief.

**CRANBERRIES**

With an annual market value of \$102 million, making up 20% of the state’s agricultural output, the the cranberry industry is the second largest agricultural sector in the state. There are approximately 400 cranberry growers in Massachusetts, most of which farm in the southeastern part of the state. Approximately 70% of these growers are small family farms with less than 20 acres of bogs each.

In 2015 and 2016, industry concern continued as the price of cranberries remained far below the cost of production, the result of extreme market volatility. The driving forces behind the market instability were a combination of extreme oversupply as a result of increased domestic and international production, met with stagnant demand. The Cranberry Revitalization Task Force was convened in 2016 to look at ways of assisting the industry through this difficult market time.

**PRODUCE**

The produce sector has an annual market value of \$96 million and nearly 1,600 producers, 40% growing vegetables and 60% growing fruit.

A major concern for Massachusetts produce growers in 2015 and 2016 continued to be in anticipation of the impacts of the Food Safety Modernization Act, specifically the Act’s proposed rules on Standards for Produce Safety and Preventive Controls for Human Food. The proposed rules expand upon current voluntary guidelines followed by producers to maintain food safety, adding extensive record-keeping and paperwork. Many growers already follow such practices and procedures, and many will be exempt from the requirements because of farm size or product, however the many implications of the Act continue to be a cause of concern for many growers this year.

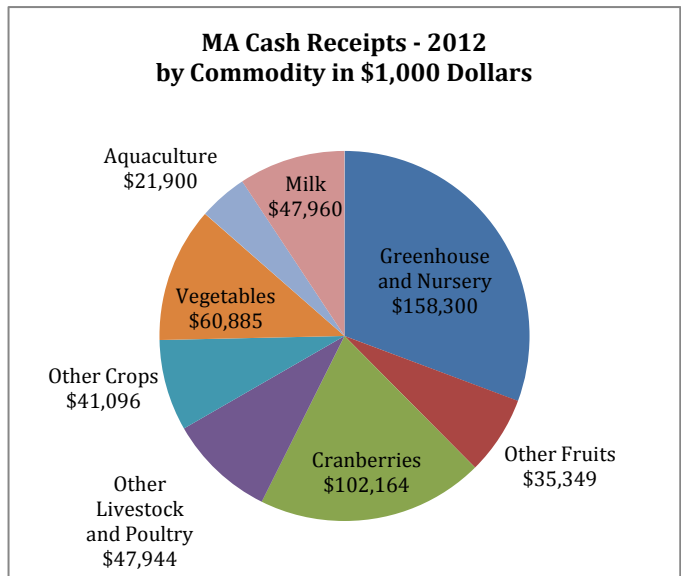
**LIVESTOCK & POULTRY**

With an annual market value of \$48 million, the livestock and poultry sector in Massachusetts is growing by value, output, number of producers, and variety of products. Growth in the sector can be attributed to the increase in demand for local meats. Massachusetts growers have access to the Boston market, where consumers are willing to pay a premium for local products. However, concern has continued over whether the state’s producers could continue to meet the increasing momentum and demand for these products, due to the limited number of USDA slaughter and processing facilities.

**AQUACULTURE**

The aquaculture industry in Massachusetts is responsible for an annual market value of nearly \$22 million. With the exception of a few major finfish producers, the majority of the state’s aquaculture is comprised of approximately 300 shellfish farmers producing primarily oysters and quahogs on 1,000 acres of intertidal and sub-tidal land.

The state’s aquaculture harvest areas continue to face the challenges of managing outbreaks of *Vibrio parahaemolyticus*, a bacteria that can cause gastrointestinal illness. MDAR’s Agricultural Food Safety Improvement Program (AFSIP) supported the aquaculture industry by funding practices helping to minimize the risk of



contamination and illnesses, including the use of ice machines, harvest gear, and testing and monitoring equipment.

### **DAIRY**

The dairy industry is a small but critical part of the state's agricultural economy, with a market value of \$48 million from the 155 remaining Massachusetts dairy farms. While the majority of these farms are members of cooperatives, 16 of the farms produce, process, and market their own milk. For those dairy farmers who are members of cooperatives, the major struggles continue to be discrepancies between fluctuating milk prices set by the Federal Milk Marketing Order and cost of production that typically exceeds these prices.

In 2015 and 2016, low milk prices and high costs of production triggered dairy farmers to receive \$4 million from the Dairy Farmer Tax Credit Program, which was designed to provide a safety net to support Massachusetts dairy farms through revenue stability provided when either milk prices paid to dairy farmers fall or costs of production rise.

### **RETAIL COUPON FOR FLUID MILK PROGRAM**

Catherine de Ronde

This program was established to allow for the use of fluid milk coupons in promotional and marketing campaigns of milk and cream for the consumer, an effort to increase fluid milk consumption. According to MDAR regulations, these promotions must not result in a sale of milk that is below the cost of production nor appear to be predatory towards any Massachusetts dairy farm that directly markets and sells its own fluid milk to consumers. In 2015, there were 58 notifications of promotions within the state. Of the 76 notifications, 35 were 'cross-promotions' where 2 entities were marketed jointly, so that a benefit in the purchase of one product is earned by the purchase of the other product. For these cross-promotions the non-dairy entity covers the cost of the promotion, the milk is non brand-specific, and the promotion is offered statewide. The remaining approved promotions consisted of 23 'cents-off' coupons ranging in price from \$0.20 to \$3.00. One proposed promotional campaign was denied due to what would have resulted in the sale of milk below cost. In 2016, there were 61 notifications; 39 of which were 'cross-promotions' and 52 of which were 'cents-off'. No proposed promotional campaigns were denied in 2016.

### **DAIRY FARMER TAX CREDIT PROGRAM**

Catherine de Ronde

In 2015 and 2016, MDAR continued administering programs established by the 2008 Dairy Farm Preservation Act. These programs include the Dairy Farmer Tax Credit Program, which was established as a mechanism to offset the cyclical downturns in milk prices paid to dairy farmers. In any given month within the calendar year, when milk prices drop below the cost of production, financial assistance of up to \$4 million can be issued to dairy farmers in the form of a tax credit. The amount distributed is based on the number of months the milk price fell below the cost of production and the production amount sold by the dairy farm. In 2015, the tax credit was triggered in 12 out of 12 months, resulting in a total payout to the state's dairy farmers of \$4 million and a tax credit rate of \$1.83 per hundredweight of milk produced. In 2016, the tax credit was triggered in 12 out of 12 months, resulting in a total payout to the state's dairy farmers of \$4 million and a tax credit rate of \$1.82 per hundredweight of milk produced.

### **CRANBERRY REVITALIZATION TASK FORCE**

2016 represented the 200th anniversary of commercial cranberry production in Massachusetts. A native species, this iconic berry first started to be recognized as a commercial enterprise along the dunes of Cape Cod in 1816. Today, the Commonwealth's signature fruit and number one agricultural food commodity continues to be an integral part of the

environment and economy of southeastern Massachusetts. However, recent trends in the cranberry industry have threatened the vitality of many Massachusetts cranberry growers.

The Cranberry Revitalization Task Force, created by an act of the Massachusetts Great and General Court, and comprised of members representing the Executive and Legislative branches of the government of the Commonwealth of Massachusetts and stakeholders within the cranberry industry, was convened in early 2016. The objective was to examine the status of the industry and the complex challenges ahead, and to develop a multi-pronged action plan geared toward stabilizing and revitalizing this beleaguered industry.

The Task Force, through this [Final Report](#), identified potential strategies to support the industry. Through the work of its members, the Task Force focused on three main categories: 1) Renovation, 2) Technology & Innovation and 3) Exit Strategies. Solutions relative to Renovation and Technology & Innovation seek to address the efficiency and cost of production, a more controllable variable than the uncertainty of fluctuating prices per barrel. Additionally, Exit Strategies provide potential options to retire bogs and provide an economic incentive for growers to maintain land for conservation purposes.

The recommendations presented in the report required a collaborative effort to accomplish, both in short and long-term timelines. The importance of the Massachusetts cranberry industry, from both economic and environmental perspectives has been well documented. The potential positive impact from the Task Force initiatives will be felt for years to come. The energy, ideas and commitment that resulted should provide a spring-board for further innovation and progress in the future. The recommendations made today will help lay the framework for the next 200 years of Massachusetts cranberry production.

## The 2016 Drought

### Overview

For Massachusetts farmers, 2016 was not an easy year when it came to dealing with Mother Nature. 2016 began with extreme winter cold temperatures and spring freezes, and ended with an extreme drought that the state has not seen since the 1960's.

The 2016 drought in Massachusetts had major impacts on the Commonwealth's agricultural producers. Impacts and losses were felt across the state on all crops. In general, farmers were impacted by increased costs and reduced revenues as a result of lower yields and quality, however impacts were industry and site specific.

**Hay and corn** growers had significant yield reductions. Some growers reported that they weren't able to get a 2<sup>nd</sup> cut of hay, while others were unable to get their 1<sup>st</sup> cut. Corn was likely the greatest hit crop because of the quantity grown and lack of irrigation.

Municipal drought restrictions were a major impact on the **greenhouse/nursery** industry. Although growers are able to water and irrigate to maintain their plant stock because they are considered essential water users, end-user consumers were prohibited from doing so because of municipal water restrictions and bans; the result of which was a significant reduction in sales.

The peak of the drought hit at the peak of the **cranberry** harvest season, when water is most crucial. Although some growers were better off than others, many were concerned about whether or not they would have enough water for harvest and frost protection, and many took measures to supplement irrigation and harvest needs. Fortunately, a substantial fall rain event in southeastern Massachusetts provided enough water to eliminate this concern, though long-term concerns existed. The drought caused the size and quantity of the berries to be smaller than usual and in turn grower returns were reduced.

There were reports from some **livestock and dairy** farmers of water sources going dry and farmers needing to haul in water to keep their animals alive, clean, and hydrated. The more common concern for the industry however was a loss

of home-grown feed crops. Supplemental purchased feed had to be introduced to herds far earlier than in a typical year, resulting in significantly higher costs than usual.

Many **produce** growers saw substantial reduction in their yields, some having to make choices of which crops to save and which to let go. Yields and quality were down resulting in reduced returns. Those growers with access to irrigation, especially those with water conservation technologies, such as drip irrigation, were far better off than those without. Particularly with apple orchards, fruit size was impacted.

Tree growers, including **Christmas trees**, reported significant losses. Reports of near 80% loss of seedlings were heard, the result of which will be felt for years to come.

### **MDAR Response**

With the mission of ensuring the long-term viability of agriculture in Massachusetts, the Department monitored the drought situation and worked with state and federal partners to provide as many resources as possible to help farmers mitigate impacts of the drought. The Massachusetts Drought Emergency Loan Program was created by the Baker Administration to assist farm businesses with financial stability and help recover revenues lost as the result of the drought. In addition, MDAR was able to secure \$250,000 of grant funding for a second round of Emergency Drought funding through the Agricultural and Environmental Enhancement Program (AEEP) to fund water conservation technologies on farms impacted by the drought.

## **Massachusetts Food Policy Council Annual Report 2015**

### **MASSACHUSETTS FOOD POLICY COUNCIL (MFPC)**

(M.G.L. CHAPTER 20 § 6C)

#### **CHAIRMAN**

John Lebeaux, Commissioner, MDAR

#### **STAFF LIAISON**

Bonita Oehlke Bonita.Oehlke@state.ma.us (617) 626-1750

Late in 2010, Chapter 277 of the Acts of 2010 amended Massachusetts General Law Chapter 20 by inserting Section 6C, creating a 17-member Food Policy Council (“FPC”). Four meetings were held in 2013. The purpose of the council, detailed minutes and reports are at <http://www.mass.gov/eea/agencies/agr/boards-commissions/food-policy-council.html>

### **STATE AGENCY MEMBERS**

Jay Ash, Secretary, MEOHED, Designee: Rosemary Scrivens  
 Dr. Monica Bharel, Commissioner, MDPH, Designee: Jana Ferguson  
 Mitchell D. Chester, Commissioner, MESE, Designee: Katie Millet  
 Jeff McCue, Commissioner, MDTA, Designee: Frank Martinez Nocito  
 John Lebeaux, Commissioner, MDAR  
 Martin Suuberg, Commissioner, MDEP, Designee: Kerry Bowie

### **LEGISLATIVE MEMBERS**

Senator Ryan Fattman  
 Senator Robert Hedlund  
 Representative Hannah Kane  
 Representative Steve Kulik

**INDUSTRY MEMBERS (APPOINTED BY THE GOVERNOR)**

Helen Caulton Harris, Local health department representative  
Jeff Cole, Executive Director, MA farmers markets, direct to consumer marketing  
Manny Costa, Costa Fruit, Food processor and distributor  
Amanda Kinchla, M.S., Food Safety Extension Specialist, UMASS Amherst  
John Lee, Allandale Farm, Farmer  
Vivien Morris, MS, RD, MPH, LDN, Community based nutrition and public health expert  
John Waite, Food processor and handler

**2015 Activities of the Massachusetts Food Policy Council (Council)**

March 3, 2015, Worcester Union Train Station, Worcester

Commissioner Lebeaux was elected as FPC Chair. The Council adopted the Food Systems planning description and Winton Pitcoff was introduced as the new project lead facilitator for Phase II. Council members discussed the Food Systems planning status report, the need for collaboration on challenging topics, and agreed that a goal of healthy access in the plan is important. The success of a three state agency collaboration related to a health issues relating to oyster beds and public health was reviewed. DTA Health Incentives Pilot (HIP) Project Director Frank Martinez Nocito discussed the successful a collaboration between MDAR, DTA and DPH related to HIP and the Food Insecurity Nutrition Incentives grant.

June 1, 2015, Worcester Union Train Station, Worcester

The Statewide Food Systems Planning and the MA Workforce, Education and Training Analysis draft from the MA Workforce Alliance was reviewed. Metrics and areas of research needed in order to evaluate progress on the plan during and after implementation were discussed. Recommendations for the planning document based on the external engagement process was also a topic of discussion. The date for public release and online review of the MA Food Systems Planning draft was set for October 23, with a final plan announcement in December. The MA Workforce Alliance gave an update on work relating to jobs and sustainability, education, training and workforce development, and members discussed the need to increase focus across the state on career centers, voc schools, institutions in a more cohesive way to educators. The Council agreed on the importance of reviewing social status data relating to race to be sure that the plan includes a transformational perspective. Council members agreed that the food plan agenda would be strengthened by focusing on networking with and support of existing groups.

September 8, 2015, Leverett Saltonstall Building, Boston

A history of the MA Food System Plan, main goals and upcoming deadlines were reviewed. The plan draft will be reviewed by the Council before it is finalized for a December 23rd announcement. Sixty individuals and organizations already have provided comments on each section of the plan. The Council noted that strong networking has resulted from the engagement process and Working Groups. An implementation discussion was held covering possible models, working structures, and existing networks and opportunities to leverage for continued success. The interdepartmental effort from DTA, MDAR, and a coalition of statewide partners will expand the HIP pilot project and be the nation's first 100% match for every SNAP dollar spent at farm stands, farmers markets, mobile markets, and CSAs, launching April 1st 2017. The MA Food System Plan will be released at Food Day at the State House on October 23rd, followed by a discussed at Boston Public Market Kitchen. The Council agreed to accept, rather than adopt the MA Food Systems Plan at its completion due to potential conflicting points of view.

Oct 23, 2016

Food Day and the release of the draft MA Local Food Action Plan, Grand Staircase, Boston State House

Secretary Matt Beaton cited Food Day 2015 as a terrific platform for the release of the draft MA Food Systems Plan. Food movement leaders across the country celebrate the fifth annual Food Day, a nationwide celebration of healthy, affordable, and sustainably produced food. October 23 is the beginning of a two week public open-comment period for the draft MA Food System Plan, ending November 6. The Commonwealth of Massachusetts has been engaged the past two years to develop the first comprehensive food system plan since 1974 – over 40 years ago! Consistent with the FPC’s legislative mandate, the plan has an important, but not exclusive emphasis, on food production in the Commonwealth and the economic viability of the agricultural sector. As part of the implementation process, the FPC including the six agency members and 11 others will identify priority areas.

December 10, 2015, Hogan Center at College of the Holy Cross, Worcester

**The "Massachusetts Local Food Action Plan" was accepted by the MA Food Policy Council!** Funders, stakeholders, legislators, and collaborators for the past two years of work on the MA Food System plan were thanked. Team members discussed food plan goals related to increased food production and access to land, increasing local seafood supply and distribution in MA, food Access, security and public health/healthcare, surplus food and increasing food donations, and workforce development in the food sector. Acceptance of MA Local Food Action Plan as the completed final deliverable was voted on and unanimously passed. An implementation discussion followed. A collaborative body of engaged stakeholders, the MA Food System Collaborative, will promote and facilitate the implementation of the plan through leveraging existing momentum and engagement. Council members were asked to review relevant sections of the plan and report out 10 - 12 priorities for the next FPC meeting. A presentation on synergies with the MA Food System Plan and school food service was led by guests from the Worcester Public Schools, Springfield Public Schools, Eos Foundation, and Northbound Ventures.

Dec. 23, 2015, Western MA Food Processing Center, Greenfield

Secretary Matt Beaton **announced the completion of the MA Food Systems Planning.** The comprehensive new food systems plan is the Commonwealth’s first since 1974. It brings to a close nearly two years of work in collaboration with more than 1,000 local farmers, consumers, businesses, advocates, policy makers and other stakeholders in the state’s food system.

The "Massachusetts Local Food Action Plan" is designed to increase production, sales and consumption of Massachusetts-grown food; create jobs and improve wages in food and farming; protect the land and water needed to produce food, while maximizing the environmental benefits of agriculture and fishing; ensure food safety; and reduce waste, hunger and food insecurity, while making available more fresh, healthy food to everyone who lives here. The plan offers recommendations for the public and private sectors to see these goals through to fruition. Unveiling this plan at the Western MA Food Processing Center aligns closely with several food plan initiatives including strengthening food processing infrastructure, creating jobs, season extension by adding value to growers’ produce, and supplying retail and wholesale customers with local produce throughout the year including schools. There is also an important focus on environmental enhancement and expanding food access.

## **Massachusetts Food Policy Council Annual Report 2016**

### **CHAIRMAN**

John Lebeaux, Commissioner, MDAR

### **STATE AGENCY MEMBERS**

Jay Ash, Secretary, MEOHED, Designee: Helena Fruscio

Dr. Monica Bharel, Commissioner, MDPH, Designee: Jana Ferguson

Mitchell D. Chester, Commissioner, MESE, Designee: Robert Leshin  
John Lebeaux, Commissioner, MDAR  
Jeff McCue, Commissioner, MDTA, Designee: Frank Martinez Nocito  
Martin Suuberg, Commissioner, MDEP, Designee: Danah Tench

**LEGISLATIVE MEMBERS**

Senator Ryan Fattman  
Senator Anne Gobi  
Representative Hannah Kane  
Representative Steve Kulik

**INDUSTRY MEMBERS (APPOINTED BY THE GOVERNOR)**

Jeff Cole, Executive Director, MA farmers markets, direct to consumer marketing  
Amanda Kinchla, M.S., Food Safety Extension Specialist, UMASS Amherst  
John Lee, Allandale Farm, Farmer  
Vivien Morris, MS, RD, MPH, LDN, Community based nutrition and public health expert  
Eric Stocker, Food processor and distributor  
John Waite, Food processor and handler  
Samuel S. Wong, PhD, REHS/RS, Local health department representative

March 10, 2016, Leverett Saltonstall Building, Boston

Agency members reviewed initial priorities recommended for inclusion in the Food Systems Plan. The Council agreed to establish and submit major, tiered, priorities of members to MDAR by March 25th to be included in the presentation of the Plan to the Governor’s office. Council members were asked to consider topics and experts on agency or organization programs and services that would support work towards the goals of the plan and could be added to upcoming FPC agenda. The Eos Foundation was in the spotlight relating to a survey for school commissaries and synergies with the MA Local Food Action Plan. The FPC voted to increase number of annual meetings from four to six to speed up the process of the implementation of the Plan.

May 6, 2016, Massachusetts Division of Fisheries and Wildlife Field Headquarters, Westborough  
The FPC discussed the Plan implementation. Members suggested priorities needed for further refinement and promotion of the information to legislators. Consensus was reached for the Council priorities from the MA Local Food Action Plan to be advanced to Secretary Beaton. The MA Food System Collaborative reported on their briefing to the Legislative Caucus at Ag Day, and fundraising efforts to meet the match for the HIP grant. A presentation: “New England Farm to Institution Shared Metrics Project & the MA Farm to Institution Sales Report: Farm to Institution connections with the MA Local Food Action Plan priority recommendations,” was shared. The Council discussed challenges in connecting farms with institutions and creating access with low-income communities.

July 14, 2016, Worcester Union Train Station, Worcester  
The Council Chair shared Secretary Beaton’s recommended to share Tier 1 priorities with the General Court and Administration with member comments on a draft letter, to be delivered to the state house with the priorities. The Governor’s regulatory review Executive Order 562 was discussed in relation to the MA Local Food Action Plan. The FPC unanimously passed a motion to develop an MA food systems inventory survey. There was a presentation on how the MA Local Food Action Plan will work on issues relating to energy and agricultural land, technical assistance and regulatory and economic development. DTA shared an update on the FINI Status Grant, CSA program and the mobile market community of practice with the latest metrics. Members discussed the importance of workforce development in the foodservice sector relating to the MA Local Food Action Plan.



September 16, 2016, Tower Hill Botanical Garden, Boylston

Tower Hill Botanical Garden shared a brief overview of its history and future plans to support climate change and local community initiatives. The Director of Food Law and Policy Clinic at Harvard Law School gave a presentation on accomplishments achieved by food policy councils across the country. A discussion was held regarding what priority action items could involve collaboration and resource-sharing between Council members to effectively address action items during the Implementation Phase, and how to narrow down and refine the list of collaborative priorities for the MA Food Policy Council that will be shared with the Governor's Office. The list is to be refined into six action items based on a broad collaborative range, for feedback to take advantage of the legislative agenda and the budgetary process.

November 10, 2016, Boston State House, Boston

The Council reviewed the six summary goals from the MA Local Food Action Plan to be advanced to the Governor, and each goal was accepted and passed unanimously. The Council agreed to promote legislative language to add a seat to the MA FPC for the Division of Marine Fisheries within the letter to the Governor. There was a legislative discussion regarding potential food/ag legislation for the upcoming session. FPC members discussed the benefits to MDAR in potentially changing its title back to the MA Department of Food and Agriculture to better represent the agency's work and constituents. A special program was held on the MA Food Access Index, a pilot method for assessing food access issues across the state.

# FINANCIAL REPORT

**Michael Rock, Chief Financial Officer**

MDAR began and completed significant projects in fiscal years 2015 and 2016. MDAR expenditures reached an all-time high of \$40.5 million in FY15 followed by moderately lower expenditures of \$37 million in FY16. Among the highlights achieved with agency funding were the following:

The **Boston Public Market (BPM)** opened to great fanfare in July, 2015. MDAR provided \$6 million in funding for the design and construction of the BPM. Today the BPM is an indoor, year round marketplace for locally sourced groceries and specialty agricultural products, where residents and visitors can find fresh, seasonal food from Massachusetts and New England. The Market houses 40 local farmers, fishers, and food entrepreneurs and everything sold at the Market is produced or originates in New England.



Boston Public Market

The **Massachusetts Local Food Action Plan**, the Commonwealth's first food system plan since 1974, was accepted by the Massachusetts Food Policy Council (MFPC) in December, 2015. MDAR provided funding and collaborated with the MFPC, the Metropolitan Area Planning Council and other partners across the state to develop the plan. The plan was designed to increase production, sales and consumption of Massachusetts-grown food; create jobs and improve wages in food and farming; protect the land and water needed to produce food, while maximizing the environmental benefits of agriculture and fishing; ensure food safety; and reduce waste, hunger and food insecurity, while making available more

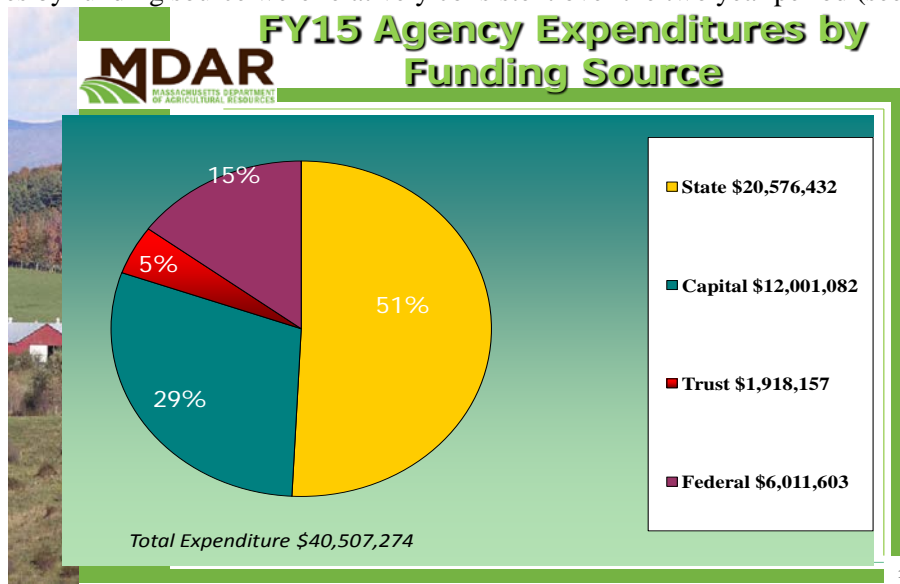
fresh, healthy food to everyone who lives here. The plan offers recommendations for the public and private sector to see these goals through to fruition. [Full Plan](#)

MDAR reimbursed dairy farmers nearly \$920K from the **Milk Producer’s Security Fund**. This trust account is a special insurance fund created in the 1980’s to protect dairy farmers when dairy processors go out of business without paying them. The Fund remains capitalized at over \$1M.

During the two year time period MDAR received new state or federal funding that allowed for new agricultural programs. These programs included:

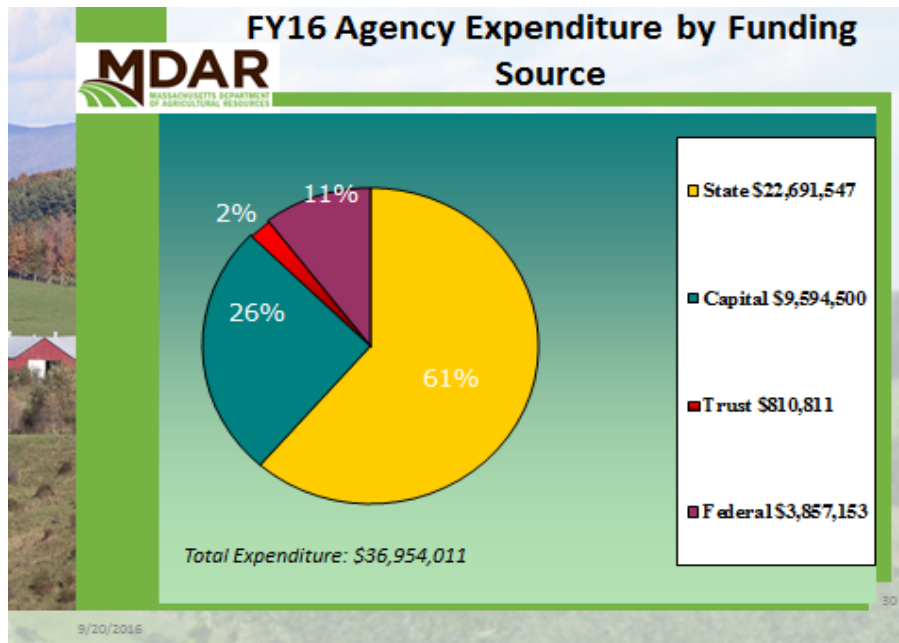
- **Animal Health Traceability:** MDAR received new federal funding in the amount of \$60K to conduct animal traceability activities in conjunction with the USDA and MDAR objectives of preventing, detecting, controlling and eradicating diseases and pests of livestock.
- **Farm Energy:** \$98.4K in federal funding was received for MDAR to perform farm energy audits.
- **Food Safety:** MDAR received \$200K in capital funding starting in FY15 to support agricultural operations that are looking to upgrade their food safety measures and thereby maintain or increase their competitive market access while reducing food safety risks. Grants fund practices that help minimize the risk of microbial contamination and food-borne illnesses.
- **Stewardship:** APR Stewardship capital funds now provide the tools for staff to regularly monitor state funded Agricultural Preservation Restrictions (APRs); to correct and resolve damage and other problems on APRs; and to provide technical assistance for professional services to resolve issues. Stewardship funding grew from \$30K in FY15 to \$180K in FY16.
- **Tractor Rollover Safety:** MDAR utilizes federal funds to reimburse farmers 70% of the cost for the purchase and installation of rollover protective tractor structures. These structures are 99% effective in preventing deaths and serious injuries.

Agency expenditures by funding source were relatively consistent over the two year period (see charts below).



9/22/2015

10



### Budgetary Appropriations

MDAR expended 99.99% of its budgetary appropriated amounts in both FY15 and FY16.

#### Administration Account (2511-0100)

The Administration Account funds the day-to-day operations of the agency. The General Appropriations Act (GAA) provided Administration account funding of \$5.686M and \$6.025M in FY15 and FY16 respectively. From these GAA amounts, \$172K (FY15) and \$9K (FY16) was subsequently the subject of 9C cuts

Administration Account spending by category was as follows:

- 80% – 85% for employee’s salaries and benefits
- Approximately 8% for earmarked programs: Buy Local, Mass. Farm to School, 4H, apiary, New Bedford City Fruit Initiative, SRB mosquito control, and the Food Policy Plan
- 1.5% (\$79,200) as part of an annual matching share to the agency’s 3-year, \$1,162,007 federal “Pesticide Analytical” grant, to fund lab services with the University of Mass Amherst Massachusetts Pesticide Analysis Laboratory
- The remaining funds supported the agency’s day-to-day operational expenses

#### Supplemental Food Appropriation (2511-0105)

The MDAR Supplemental Food Appropriation provides for the purchase of supplemental foods for the Emergency Food Assistance program. FY15 funding of \$15M comprised 73% of the agency’s state appropriated budgetary funding and provided 16.8 million meals. Similarly, FY16 funding of \$17M comprised 75% of the agency’s budgetary funding and provided over 19.2 million meals. The agency utilizes 2% of Supplemental Food funding to administer the program. MDAR contracts with the Greater Boston Food Bank, which is responsible for the distribution of a percentage of funds earmarked for other Massachusetts food banks under a contractual agreement.

#### Integrated Pest Management (2511-3002)

The Integrated Pest Management (IPM) program was level funded at \$57,553 in FY15 and FY16. The IPM program has never recovered from the pre-recession period. IPM account funding was 81% less when compared to fiscal year 2008 funding level of \$303,000. The funding reduction has impacted the agency’s ability to meet its statutory requirements

under Chapter 85 of the Acts of 2000 (“Act to Protect Children and Families from Harmful Pesticides”) and MGL Chapter 132B (Massachusetts Pesticide Control Act).

### Capital Accounts

In both fiscal years 2015 and 2016 the agency expended nearly 100% of its capital (bond) allocation, \$12M and \$9.6M respectively. Capital funded programs included the Agricultural Environmental Enhancement Program (AEEP), Agricultural Preservation Restriction (APR) Program, the Boston Public Market, Farm Viability Enhancement Program (FVEP), Food Safety, Stewardship, and Urban Agriculture. By utilizing a mixture of capital, federal and trust funds, the agency expended nearly \$14M on Agricultural Preservation Restrictions to protect approximately 1,688 acres of land, and another \$1.3M on 22 (twenty-two) agricultural covenants to protect an additional 2,534 acres. Capital expenditures by the agency increased in this time period, primarily due to the Boston Public Market expenditure of \$6M.

### Federal Funds

MDAR expended nearly \$10M in federal grant funds in fiscal year 2015 and 2016. The federal Farm and Ranch Lands Protection grant was the largest component of the agency’s federal funding, comprising over 55% of the total. This grant is utilized to fund a variety of MDAR programs, including the APR program, the APR Improvement Program, Ag Business Training, the Agricultural Energy Program and the Matching Enterprise Grant Program.

### Trust Funds

Trust funds averaged 3.5% of agency spending over the two year fiscal period totaling \$2.7M. The primary two trust accounts from which spending occurred were the Milk Producers Security Fund and the Homeless Animal Prevention and Care Fund. Together these two trust accounts comprised 62.5% of agency trust account expenditures.

### Revenue

MDAR collects 28 different fees, ranging from pesticide applicator and milk dealer licenses to nursery and greenhouse inspection fees. Since 2009 MDAR has generated more revenue than its budgetary allocation for the administrative costs of the agency. Revenue grew by approximately 1% a year over FY15-FY16 reaching an all-time high of nearly \$6.3M in FY16.

<b>YEAR</b>	<b>REVENUE</b>
2009	\$4,709,687
2010	\$5,159,485
2011	\$5,679,206
2012	\$5,633,212
2013	\$5,856,068
2014	\$6,168,928
2015	\$6,244,823
2016	\$6,291,262

## **COMMONWEALTH QUALITY PROGRAM (CQP)**

Michael Botelho, Program Coordinator

In response to a series of outbreaks in the late 2000s of Salmonella and other serious food borne illnesses traced back to produce, President Obama signed into law the Food Safety Modernization Act (FSMA) in 2011 to develop and implement a system of standards for the prevention of food safety issues under the Food and Drug Administration. The Produce Safety Rule of FSMA 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. Farms with annual gross produce sales exceeding \$25,000 are considered “covered farms” and would be subject to FSMA regulation. Farms under that threshold would not. 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 passage of FSMA signified the most sweeping reform of the United States food safety laws in over 70 years, but presented a logistical challenge for the FDA. Instead of federal enforcement at farms across the nation, FDA has worked with the National Association of State Departments of Agriculture (NASDA) to develop a framework to assist individual states in developing and implementing qualified FSMA programs at the state level. A FDA Funding Opportunity Announcement (FOA) was made in late March 2016, followed by a National Conference attended by personnel from MDAR and Mass. DPH. Based on the FOA, each State is required to designate one “lead agency” (for most States, either a Department of Agriculture or Public Health), while allowing that lead agency to develop Memorandums of Understanding (MOUs) with other state agencies and university extension. MDAR was designated lead agency, applied for FDA funding and has entered into a cooperative agreement with FDA to develop a state produce safety program.

Currently, MDAR does not have statutory authority to regulate and inspect produce “within the farm gate”. However, MDAR offers a voluntary farm food safety audit program for fresh produce through Commonwealth Quality Program (CQP), which helps to develop and implement safety standards and, through its certification program, provides expanded market access to farmer producers and greater quality assurance to buyers. MDAR plans to integrate the federal food safety standards into the CQP program to maximize continuity of service and minimize any problems with implementation. With over 100 farmer producers from a variety of sectors participating in CQP, MDAR is confident in the program’s ability to ensure that federal standards are met, that there is a proper delivery of technical assistance and education (either directly or through partnerships with UMass Extension, DEP, DPH, etc) and that farms in compliance are able to gain market access reserved only for certified farms.

MDAR applied for and received a five-year, \$3.6 million grant to implement the Produce Safety Rule (PSR) in Massachusetts utilizing our unique state program and in 2016 was still at the infrastructure phase (developing the staff and resources necessary to execute the program). The Department is seeking statutory authority to allow for mandatory inspections on farms covered under the PSR and, in the meantime, continues to work with stakeholders on education and outreach to minimize any negative impact on farmers.

# **DIVISION OF AGRICULTURAL MARKETS**

**Mary Jordan, Director**

## **AGRICULTURAL EVENT CERTIFICATION PROGRAM**

Rebecca Davidson, Staff Contact:

*On August 5, 2010, S 2582: An Act Relative to Economic Development Reorganization was enacted. It provides for the sale of wine from a licensed farm winery at approved agricultural events in Massachusetts. According to the legislation, agricultural events such as Farmers' Markets, fairs and festivals must be approved and certified by the Department of Agricultural Resources before a winery can apply for the appropriate license from the local licensing authority.*

In 2015, MDAR processed 254 applications for 114 certified agricultural events, and in 2016 MDAR processed 229 applications to certify 105 events. A survey MDAR coordinated in 2015 showed strong direct sales from wineries vending at agricultural events. According to the 2015 survey results, wineries sold on average \$18,190.00 worth of wine at agricultural events, an average of 1200 bottles per winery. Close to 60% of wineries have already expanded both their grape and wine production as a result of their sales at agricultural events, and more than half of wineries have hired additional employees, for a total of 10 full-time and 23 part-time hires. An additional 26 part-time hires are planned. The sales and economic development figures are great news for the bottom line of Massachusetts wineries and for the Commonwealth.

## **AGRICULTURAL FAIRS ANNUAL REPORT**

This year department staff visited about 90% of the agricultural fairs in the state and were able to disperse \$5,000 in agricultural premiums, the first monies given out in over 4 years to agricultural fairs. MDAR dispersed the funds to a variety of different types of fairs ranging from 4 H to Major community fairs (Cummington fair, Middlesex 4 H, Berkshire 4 H, 4H Dairy show, Blandford fair, Westfield fair). Commissioner Lebeaux made multiple trips around the commonwealth to visit both major and community fairs, as did Assistant Commissioner Wentworth. I personally visited around 25 fairs this year. Most had good attendance this year; a few had bad weather and lead to drop off in their attendance numbers. We are still actively receiving the 2016 fair reports.

## **CULINARY TOURISM – SAVOR MASSACHUSETTS!**

Bonita Oehlke

Growth continued in the number of Massachusetts farm wineries, hard cider producers, craft breweries, distilleries and farmstead cheese businesses as culinary tourists sought local handmade products with less-processed ingredients and distinctive, unique flavors not found in the mass-market. Massachusetts maple products are also in high demand. These Massachusetts businesses attracted culinary tourists from Massachusetts and beyond.

Culinary Tourism is a subset of agri-tourism, showcasing distinctive and memorable gastronomic experiences. It fosters valuable connections in the agricultural community with the tourism and hospitality sector that benefits growers and food producers who offer unique culinary experiences.

MDAR worked with the MA Craft Distillers Alliance to gauge the economic activity of the local craft distilling industry in 2015. The number of craft distilleries has grown from two family own-owned businesses in 2005 to 18 in 2015, operating across the state. All are family-operated or privately-owned and producing a combination of gin, rum, whiskey, vodka, and other distilled spirits holding the MA ABCC Farm Distilleries license, critical to self-distribute and in tasting rooms to offer samples and direct bottle sales. The distilleries generated over \$2.77 million in revenue and produced over 11,000 proof gallons of spirits. Although sales of Massachusetts farm distillery products are mainly through wholesalers, they also self-distribute and sell at their distilleries. Tasting rooms are important to educate consumers about products available from craft distillers. There were over 200,000 people who visited Massachusetts craft distillery tasting rooms in 2015, to sample the unique, artisan products. Tasting rooms are an important tool to build brand awareness and sell product directly to consumers. The number of visitors to Massachusetts craft distillery tasting rooms is expected to increase as businesses promote and expand their offerings. The sector represents jobs for at least 52 full-time and 33 part-time employees.

Considering the growth in the number of Massachusetts hard cider producers and consumer interest in these beverages, a dedicated webpage was developed. Nearly all of the businesses use apples grown in Massachusetts. The webpage for Massachusetts craft breweries changes often, considering that Massachusetts now has more craft breweries than any time since prohibition. Supporting new business for farmstead cheese makers continues. MDAR promoted and worked with the MA Cheese Guild during their third and fourth Massachusetts Cheese Festivals, kept an up-to-date webpage for cheese lovers and suggested Bay state products to institutional dining services for catered events. Massachusetts farm wineries continue to offer visitors an educational and tasting experience.

MDAR worked with the MA Maple Producers Association to coordinate a maple kickoff each March over the past two years, featuring the first farm product of the season. Production was estimated at 75,000 gallons in 2015 and 77,000 gallons in 2016. Maple weekends were also promoted, featuring restaurants using local syrup. Culinary tourism associated with maple syrup production is important. Approximately \$1.9 million in revenue is generated by maple farms, restaurants, bed and breakfasts, country inns, and other attractions in farm communities.

A booth at the Boston Local Food Festival on the Rose Kennedy Greenway in 2015 and 2016, sponsored by the Sustainable Business Network, offered an opportunity to promote culinary tourism and MDAR consumer resources to the some 30,000 attendees.

Savor Massachusetts offers hundreds of web-based resources for the culinary traveler, growers and chefs, including wine, cheese, hard cider, distillery & brewery “trails”, Log on to [www.mass.gov/massgrown](http://www.mass.gov/massgrown) and click on Savor Massachusetts for a complete list of resources.

**EXPORT MARKET DEVELOPMENT**

Bonita Oehlke

Commissioner Lebeaux is a board member of Food Export USA Northeast, a USDA Cooperator, leveraging access to programs and services for Massachusetts food, seafood and agricultural businesses for export market and sales development. Funding is available through the USDA Farm Bill, Market Access Program. Small and medium size businesses can receive 50% reimbursement for funds used for eligible export development expenses such international marketing and promotion support, trade events and labels. Matching awards to Massachusetts companies totaled \$648,350 to 29 food business in 2015 and \$738,917 to 27 businesses in 2016. The value of ag and related products and processed food exports were relatively unchanged over the two year period.

	2015	2016
MA Ag & Related Product Exports	1,162,227	1,138,056



MA Processed Food Exports	745,316	744,576
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*Values in Thousands of dollars Source: USDA/FAS/GATS*

Besides international trade shows, major US trade events that host international buyers are also eligible. To participate, products promoted must have at least 50% ingredients grown from the US. A wide array of programs and services are available for Massachusetts agricultural, seafood and food businesses, including exporter education, in-country market research, and support at domestic and international trade shows.

Buyers Missions offer a low-cost, low-risk opportunity to meet with international buyers. Each of the past two years started off with a Buyers Mission in Boston and then missions to national trade shows including the Summer Fancy Food Show and Natural Products Expo East, as well as Seafood Expo North America. MDAR has been working with seafood export marketing since 2004. New Bedford has the highest value of fish landings in the United States, and several seafood businesses there and along the coast are using these programs and services.

MDAR participated in the Export Expo each year, coordinated by the MA Export Center. Other partners included the Cranberry Marketing Committee, National Confectioners Association, Brewers Guild, MA Office of International Trade and Investment, and the Department of Commerce. These opportunities are described in full at <http://www.mass.gov/eea/agencies/agr/markets/exports/>

## **FARMERS' MARKET NUTRITION PROGRAM**

Rebecca Davidson, Staff Contact:

In 2015 the USDA FNS awarded Massachusetts with \$470,994.00 in federal `food' dollars to distribute to low income elders along with \$52,332.00 to use to administer the program state-wide. The Senior Farmers' Market Nutrition Program served approximately 20,000 seniors with coupons throughout the state in 2015. The program certified 237 farmers' markets and 389 growers to serve the recipients of the program in 2015. The Senior FMNP home bound delivery program served 2,960 seniors in 2015 throughout the Commonwealth of Massachusetts at 27 different local elder agencies. Participating elders received a benefit of \$25 per person for the 2015 growing season, and 76% of issued coupons were redeemed.

The WIC Farmers' Market Nutrition Program (FMNP) served approximately 24,031 women and children through 35 local WIC agencies throughout the state in 2015 with coupons to buy fresh produce at farmers markets. Through the FMNP approximately \$480,620 worth of coupons were distributed to WIC participants to use at Massachusetts farmers' markets. The program certified approximately 237 farmers' markets and 389 growers to serve the recipients of the program. Participants received a benefit of \$20 per person for the 2015 growing season, and 62% of issued coupons were redeemed.

**Overall, these funds successfully increased the purchase of \$745,000 worth of fresh, local produce by WIC and Senior participants in 2015.**

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In 2016 the USDA FNS awarded Massachusetts with \$463,299.00 in federal `food' dollars to distribute to low income elders along with \$51,477.00 to use to administer the program state-wide. The Senior Farmers' Market Nutrition Program served approximately 21,000 seniors with coupons throughout the state in 2016. The program certified 230 farmers' markets and 359 growers to serve the recipients of the program in 2016. The Senior FMNP home bound delivery program served 2,630 seniors in 2016 throughout the Commonwealth of Massachusetts at 26 different local

elder agencies. Participating elders received a benefit of \$25 per person for the 2016 growing season, and 74% of the issued coupons were redeemed.

The WIC Farmers' Market Nutrition Program (FMNP) served 28,420 women and children through 35 local WIC agencies throughout the state in 2016 with coupons to buy fresh produce at farmers markets. Through the FMNP approximately \$568,400 worth of coupons were distributed to WIC participants to use at Massachusetts farmers' markets. The program certified approximately 230 farmers' markets and 359 growers to serve the recipients of the program. Participants received a benefit of \$20 per person for the 2016 growing season, and 58% of issued coupons were redeemed.

**Overall, these funds successfully increased the purchase of \$778,000 worth of fresh, local produce by WIC and Senior participants in 2016.**

## **FEDERAL - STATE MARKETING IMPROVEMENT PROGRAM (FSMIP) GRANT PROGRAM**

Rebecca Davidson, Staff Contact:

*FSMIP is designed to assist in exploring new market opportunities for U.S. food and agricultural products, and to encourage research and innovation aimed at improving the efficiency and performance of the U.S. marketing system.*

FSMIP funds a wide range of applied research projects that address barriers, challenges, and opportunities in marketing, transporting, and distributing U.S. food and agricultural products domestically and internationally. Eligible agricultural categories include livestock, livestock products, food and feed crops, fish and shellfish, horticulture, viticulture, apiary, and forest products and processed or manufactured products derived from such commodities. Reflecting the growing diversity of U.S. agriculture, in recent years, FSMIP has funded projects dealing with nutraceuticals, bioenergy, compost and products made from agricultural residue.

Proposals may deal with barriers, challenges or opportunities manifesting at any stage of the marketing chain including direct, wholesale, and retail. Proposals may involve small, medium or large scale agricultural entities but should potentially benefit multiple producers or agribusinesses. Proprietary proposals that benefit one business or individual will not be considered.

Proposals that address issues of importance at the State, multi-State, or national level are appropriate for FSMIP. FSMIP also seeks unique proposals on a smaller scale that may serve as pilot projects or case studies useful as models for others.

Of particular interest are proposals that reflect a collaborative approach between the States, academia, the farm sector and other appropriate entities and stakeholders.

For more information on the FSMIP program please refer to:

<http://www.mass.gov/agr/markets/fsmip.htm>

<http://www.ams.usda.gov/AMSV1.0/FSMIP>

### **2015 Grant Award Project:**

In 2015, \$44,297 was awarded to the Massachusetts Department of Agricultural Resources, in partnership with Community Involved in Sustaining Agriculture, to evaluate the effectiveness of an on-line ordering system that will 2

enable wholesale buyers to order Massachusetts farm products, improving marketing efficiency and supporting the growth of sales of locally grown products. This project began in September 2015 and is scheduled to be completed in September 2017.

**2013 Project Completed:**

In 2013, \$37,374 was awarded to the Massachusetts Department of Agricultural Resources, in cooperation with New Entry Sustainable Farming Project, to determine the best methods for expanding the existing business model to new markets by researching and identifying the needs of wholesale and institutional outlets and aggregation/distribution costs of the Food Hub, and address challenges in meeting new food safety requirements imposed by new markets as FDA's Food Safety Modernization Act is implemented. This project was completed in December 2015.



## Massachusetts State Exposition Building

### Eastern States Exposition

2015 – NEEDS TO BE COMPLETED.

In 2016, the Massachusetts Building received 39 applications from interested exhibitors; 33 were accepted.

<b>2016 Exhibitors</b>	<b>Services</b>	<b>Food</b>	<b>Non-food products</b>	<b>Total</b>
Government Agency	10	0	0	<b>10</b>
Non-profit/Commodity	1	7	0	<b>8</b>
For-Profit	0	8	7	<b>15</b>
<b>Total</b>	<b>11</b>	<b>15</b>	<b>7</b>	<b>33</b>

New exhibitors included the Massachusetts Farm Wineries and Growers Association, Massachusetts Environmental Police and I Love Boston Sports Company. All three were positive additions to the building and were well received by the public. Although many exhibitors return annually and are fairgoer favorites, introducing a few new exhibitors every year keeps the building relevant and exciting.

Capitalizing on the energy of the fair, the Massachusetts Building participated in three special event days: Military Appreciation Day, Massachusetts Day and Harvest New England Day. As in past years, on Military Day two fire trucks from the Holyoke and Springfield Fire Departments suspended a large American Flag over the front lawn in celebration of Massachusetts' veterans. In addition, veteran services agencies set up under tents on the front lawn for the opportunity to connect with veterans and their families. Massachusetts Day featured live music performed on stage by local musicians. During a short speaking program in the morning, Commissioner John Lebeaux took the opportunity to welcome state agencies and government officials. At that time, the 2016 recipient of the Massachusetts Building Wall of Fame award was announced, former Eastern States Exposition Corporator and member of the Massachusetts Building Advisory Committee, Richard Nickless. Twenty two exhibitors joined the musicians on the front lawn to sample products, sell goods and conduct outreach. Massachusetts celebrated Harvest New England Day again this year by inviting food and fiber exhibitors to set up on the front lawn and encouraging fairgoers to participate in the passport program. Fairgoers could earn a Harvest New England tote bag by visiting each state building and answering a series of agriculture related quiz questions. Bonita Oehlke and Devon Manchester played key roles in coordinating Harvest New England Day and Massachusetts Day respectively. All three special event days provided the opportunity to showcase additional exhibitors and offer the fairgoer an exciting experience.

In the weeks leading up to the fair, the building saw the installation of new banners, signs and displays. The Massachusetts Office of Travel and Tourism (MOTT) generously designed and outfitted the center hall with new banners. Meanwhile, the Department of Conservation and Recreation (DCR) built each government agency booth a signpost. The signposts provided a consistent look and increased the visibility of the agency booths. The center hall also featured a National Parks Service (NPS) display celebrating their centennial and the partnership between NPS and DCR. Two "islands" were built to represent the Boston Harbor Islands with a 15 foot replica of the Boston Harbor Lighthouse. A small display area near the entryway was dedicated to celebrating The Big E's centennial. Photographs of the building and its exhibitors over the years were displayed tastefully alongside a seating area.

In addition to cosmetic improvements, the building was evaluated by the Department of Energy Resources (DOER) and the Massachusetts Clean Energy Center (CEC) to identify areas in which the building could improve its energy efficiency. Priorities included replacing a broken hot water heater that serviced the bathrooms and 2<sup>nd</sup> floor kitchenette, replacing the back door and enhance the ventilation system on the ground floor. To date the hot water heater has been replaced with a point of use system that dramatically cut the energy needed to produce hot water for hand washing in the bathrooms and kitchenette. DOER and CEC continue to work with building management to address the door and ventilation system in preparation for the 2017 fair. As new needs are identified, building management aims to take

advantage of cost saving, green technologies that align with the Executive Office of Energy and Environmental Affairs' mission to strive for a clean energy future.

The Massachusetts Building experienced a restructuring of its management team. A full-time building manager was brought on in May to take over the responsibilities of running the building. Katharine Robb transferred into the Massachusetts Department of Agricultural Resources (MDAR) Division of Agricultural Markets from MDAR's Division of Crop and Pest Services where she previously served as an outreach coordinator. In this new role, Katharine provides consistency in exhibitor relations, streamlined operations and an onsite presence at the building during the fair.

The building's Advisory Committee met twice in 2016; once to review applications in May and once to review the fair in December. At the December meeting, changes to the structure of the Advisory Committee were announced. Moving forward, members will serve three year terms and will be selected to represent specific areas of interest. In the future, the eight Advisory Committee members will represent: Mass. Agricultural Fairs Association, agricultural commodity groups, for-profit building exhibitors, economic development, travel and tourism, Eastern States Exposition, Mass. Eastern States Exposition Corporator, and Mass. academic institutions. New Advisory Committee members will be phased in starting in 2018 at a rate of two to three members per year.

Overall, the 2016 fair saw a 5% increase in attendance, making it the third biggest year to date. Despite weather challenges (hot and humid during the first week, cold with rain during the second week), there were five record breaking days. The Big E Fair continues to be an excellent venue to showcase New England's heritage, agriculture, industry, education and family entertainment. The Massachusetts State Exposition Building, being the first on the Avenue of States, closely mirrors the fair's mission and is committed to showcasing Massachusetts agriculture, industry, culture and tourism for the benefit of the Commonwealth and the enjoyment of the fairgoers.

## **VALUE-ADDED TECHNICAL ASSISTANCE**

Bonita Oehlke

Growers looking to add value to their harvest for season extension and diversification and food entrepreneurs with new products have access to inspected non-profit shared-use kitchens across the state, including the Dartmouth Grange Kitchen, Commonwealth Kitchen (CWK) in Boston, Stockpot Kitchen in Malden, and the Western MA Food Processing Center in Greenfield. MDAR shared resources with growers and food businesses in response to inquiries relating to product development, processing, copacker contacts, public health guidelines and business and marketing opportunities. MDAR promoted food safety, product development and scheduled process classes in collaboration with UMASS Amherst Extension. MDAR also partnered with CWK to convene groups of growers interested in having value added products produced by the kitchen with excess fruit and vegetables or as part of their season extension plan for both retail and foodservice customers.

Marketing beyond the region is supported through the MDAR organized MA Pavilion at the Summer Fancy Food Show. Over 60 Massachusetts food companies exhibited at the International Summer Fancy Food Show in New York City, in 2015 and 2016, with over 35 in the MA pavilion which included several that originated in shared use kitchens. These entrepreneurial small- to medium-sized food businesses, an important component of job creation in the state's food system, met new customers and developed sales from the 24,000 mostly independent retail buyers in attendance. This trade show has a reputation as the premier marketplace for value-added foods, and is attended by farm stand operators and retail businesses looking to add Massachusetts value-added products to their inventory.

An MDAR presence at the Local Specialty Crop and Local Food Trade Shows, organized by the Sustainable Business Network, also helped to connect buyers from supermarkets and institutions with Massachusetts value-added producers.

MDAR is a member of the MA Partnership for Food Safety Education and shared food safety resources through the network, website and at the New England Foodservice trade show. MDAR also worked with the Northeast Center to Advance Food Safety for training on the FSMA Preventive Controls for Human Food, in a workshop coordinated by the MA Cheese Guild.



# **DIVISION OF AGRICULTURAL CONSERVATION AND TECHNICAL ASSISTANCE (DACTA)**

**Gerard Kennedy, Director**

## **AGRICULTURAL BUSINESS TRAINING PROGRAM (ABTP)**

MDAR offers agricultural business training courses throughout the state to Massachusetts farmers at various stages of business development. The courses are based on established curriculum and taught by experienced instructors that are familiar with the challenges and opportunities in the agricultural field, providing guidance and resources to help farm operators be successful. Courses are scheduled at various locations across the state based on the interest.

In FY2015, MDAR offered the following courses:

**Exploring the Small Farm Dream** 5-session course – developed by the New England Small Farm Institute - for those exploring or planning to start a farm was offered in Spring of 2015 in Marlborough to 16 participants representing 10 potential farm enterprises. The course provided a structure for each participant to evaluate whether agricultural entrepreneurship is right for them, and to determine whether their small farm dream idea is feasible.

**Planning for Start-Up** 7-session course was offered in the Spring of 2015 in Amherst to 10 participants representing 7 farms that already completed Exploring the Small Farm Dream and have committed to farming commercially. Through this course, participants developed action plans to start their new farms.

In FY2016, MDAR offered the following courses:

**Tilling the Soil of Opportunity** 10-session business planning course was offered in the Fall of 2015 in Marlborough to 10 participants representing 9 established farms. Course participants received individual instruction to improve their business skills including marketing and financial planning, and developed a business plan for their farm to reflect any plans for growth or expansion.

**Exploring the Small Farm Dream** 5 –session course was offered in Spring of 2016 in Amherst to 16 participants representing 13 potential farm enterprises. There continues to be strong demand for this course with new entrants to farming including both young, first career farmers as well as older, career changers.

## **AGRICULTURAL ENVIRONMENTAL ENHANCEMENT PROGRAM (AEEP)**

Laura Maul

AEEP is a voluntary program that provides financial support to agricultural operations to help implement conservation practices intended to protect the Commonwealth's natural resources by the prevention or mitigation of pollution that may arise from agricultural practices. Since 1999, the program has funded 540 projects statewide that improve water quality, conserve water, reduce greenhouse gas emissions, and conserve energy. Agricultural operations have received over \$6 million dollars to help them address environmental concerns on their farms. In Fiscal Year 2015, 20 projects were funded totaling \$300,000 in awards. In Fiscal Year 2016, 23 projects were funded totaling \$300,000 in awards. Projects are selected based on their potential to impact the most sensitive resources, including drinking water supplies, wetlands, Department of Environmental Protection (DEP) priority water bodies, and Areas of Critical Environmental Concern.

A strength of AEEP is its ability to complement federal funding from the Natural Resource Conservation Service (NRCS) programs for environmental practices on farms, enabling the completion of, for example, a costly manure management structure that the farmer otherwise could not afford to complete. Examples of funded projects include the installation of manure management systems, pesticide storage facilities, fencing to keep livestock out of wetlands, energy efficient pumps with low emissions, irrigation, automated irrigation, and water control structures.

### **AGRICULTURAL FOOD SAFETY PROGRAM (AFSIP)**

Laura Maul

The Agricultural Food Safety Improvement Program (AFSIP) is a program which was created to help agricultural operations address food safety risks and work towards compliance with food safety regulations and audit verifications. Through the implementation of food safety measures farmers can upgrade their practices in order to maintain or increase their market access, to meet regulatory requirements, and in doing so, work towards protecting public health. Participants selected to participate in the program are reimbursed up to \$20,000 or 75% of their total project costs.

Projects are broken into a produce category and an aquaculture category. Some examples of projects in the produce category include wildlife fencing, packing shed upgrades, produce washing equipment, field harvest systems, hand washing sinks, and drainage systems. Some examples of projects in the aquaculture category include ice machines, cold storage, and insulated vats. For FY2015, the program awarded 29 projects were funded totaling \$300,000 in awards (12 Aquaculture \$55,000 – 17 Produce \$145,000). For FY2016, the program awarded 30 projects were funded totaling \$300,000 in awards (17 Aquaculture \$70,000 – 13 Produce \$130,000).

### **AGRICULTURAL PRESERVATION RESTRICTION PROGRAM (APR)**

Ron Hall

The Agricultural Preservation Restriction Program (APR) preserves and protects agricultural land, including soils, as a finite natural resource, and prevents them from being built upon for non-agricultural purposes or used for any activity detrimental to agriculture. The program is designed to keep APR land values at a level that can be supported by the land's agricultural uses and potential.

During 2015, the APR program protected 11 farm projects covering over 796 acres. This raises the total farm properties enrolled to 887 and the total farmland protected to 71,268 acres. To acquire these eleven restrictions, the program invested a combined \$6,110,175 in state bond and federal Farm and Ranch Lands Protection Program (FRPP) funding.

During 2016, the APR program protected 11 farm projects covering over 791 acres. This raises the total farm properties enrolled to 898 and the total farmland protected to 72,059 acres. To acquire these eleven restrictions, the program invested a combined \$6,519,639 in state bond and federal Farm and Ranch Lands Protection Program (FRPP) funding.

The purpose of the APR Improvement Program (AIP) is to help sustain active commercial farming on land that has already been protected through the Department's Agricultural Preservation Restriction (APR) Program. AIP provides technical assistance and business analysis to help improve the productivity and profitability of participating farms with the goal of enhancing the significance of APR farm operations and their contribution to the state's agricultural



industry. Farmers selected for the program participate in a business planning process to confirm proposed farm improvements and upon completion become eligible for grant funds. AIP grant funding must be spent on farm infrastructure - capital projects to build or improve farm buildings or resource improvements that will help maintain or enhance the farm property.

In FY2015, \$525,000 in total grants (an average of \$75,000 per farm) and \$52,056 in technical assistance (\$7,437 per farm) were provided to 7 participating farms from across the state with a combined total of 984 acres of APR land.

In FY2016, \$400,000 in total grants (an average of \$80,000 per farm) and \$22,820 in technical assistance (an average of \$4,564 per farm) were provided to 5 participating farms from across the state with a combined total of 1,122 acres of APR land.

Since the program began in 2009, AIP has provided a total of \$4,450,000 in grant funding and \$405,026 of planning and technical assistance through 7 rounds of the program to 65 participating Massachusetts farms with a combined total of 9,193 acres of farmland that has been permanently protected from development under Agricultural Preservation Restrictions.

### **STEWARDSHIP ASSISTANCE AND RESTORATION ON APRS (SARA)**

The purpose of the new Stewardship Assistance and Restoration on APRs (SARA) program, initiated in Fiscal Year 2016, is to improve the overall utilization of APR land resources for commercial agriculture. SARA provides grant funding of up to \$25,000 per farm for identified improvements that will help restore or enhance the protected resources on APR farm property. The Program will assist participants with conducting stewardship activities on an APR that will enhance the continued use of the agricultural resource, and which may include but are not limited to: improving soil health; stabilizing soil loss; reactivating cropland use that had been negatively impacted by erosion, flooding, natural disasters or inactivity.

In FY2016, 9 respondents applied to this first round of the program and a total of \$48,817.65 in grants was provided to 3 APR farms. These funds helped to clear brush to reactivate former pastureland, clean out drainage ditches, clear back encroaching field edges, remove trees and stumps on a former orchard in preparation of new orchard development, and to remove tires and debris.

### **AGRICULTURAL COMPOSTING PROGRAM**

Sean Bowen

MDAR's Agricultural Composting Program (330 CMR 25.00) encourages and supports composting on farms by providing technical assistance to compost operators as well as an Agricultural Composting Registration process that allows qualifying farms to register their operations with MDAR under an agricultural waste composting exemption in MassDEP's Site Assignment Regulations for Solid Waste Facilities (310 CMR 16.00). Under that exemption, any farm that wishes to compost organic materials other than those that are generated on their own farms, must register their operation with MDAR.

Agricultural Composting is defined in 330 CMR 25.02 as: "The composting of agricultural wastes and other compostable materials on an agricultural unit resulting in stabilized compost products for agricultural and horticultural uses." In addition to agricultural wastes, registered composters may utilize the following compostable materials, provided the operation complies with policies of the Department of Agricultural Resources:

- Leaf and yard waste
- Wood wastes
- Paper and cardboard
- Clean compostable (i.e. thin) shells
- Non-agricultural sources of manures and animal bedding materials
- Vegetative material
- Food material

The program is responsible for registering new agricultural compost sites as well as renewing the registration of existing sites annually. During 2015-2016, MDAR registered 63 Agricultural Compost Sites. During the course of the year the program coordinator conducts site visits to registered composters and prospective farms wishing to engage in agricultural composting to address any concerns that arise on registered sites, providing technical assistance and troubleshooting to improve the composting operation.

Proposed regulatory changes to the compost program were announced in 2016, and a public hearing was held to receive comments regarding the changes. At the time of release of this Annual Report, the Department is reviewing the comments to determine if changes are necessary.

## **AQUACULTURE PROGRAM**

Sean Bowen

The cultivation of marine and freshwater organisms is a very diverse segment of the Massachusetts agriculture industry. The Commonwealth's aquaculture industry, which includes culture of both marine and freshwater organisms, produces aquatic species for food, education, research, ornamental, bait and sport fishing activities, including 7 species of shellfish and at least 10 species of finfish – freshwater and marine - that are cultured experimentally and commercially. There has also been some small scale culture of marine macro-algae (seaweed), which has shown promise, and may help to diversify aquatic farms.

One of the largest segments of the state's aquaculture industry is the culture of bivalve shellfish. 331 licensed shellfish farms operate on over 1,100 acres of tidal land in the Commonwealth. By far, the largest farm raised shellfish crop is the Eastern oyster, however other species are grown, such as hardshell clams, bay scallops, softshell clams, and blue mussels.

The past year has been challenging to this sector, which has faced closures due to a harmful algae bloom, a foodborne illness outbreak, and ongoing stringent regulation due to naturally occurring *Vibrio* bacteria. Notwithstanding these challenges, the sector remains strong, and growing - the most recent studies have shown the value of the shellfish aquaculture industry in Massachusetts to be in excess of \$25 Million.

MDAR supports three Aquaculture Centers which provide technical support, marketing assistance and promotion, and education to the industry and the public. The Northeast MA Aquaculture Center (NEMAC) is located within Salem State University, Southeast MA Aquaculture Center (SEMAC), located within Barnstable County Cooperative Extension, and the Western MA Center for Sustainable Aquaculture (WMCSA) operated through UMASS Amherst. During FY15-16, a total of \$175,000 was provided to the Centers to support the Massachusetts aquaculture industry.

The Food Safety and Aquaculture Specialist provides a variety of services to support the promotion and development of Massachusetts aquaculture. The integration of food safety and aquaculture within DACTA enables MDAR to assist the industry by facilitating regulatory compliance, offering permitting assistance, and affording more effective inter-departmental policy discussion.

## **ENERGY EFFICIENCY, CONSERVATION, AND RENEWABLES PROGRAM (ENERGY PROGRAM)**

### **AGRICULTURAL ENERGY GRANT (AG ENERGY) PROGRAMS**

Gerry Palano, Alternative Energy Specialist

#### **Introduction**

Since 2009, the Massachusetts Department of Agricultural Resources (MDAR) annually requests Massachusetts agricultural operations to submit proposals seeking funding for agricultural energy projects under our Agricultural Energy (AgEnergy) Grant Program. This is in an effort to improve energy efficiency and to facilitate adoption of alternative clean energy technologies in order that farms can become more sustainable and the Commonwealth can maximize the environmental and economic benefits from these technologies. By implementing these projects, the agricultural operation will help farms become more sustainable while contributing to the goals of: the MA Food Systems Plan; MA Energy Efficiency and Renewable Energy Implementation; and the climate change MA Global Warming Solutions Act. Since inception our annual AgEnergy Grant has now helped fund over 180 farms for a variety of energy efficiency and renewable energy projects, providing total funding of over \$2.7 million dollars toward \$13.8 million dollars of total project construction costs, achieving over \$1,000,000 in either annual energy savings or energy generation.

Of significance in FY2016 (in the fall of 2015) was supplemental funding of \$1 million dollars from the MA Department of Energy Resources (DOER) for MDAR's energy grant programs from DOER's Alternate Compliance Payment fund. This was accomplished through a 2-year inter-agency service agreement, extending through FY2017. This funding was well received by our agricultural community, enabling MDAR to expand the existing annual AgEnergy Grant Program in both per applicant amounts and in total grants awarded, as well as creating a new Special Projects Grant, intending to provide funding for agricultural energy projects that would typically require higher capital cost but could potentially yield greater savings and/or positive agricultural impacts. All this was done in an effort to improve the farm's energy efficiency and to facilitate adoption of less conventional, alternative clean energy technology applications, and to advance technologies that can be replicated at other agricultural operations in Massachusetts. These projects also contribute to the goals stated above.

#### **AGENERGY GRANT PROGRAM**

##### **FY2015**

In FY2015 twenty-three (23) grants totaling \$275,000 were awarded to Massachusetts farmers to implement renewable energy systems and improve energy efficiency on farms. Funding was provided to farms in the towns of Amherst, Ashfield, Bedford, Carver, Charlemont, Cheshire, Clarksburg, Dalton, Hadley, Hardwick, Lanesborough, Lee, Leyden, Lincoln, Monterey, Southampton, Stow, Sunderland, Wellfleet and Williamstown. This year, 38 total applicants submitted a variety of energy efficiency and renewable energy projects totaling over \$640,000 in requests. Maximum funding was \$20,000 per applicant.

Grants funded projects including; solar thermal for cheese pasteurization for a dairy and diversified farm operation; a super-insulated, PV powered, zero net energy cider production facility for an orchard; a non-refrigerated, state-of-the-art temperature, humidity and ventilation control system for potato storage on a vegetable farm operation; a super-insulated, minimal energy usage cold storage space for a diversified farm operation; energy efficient evaporators, heat recovery and reverse osmosis for maple syrup producers; walk-in cooler efficiency upgrades for a CSA; and

photovoltaic systems for a variety of farm operations including goat dairy and cheese-making, cow dairy, vegetable, cranberry and participation in a community owned model for a livestock CSA.

### **FY2016**

In FY2016, MassDAR's AgEnergy Grant was able to provide \$500,000 in total funding for FY2016 due in part to MassDOER's Alternative Compliance Payments fund noted above. Maximum funding per applicant was increased to \$25,000.

MDAR received thirty-four proposals, and twenty-five grants were recommended for funding for the \$500,000 total. Grants funded projects including; an electronic, central energy management temperature and ventilation controls system for a greenhouse operation to serve 36 greenhouses representing over 5 acres of heated spaces, replacing dated mechanical/electric temperature and ventilation controls; a renovated super-insulated structure and low temperature, high efficiency heat pump for a new cider and hard cider production facility for an existing orchard; heat recovery, reverse osmosis and variable speed vacuum pumping for a maple syrup producer; new high efficiency walk-in cooler efficiency upgrades; a new thermal curtain for a greenhouse operation; a new code compliant, energy efficient, outdoor wood boiler and inter-connecting hydronic piping system to provide heating to farm greenhouses and main farm stand, including domestic hot water needs, replacing existing propane use and utilizing local wood supplies; a new solar thermal hot water system to provide hot water for the farm's cheese-making operation; and a variety of roof-mounted, ground-mounted and dual-axis tracking ground-mounted photovoltaic systems for a number of farm operations including goat dairy and cheese-making, cow dairy, vegetable, horticultural, cranberry, orchard, livestock, equine and aquaculture operations.

### **AGENERGY SPECIAL PROJECTS GRANT**

#### **FY2017**

Taking place during our FY2016 and FY2017 with total program funding of \$350,000, six (6) categories of project technologies were defined in the RFR in collaboration with DOER for applicants to select from in order to participate. Each category had a respective maximum reimbursable funding amount for the cost of materials and labor necessary for the installation of their energy efficiency and/or renewable energy project. Applicants were required to provide either a cash or in-kind cost match to the project. The six categories advertised were:

1. Heat recovery for anaerobic digester (AD) - maximum grant per applicant - \$50,000
2. New high efficiency, single- or multi-temperature level walk-in coolers - maximum grant per applicant - \$25,000
3. Dual-use of land solar PV – maximum grant per applicant – \$100,000
4. Zero net energy greenhouse projects – maximum grant per applicant - \$75,000
5. Super-efficient new building - maximum grant per applicant - \$75,000
6. Commercial-scale, high efficiency, and renewable energy urban agriculture greenhouses - maximum grant per applicant - \$100,000

In FY2017 (the summer of 2016) MDAR received twenty-one (21) proposals from twenty (20) applicants. Eleven (11) grants were recommended for funding for a total of \$350,000. Total estimated project construction costs for the recommended projects are \$788,105. Total annual utility energy savings or generation is projected to be \$79,012 including almost 70,000 kWhs and over 27,750 gallons of oil and propane.

Funding was provided to farms in the towns of Amherst, Attleboro, Deerfield, Dracut, Granville, Hadley, Holland, Lincoln, New Braintree, Oakham and Rutland. Grants predominantly funded energy efficiency projects as well as a zero net energy greenhouse installation. The energy efficiency projects include: a.) heat recovery systems to be installed on three (3) anaerobic digester operations at three (3) separate farms, to recover waste heat from the system and, through heat exchangers, supply hot water to heat a number of buildings on or adjacent to the farms. The recovered hot water will be integrated within each of the building's existing fossil fuel fired heating systems, eliminating the use of fossil fuels. As importantly, these heat recovery projects will result in an overall increased efficiency for the anaerobic digester systems, effectively utilizing more of the anaerobic digester's biogas production; and b.) a number of new, high efficiency walk-in coolers, freezers and combination walk-in coolers/freezers to be installed at multiple farms, typically replacing numbers of smaller, dated, chest freezers and refrigerators, resulting in more energy efficient and centralized refrigeration storage, helping the farms to become more sustainable in the near and long term.

One grant will also be provided for a zero net energy greenhouse project for a year round diversified livestock and vegetable agricultural operation that is a safe-haven for recovering addicts and the chronically homeless. The project is proposed to be built into the side of a hill and against an existing workshop, to be wood framed and super insulated on end walls, and to be served by roof-mounted solar PV with battery storage for all electrical needs, and a compost heat recovery system with a wood boiler back-up for all heating and hot water needs. The project will benefit the farm allowing them to develop a winter CSA and participate in winter's farmer's markets, increase annual food production, sales and seed germination, and provide a productive outlet for worker residents during the winter months, and serve as a community engagement centerpiece.

## **FARM ENERGY DISCOUNT**

Joao Tavares

The Farm Energy Discount Program provides discounts of 10% on electricity and natural gas bills to eligible entities engaged in production agriculture. Subject to certification by MDAR, persons or corporations determined to be principally and substantially engaged in the business of production agriculture or farming for an ultimate commercial purpose will, upon written application, be eligible for a ten percent discount on rates.

Upon determination that the applicant qualifies for the Farm Discount, MDAR will certify to the appropriate power supplier (either electricity or natural gas) that the applicant meets the requirements for the Farm Discount. The discount is not available for propane or fuel oil accounts.

Here are program statistics from our past two fiscal years:

2015 – Total Active Farms: 1,600  
 Total Accounts: 3,955  
 984 Updated their info online

2016 - Total Active Farms: 1,615  
Total Accounts: 3,909  
883 Updated their info online

Since 2012, MDAR continues to enhance its online system to allow participants to manage and update their accounts. Of the 1,615 farms in the program, the majority are now managing their accounts online. The goal is to eventually reach a point where MDAR's role in implementing the Farm Energy Discount Program is primarily conducted electronically.

## **MASSACHUSETTS FARM ENERGY PROGRAM (MFEP)**

MFEP is a full-service technical assistance program helping well over 500 agricultural producers across all agricultural sectors for the past eight years. These projects range from simple refrigeration efficiency upgrades to commercial-scale solar photovoltaic systems, helping to improve the viability of agricultural businesses across the state.

In 2015 and 2016, MFEP served more than 75 Massachusetts farms with technical and financial assistance, and partnered with federal and state agencies, public utilities, and nonprofits to develop and complete 47 farm energy projects throughout the state. MFEP also helped 50 farms secure targeted audits or access public utility assessments that outline recommendations, payback periods, and fulfill funding requirements, providing essential information for farm business decision-making.

Projects installed in 2015 and 2016 resulted in annual savings of over 850,000 kWh of electricity, and more than 700 tons of CO<sub>2</sub>. Ten solar photovoltaic projects completed in 2015 and 2016 are generating over 250,000 kWh of electricity annually.

Energy efficiency improvements installed at farms ranged from energy efficient evaporators for maple producers, to variable frequency drive motors for dairies, to thermal blankets and high efficiency heating systems for greenhouses.

MFEP leveraged \$312,606 in federal, state, and ratepayer funds, and committed \$210,000 in MDAR incentives (not including MFEP funds) to energy efficiency projects in 2015 and 2016. These years' farm energy projects resulted in annual energy savings of approximately \$200,000, helping farms create and maintain jobs and reinvest savings into the farming operation and local economy.

In 2015 MFEP also matched MDAR funds with a USDA Rural Business Enterprise grant of \$30,000 and the same grant for \$33,000 in 2016, and was awarded a two-year NRCS Conservation Innovation Grant of \$75,000 to promote innovative energy conservation practices and solar thermal technologies on farms. An outcome of MFEP's research in collaboration with the MA Clean Energy Center will be recommendations to NRCS regarding Environmental Quality Incentives Program (EQIP) payments to farmers installing solar thermal systems in Massachusetts.

MFEP staff also provided one-on-one mentoring to several farms preparing to submit projects for MDAR's Agricultural Energy Grant Program, the NRCS EQIP Grant Program, and USDA REAP – resulting over 20 highly competitive grant awards. Staff also presented information to farms at conferences (SEMAP, NE Greenhouse Conference), and presented at the Franklin County Farm Bureau annual meeting.

## **FARM VIABILITY ENHANCEMENT PROGRAM (FVEP)**

Craig Richov

Since 1996, the FVEP has been an important part of MDAR's farmland protection and agricultural economic development strategy. The program is an innovative effort that offers farmers funding for farm equipment and capital upgrades following the completion of a business planning phase and in exchange for a 5 to 10 year non-development covenant.

During FY2015 and FY2016, the Farm Viability Enhancement Program provided technical assistance to 23 farms with all 23 completing business plans. Of these, 22 farms received funding and were placed under Agricultural Covenants protecting 2,534 acres. The Program impacted an additional 2,422 acres of leased land and protected land under participant management. Fiscal Year 2015 and 2016 spending was \$1.3 million in direct grants to farms and over \$160,000 was spent on technical assistance costs to consultants and business plan writers.

Since the Farm Viability Program was initiated in 1996, 485 farms have been selected to participate in the program. A total of 417 farms have now received grant awards protecting over 40,000 acres with term covenants.

## **MASSACHUSETTS EMERGENCY FOOD ASSISTANCE PROGRAM (MEFAP)**

Craig Richov

MEFAP enables the four regional food banks in Massachusetts (The Greater Boston Food Bank, The Food Bank of Western Massachusetts, the Worcester County Food Bank, and the Merrimack Valley Food Bank) collectively known as the Food Bank Coalition of Massachusetts, to purchase food from manufacturers, distributors and farmers. All food is then distributed to a network of 944 food pantries, soup kitchens, and shelters. Approximately 11.4% of the State's population received emergency food assistance. Through the program, a consistent supply of quality, nutrient-dense food and locally grown fresh produce has been provided to citizens in need in the Commonwealth. The Greater Boston Food Bank administers the program for all four food banks. Funding is provided by MDAR through a line item in the annual operating budget.

The State Legislature established MEFAP in 1994 due to a reduction of federal funding. Initial funding in 1995 was just under one million dollars for food purchases. Support has steadily increased with \$15 million in the MEFAP line item in FY2015 and \$17 million in FY2016. Formerly managed by the Massachusetts Department of Education, operating funds to support the distribution of emergency food are now handled by MDAR. Separate service contracts with each of the four major food banks enables MDAR to distribute \$1million in operating funds each fiscal year. MDAR oversees the purchase of food, and in fitting with our mission to encourage spending on local foods like farm fresh produce, MEFAP purchases locally produced and processed foods. The "Massachusetts Grown" Initiative earmarks a portion of the budget each year for the purchase of products from Massachusetts farmers, giving our local growers and producers another market and helping our hungry neighbors by providing nutritious, fresh produce. For 2015, \$840,000 worth of fruit, vegetables, eggs and dairy products were purchased from Massachusetts farmers and distributed through MEFAP. And in 2016, \$1,088,704 of local food was purchased from our Massachusetts farmers for the program. Among the most popular of these fresh high quality items were squash, apples, sweet corn, onions, peppers, and collard greens.

Service area population and poverty statistics developed by the U.S. Census Bureau were used to determine the allocation of MEFAP funds to the four food banks. 2015 and 2016 distributions are detailed below (percentages based on America’s Second Harvest statistics).

FOOD BANK	FY 2015	FY 2016
Greater Boston Food Bank	65.13%	66.71%
Food Bank of Western Massachusetts	13.99%	13.73%
Worcester County Food Bank	12.44%	11.76%
Merrimack Valley Food Bank	8.44%	7.80%



**MASSACHUSETTS FOOD VENTURES PROGRAM**

Rose Arruda

The Massachusetts Food Ventures Program (MFVP) is designed to advance the objectives of the Massachusetts Local Food Action Plan by providing funding through grants to support food ventures, primarily in communities of low or moderate income, including Gateway Cities and rural communities. Participants who are selected to participate in the program will be reimbursed up to \$250,000, and the minimum award is \$75,000.



MFVP investments will include: food processing infrastructure to meet the needs of the growing local food system; improved distribution systems to support opportunities for equitable access to fresh local food; and innovative retail outlet strategies that enhance access to healthy food.

MDAR received 14 proposals in fiscal year 2017; a total of five grants are being awarded for proposals totaling \$1,000,000. Projects include new construction that will create temporary and full time employment, as well as create facilities that will foster job creation and expansion of food access and distribution in low to moderate income areas.

## **MATCHING ENTERPRISE GRANTS FOR AGRICULTURE (MEGA)**

Recognizing the importance of new farmers to the agricultural industry, the Department began the MEGA Program in 2010 in response to the needs of new and beginning farmers in Massachusetts. The program is a Farm Viability program that offers business and technical assistance to farm operators aspiring to have commercially viable farm businesses along with 1 to 1 matching grants of up to \$10,000 per farm. To be eligible, farm businesses must have been in operation between one and five years. Selected farmers participate in a business planning process to narrow down the best use of the grant funds, which must be spent on equipment or capital improvements that will enhance economic viability.

In FY2015, \$90,000 in total grants of up to \$10,000 per farm and a total of \$50,348 of technical assistance (an average of \$4,577 per farm) were provided to 11 participating MEGA farms. These farmers contributed more than the required combined total of more than \$90,000 of their own funds for identified farm improvements.

In FY2016, \$71,627 in total grants of up to \$10,000 per farm and a total of \$33,718 of technical assistance (an average of \$3,746 per farm) were provided to 9 participating MEGA farms. Farmers contributed more than double what was required with a combined total of \$149,459 of their own funds for farm improvements this fiscal year.

Since MEGA began in 2010, \$489,220 total grants (an average of \$8,435 per farm) and \$232,564 of technical assistance (an average of \$4,010 per farm) have been provided through 6 rounds of the program to 58 diverse beginning farms located across the state.

## **MILKHOUSE WASTEWATER PILOT PROGRAM**

Gerard Kennedy

Milkhouse wastewater includes wastewater that is generated through the processing of dairy products such as milk, cheese, ice cream, and yogurt that are customarily disposed of by Dairy Operations. The Memorandum of Agreement between MassDEP and MDAR which set up the pilot program for management of milkhouse wastewater terminated at the end of 2017. The purpose of the pilot program was to collect data to demonstrate the effectiveness of above ground wastewater management systems, such as bark beds or vegetated treatment areas in managing milkhouse wastewater (MHW). Non-sanitary wastewater, such as MHW, is considered to be “industrial waste” by MassDEP regulations. Since MHW fits into this designation, any discharge of MHW to the ground violates MassDEP regulations to protect groundwater.

Participating dairy farms must evaluate the effluent characteristics of MHW and the efficacy of vegetated treatment areas that are installed and maintained in accordance with the NRCS Conservation Practice Standard. Two “Pilot”

farms participated in a monitoring study as part of the pilot program. Other “Grantee” farms that installed vegetated treatment areas to manage milkhouse wastewater were required to participate in the pilot program.

By the end of 2016, a total of 11 farms implemented pilot projects, including 6 vegetated treatment areas, 4 bark mounds and 1 bark bed.

Based on the outcomes of the pilot program and effective December 2016, MassDEP’s updated regulations at 314 CMR 5:00 incorporated the following language to allow for the use of waste water treatment strips on farms:

#### 5.05: Activities Not Requiring a Permit

The following activities do not require a permit pursuant to M.G.L. c. 21, § 43 and 314 CMR 5.00:

(18) The on-site infiltration of produce pack house wash water into the ground provided that only clean potable water containing no detergents or other additives is used for washing. Infiltration best management practices, such as gravel or stone pads, must be designed, sited and maintained to prevent off-site run-off and protect sensitive resources, including drinking water wells, surface waters and wetlands. This exemption does not include point source discharges of such wash water.

(19) The construction, installation, modification, operation or maintenance of waste treatment areas used for the treatment of agricultural process waters that are installed and maintained in accordance with the Conservation Practice Standards for Waste Treatment Code 629 (“NRCS Code 629”), March 2011, and Vegetated Treatment Area Code 635 (“NRCS Code 635”), March 2009, developed by the Natural Resources Conservation Service of the U.S. Department of Agriculture.

As of 2017, the pilot program is terminated.

## **STATE-OWNED FARMLAND LICENSING PROGRAM**

Barbara Hopson

Since its creation in the Department in 1974, MDAR has been making “vacant public lands” available to groups and individuals for farming and community gardening. The “vacant public lands” of primary concern were the former state hospital farmlands which were left abandoned or underutilized when the Department of Mental Health (DMH) and Public Health (DPH) shut down their institutional farms in the 1960s and 1970s. Towns in which these institutions were located began looking to access this “vacant” land for housing projects, town garages, and other community uses. The Department’s goal was two-fold: to provide some level of protection for these state-owned farmlands (which have a high percentage of prime agricultural soils), and to ensure that they were used to their fullest agricultural potential.

For 2015 and 2016, MDAR maintained agricultural license agreements with 16 farmers in 6 counties. State-owned farmland parcels are located in Agawam, Danvers Agricultural Reserve, former Grafton State Hospital, Lakeville, Middleborough, Monson Developmental Center, Northampton Agricultural Reserve, Westborough State Hospital and the Western Massachusetts Hospital.

Since 2012, MDAR has worked with the Department of Developmental Services (DDS) and the Division of Capital Asset Management and Maintenance (DCAMM) to continue agricultural use of the land and buildings at the Templeton Developmental Center (TDC) after the partial shutdown of the TDC campus. This public private partnership is aimed to support TDC programmatic goals and provide commercial farmers the opportunity to license

the agricultural fields as well as several farm buildings including a fully functional dairy operation and milk processing plant. Three farmers were selected in 2014 who are currently licensed to utilize all of the agricultural land and farm buildings through 2019.

## **URBAN AGRICULTURE PROGRAM**

Rose Arruda

Urban Agriculture is an important component to the growing local food movement, nationally and across the Commonwealth.

MDAR recognizes that urban food production is playing an important role in addressing health, social, economic and environmental issues and is working with organizations and sister agencies to support initiatives for sustainable, urban food production.

With the official launch in February, 2014, grants from the Urban Agriculture Program were awarded to several urban farming pilot projects. The program addresses challenges facing urban farmers and supports municipalities with technical assistance to help with the development of zoning ordinances, public education and land assessments. The program is designed to build community partnerships, increase access to fresh, nutritious food for urban residents and to promote viable farming methods and support local initiatives that organizations and cities can replicate and benefit from.

## **URBAN AGRICULTURAL GRANT AWARDS**

Rose Arruda

Municipalities, non-profit organizations and other governmental entities are eligible to apply for grants in the range of \$5,000 to \$40,000 with preference for projects that attract multiple partners and funding sources.

The Urban Agricultural Grant Awards helps more enterprises in cities across the Commonwealth to grow their own food. The funds help to address some of the challenges facing urban farmers, such as suitable land, nutrient-poor soils, high start-up costs, restrictive zoning rules and lack of farming and business training.

In FY15, 11 Commercial Urban Farming proposals were funded, totaling \$400,000. For FY16, 16 proposals received awards totaling \$500,000 and in FY 17 19 projects received a total of \$500,000.

Projects ranged from soil regeneration, commercial greenhouses, mobile market vehicles, and infrastructure improvements.

## **DIVISION OF ANIMAL HEALTH**

### **MICHAEL CAHILL, DIRECTOR**

The Division of Animal Health's focus is preventing the introduction or spread of infectious and contagious diseases of domestic animals. This is accomplished through the imposition of health certification, testing and vaccination requirements for animals being imported, transferred within, or simply residing in Massachusetts. Since the level of care an animal receives from its owner can have a direct effect on its immune system and the animal's susceptibility to illness, animal welfare is an integral component of disease prevention. By partnering with federal, state and municipal agencies, the Division of Animal Health works to promote and safeguard animal health and welfare in the Commonwealth. Regulating certain animal-related agricultural activities, which may include the inspection, examination, and licensing of both food-producing and companion animals, provides additional oversight where there may be increased risk to animal or human health. The Division licenses, inspects, or registers dairy farms (both raw and pasteurized producers), commercial cattle, poultry, and swine operations, as well as race horses and equine riding stables, pet shops, and animal rescue shelters. Additionally, the Division prepares emergency response plans for disease outbreaks in Livestock or poultry, and emergency sheltering plans for companion animals affected by natural disasters or other emergencies. Further, the Division is also responsible for providing training to municipal animal control officers, on these and other related matters.



The Division is comprised of 17 full time employees, including a veterinarian, program managers, inspectors, and administrative support staff. Division personnel work within several programs with funding provided by the United States Department of Agriculture through cooperative agreements (see table below). This financial support allows the Division to continue important disease surveillance and response efforts by maintaining or even increasing staff levels even when the Commonwealth's budgetary constraints threaten to hinder these necessary activities.

For 2015 and 2016:

Cooperative Agreement	FUNDING 2015	2016
<i>Foreign Animal Disease Prevention</i>	\$2,886	\$2,880
<i>Active and Passive Surveillance for the avian program (formerly Notifiable Avian Influenza)</i>	\$65,421	\$89,421
<i>Scrapie</i>	\$5,772	\$15,772
<i>Swine Garbage Feeding Surveillance</i>	\$22,128	\$27,128
<i>Animal Disease Traceability</i>	-	\$60,000

## PROGRAM LISTING

- Animal Disease Traceability Program
- Animal Imports and Livestock Markets
- Animal Shelter and Rescue Program
- Biosecurity Program
- Dairy Program
- Equine Program
- Homeless Animal Prevention and Care Fund Program (Mass Animal Fund)
- Municipal Animal Inspection Program
- Pet Shop Licensing and Inspection Program
- Poultry Program
- Rabies Control Program
- Reportable Disease Program
- Swine Program

## ANIMAL IMPORTS AND LIVESTOCK MARKETS

Esther Wegman

All livestock, horses, poultry, waterfowl, and other animals, including cats, dogs and other pets entering Massachusetts from other states must comply with Commonwealth regulations that require an official Certificate of Veterinary Inspection stating the animal is healthy prior to travel. Additionally, some species may require certain testing to ensure negative status for diseases of concern depending on their state of origin. These measures significantly reduce the possibility of introducing contagious disease to the Commonwealth's domestic animal population. To further enhance these efforts, livestock and poultry dealers and transporters are licensed and their equipment and facilities are inspected. There were 26 licensed livestock dealers, 15 licensed equine dealers, and 64 licensed poultry dealers in Massachusetts in 2015. There were 26 licensed livestock dealers, 17 licensed equine dealers, and 57 licensed poultry dealers in Massachusetts in 2016.

## DAIRY PROGRAM

John Nunes

The Dairy Program ensures a healthy environment for livestock and a safe, high quality supply of milk at fair prices for consumers, processors, and dairy farmers. This requires careful inspection and monitoring to enforce the relevant laws and regulations. The Program monitors milk production, hauling, distribution, pricing, marketing, and inspection of dairy farms to assure a safe and healthy supply of milk to processors, and ultimately consumers. Many factors influence the quality and quantity of milk produced by a dairy farm. Bacteriological counts measured through testing of milk samples helps determine the quality of milk. When the counts exceed regulatory standards, a dairy farmer is required to return to compliance within a timely fashion. At the end of 2015 there were 145 bovine farms and 17 caprine farms certified as dairies. At the end of 2016 there were 138 bovine dairy farms and 16 caprine dairy farms.

### Enforcement Actions

The Division utilizes a progressive enforcement protocol consisting of a Letter of Warning for violations required to be corrected within the following 10 days; a Letter of Warning for test results indicating 2 of the last 4 samples were out of compliance with standards; a Shut-Off Order for test results indicating 3 of the last 5 samples were out of compliance with the standards; and an immediate Cease and Desist order for any test results that were excessively beyond the range of accepted standards.

In 2015 and 2016 the Division issued:

ENFORCEMENT ACTION	2015	2016
10-day Letter of Warning	7	8
2 out of 4 Letters of Warning	29	28
3 out of 5 Shut-Off Orders	7	7
Cease and Desist	19	13
Antibiotic Residue Shut-Offs	4	4

## EQUINE PROGRAM

Michael Gold

The Division of Animal Health administers a number of programs involving horses and other equine species. Licenses are issued to horseback riding instructors and the riding schools/stables where they operate. Riding stable licenses are also issued to any business where horse-drawn hay rides, horse-drawn sleigh rides, carriage rides, pony rides, and trail rides are offered to the public for a fee. As noted above, the Division also requires a license for anyone engaged in the business of dealing, auctioning, or transporting equine animals. This licensing includes record keeping requirements that seek to bolster other programmatic disease control efforts. Additionally, the Division organizes the registration program for the Massachusetts Gaming Commission which promotes the breeding and racing of thoroughbred and standardbred horses in the Commonwealth.

In 2015, surveys were sent to all renewing Riding Instructors and Stables. Additionally, there was a stakeholder meeting held at and by the Massachusetts Farm Bureau for the department to receive comments from Stable Owners, Insurers, and others who had an interest in the licensing activities within the Department's Equine program.

For 2015 MDAR issued 2,372 licenses for horseback riding instructors and licensed 477 riding school/stables.

In 2016, based on the survey results and the stakeholder meeting, the Program began its reform efforts by updating the Riding Instructor license exam. Current instructors were solicited to submit questions, and a group of instructors were sent a portion of the updated exam for review. Several instructors who had allowed their license to lapse that

were now seeking to renew were used to test the updated exam before a final version was administered to new applicants during the regular exam schedule beginning in November.

For 2016 MDAR issued 2,189 licenses for horseback riding instructors and licensed 428 riding school/stables.

#### **Enforcement Actions**

In 2015 and 2016, three riding instructors and 12 riding school/stables were investigated for operating without licenses. Of the three unlicensed riding instructors, two of the riding instructors became licensed, and the third has suspended any lessons until they receive their license. Seven of the unlicensed stables have since gained compliance by acquiring a license; three were issued warning notices and two have ceased operation. There were four complaints received regarding cruelty and neglect to riding stable horses. One case was referred to the MSPCA; one complaint was unsubstantiated; and the remaining two cases were resolved with the owners' cooperation.

### **HOMELESS ANIMAL PREVENTION AND CARE FUND PROGRAM**

Lauren Burbridge

The Homeless Animal Prevention and Care Fund (Mass Animal Fund), administered by the Division of Animal Health, seeks to respond to the Commonwealth's ongoing problem of animal homelessness by providing no-cost spay/neuter surgeries for homeless dogs and cats in municipal animal control facilities, for dogs and cats owned by low-income Massachusetts residents, and for feral cats. The Fund also provides free mandatory animal control officer training to create stronger and more uniform enforcement of animal control laws across the Commonwealth.

The Mass Animal Fund is funded through a voluntary tax check-off on the Massachusetts state tax form and through an online donation option. Since the Fund's inception taxpayers have donated over \$1,101,000. The Mass Animal Fund Spay/Neuter Voucher Program sent its first voucher in July 2014; since then, the program has disseminated 7,646 vouchers and provided 5,232 fee-free surgeries at one of 31 participating veterinary providers across the state. Of the surgeries completed, 4,419 were completed in 2015 and 2016. The largest population served was dogs and cats from low-income households (67%), followed by animals in municipal care (17%) and feral cats (16%). The most surgeries completed were on female cats (33%), followed by male cats (28%), male dogs (20%) and female dogs (18%). Reimbursement rates for surgeries were raised in November 2016, and the average cost of surgery is now \$143. In 2015 and 2016, a total of \$549,775 was distributed by the Spay/Neuter Voucher Program. An additional \$29,676 was spent in 2015 and 2016 to assist 878 dogs and cats through the Fund's dedicated emergency fund.

The first Animal Control Officer Core Competencies training was offered between April and July 2016. Two trainings were offered in each of six locations across the Commonwealth: Pittsfield, Springfield, Worcester, Plymouth, Lowell, and Boston. Over the course of twelve weeks the Fund trained 321 officers in the content areas of animal control law; emergency preparedness; animal behavior, capture, and safe handling; communication and public relations; and records and report-writing. \$31,165 was spent to complete this training. Continuing education course options were rolled out beginning in August 2016, and the next Core Competencies training is planned for 2017.

### **MUNICIPAL ANIMAL INSPECTOR PROGRAM**

Michael Cahill

The Division of Animal Health is responsible for appointing municipal animal inspectors for each and every city and town in the Commonwealth. These inspectors act as agents of the Division of Animal Health in the communities they serve. The primary duty of the municipal inspector involves issuing quarantines to owners of animals that have been

exposed to or are potentially spreading the rabies virus. The other major role the inspectors fulfill for the Division is conducting the annual inspections of all domestic livestock and poultry housed on properties in their respective towns. These inspections are a part of MDAR's disease surveillance system and assist in ensuring animal owners provide basic necessities for the animals in their care. Additionally, the information the Division receives through these inspections assists in the development of emergency response plans for disease outbreaks or other disaster situations. Municipal Animal Inspectors may be called upon to serve as first responders in implementing these response plans at the local level. During 2015 and 2016, there were 530 municipal animal inspectors appointed to fulfill the above duties for cities and towns across the Commonwealth.

## **PET SHOP PROGRAM**

Esther Wegman

The Division of Animal Health has the statutory responsibility to license all pet shops. In 2015 there were 155 duly licensed pet shops, and in 2016 that number decreased slightly to 148. Inspections are required for licensure and for subsequent annual license renewals of all Massachusetts pet shops. Each establishment must meet strict facilities requirements designed to maximize sanitary conditions that promote animal health. These requirements are in place to protect the health of the animals, as well as that of the visiting public and the employees who work in these shops. In 2015, there were 6 pet shops found to be operating without the required license. All were issued an Order to Cease and Desist and were required to come into compliance before continuing activities. Fines were issued on 7 different occasions based on violations of the regulations. In 2016, another 6 pet shops were found to be operating without the required license. All were issued an Order to Cease and Desist. Fines were issued on 11 different occasions based on violations of the regulations. One store was fined for operating without a license, having violated an Order to Cease and Desist.

## **POULTRY PROGRAM**

Megan Megrath

The Poultry Program works with producers and consumers promoting local poultry and poultry products. Massachusetts law requires live poultry and hatching eggs moving within the Commonwealth to originate from flocks tested for and confirmed free of *Salmonella pullorum* bacteria. This annual testing is performed by the Division of Animal Health. Other testing available to Massachusetts poultry producers include Avian influenza, *Mycoplasma gallisepticum*, *M. synoviae*, *M. meleagridis* and *Salmonella enteritidis*.

2015 was a transformative year for the poultry program as two of the three long-time poultry inspectors retired from state service. While the one remaining poultry inspector trained in other inspectors, a total of 10,189 birds were tested for the presence of *Salmonella pullorum*. In 2016, that number decreased slightly to 10,002. However, during those two years the number of premises housing those birds increased from 336 to 341. As is always done through our cooperative agreements with the United States Department of Agriculture (USDA), 10% of the samples drawn from each premises were also screened for Avian Influenza. In 2015, that represented 2,882 tests, and 3,595 tests for 2016. Quarterly testing is required for a game bird flock that is breeding and raising birds for release, which resulted in 90 samples in both 2015 and 2016. Additionally, two commercial turkey farms requested enhanced testing during both years, which resulted in another 200 samples for *Mycoplasma gallisepticum*, 200 samples for *M. synoviae* and 200 for *M. meleagridis*.

Screening tests for salmonella pullorum identified 61 flocks with a total of 222 suspect/positive birds in 2015, and 24 flocks with a total of 73 suspect/positive birds in 2016. One of the flock owners from 2015 opted to submit the suspect/positive bird for necropsy at their own expense and not wait 21-30 days to retest the birds. No salmonella was isolated from this bird. Follow up testing on all of the other suspects confirmed there was no *Salmonella pullorum* present. One of the birds from 2015 was confirmed to have *Salmonella typhimurium*, but since that was



discovered on necropsy, and no other birds in the flock were found to be infected, the owner was simply notified to increase awareness of the potential public health significance.

During 2015, office staff received 43 calls from flock owners reporting sick poultry in their flocks. In 2016, that number dropped to 24. These calls are screened using an intake form developed by the poultry staff. The questions on the intake form are designed to gauge the severity of the illness in the poultry flock and evaluate the possibility of a flock infected with Avian Influenza. Once the intake form is sent to the poultry staff, the staff speaks with the flock owners. The majority of the calls received involved flocks most likely infected with *Mycoplasma Gallisepticum*, a respiratory disease, the virus Mareks disease, or Coccidiosis and protozoal gastrointestinal parasite. Several calls revealed issues with flock management and we were able to help the owner correct these, educating owners about animal welfare awareness and healthy birds.

In 2016, the MA chapter of the National Poultry Improvement Plan (NPIP) was rejuvenated and flock owners were encouraged to participate. Several flock owners applied for and were accepted as participants in the program. Participation within the Commonwealth increased from 19 flocks to 42 by the end of 2016. There is a tremendous amount of paperwork and reporting that is required of this program. In November, NPIP brought MA online with electronic reporting of the "9-3 forms" used for shipments of poultry and poultry products. Several of our participants have requested use of the electronic certificates. This feature will benefit the program by reducing the amount of work required to file the hard copy forms.

The Poultry Program provides producers, consumers and municipal and state officials with educational materials, information on safe egg handling, best management practices, production/grading support and flock inspections. The local food movement and growth in consumer awareness of how food is produced have contributed to an expansion of backyard and commercial poultry production here in Massachusetts. The efforts of the Division of Animal Health strive to educate our residents. It is our hope that, through education, we can reduce the potential for conflicts with abutting neighbors, government officials and poultry enthusiasts. The Division of Animal Health supports the keeping of poultry when it is done responsibly; benefiting the birds, the owners and the communities in which they are located.

## **RABIES PROGRAM**

Elsie Colon

Rabies is a viral disease that can affect all mammals, including humans. The virus attacks the central nervous system and can be secreted in saliva. Because rabies affects people as well as animals, control of this disease has become a top priority for the Division of Animal Health. With the cooperation of the Department of Public Health, the Division of Fisheries and Wildlife, and Municipal Animal Inspectors, every aspect of potential rabies exposures is addressed in order to prevent further spread of the virus.

In 2015 there were 3,828 reported bite incidents involving domestic animals and humans. That number increased slightly to 4,019, in 2016. In 2015, 2,378 domestic animals had possible exposures to rabies through contact with suspected wildlife or received wounds of unknown origin that appeared to be from a fight with another animal. 2,427 domestic animals had possible exposures in 2016. Some of the wildlife involved in those exposure cases were submitted for rabies testing at the Massachusetts Department of Public Health's Rabies Laboratory. There were 150 and 153 animals respectively that tested positive for rabies during those two years.

To enhance the numbers of vaccinated domestic animals in Massachusetts, the Rabies Program has implemented a user friendly registration system for municipalities and entities holding rabies vaccination clinics. Registered clinics are posted on the MDAR website at <http://www.mass.gov/eea/agencies/agr/animal-health/rabies-control-program/>. In 2015, there were 141 rabies vaccination clinics promoted through this service. In 2016, that number dropped to 135. During 2016 the Department made significant changes to the rabies regulations at 330 CMR 10. Based on current

scientific study, some major changes were made to the national recommendations put out by the National Association of State Public Health Veterinarians. These changes included recognizing increased efficacy of vaccine in an animal that had received multiple doses at appropriate intervals, as well as a reduction in the quarantine period for animals that had not been previously vaccinated. The changes made to the Department’s regulations reflect the most current research, and serve to decrease the burden on pets and their owners. These changes were welcomed by the regulators, practicing veterinarians and the pet-owning public.

**REPORTABLE DISEASE PROGRAM**

Esther Wegman

Reportable diseases include foreign animal diseases that are not currently affecting the state, diseases that have serious consequences to public or animal health, and diseases that MDAR has either previously eradicated from Massachusetts or is very close to eradicating. Veterinary practitioners are required to report suspected or positive cases of these diseases promptly to the Division of Animal Health. The Division seeks early detection in order to mount a rapid response in an effort to reduce the number of animals and animal owners affected by a disease outbreak. In addition to the rabies cases mentioned previously, there were 445 suspected cases of reportable diseases in 2015 and 2016, including the following:

2015 CASES	2016 CASES	DISEASE	ANIMAL(S) IMPACTED
189	119	Parvovirus	dog
17	21	Leptospirosis	cattle, dog
2	-	Canine Influenza	dog
18	18	Panleukopenia	cat
5	10	Canine Distemper	dog
9	12	Strep equi (Strangles)	horse
1	-	Babesia	dog
4	2	Feline Calcivirus	cat
2	1	Tularemia	cat
-	1	Contagious Ecthyma (Soremouth)	goat
-	3	Eastern Herpes Virus-1	horse
1	-	Bluetongue	cattle*
2	-	Brucellosis	dog
6	1	Sarcoptic Mange	swine, dog

\*

*Follow up testing confirmed negative status\*\* Follow up PCR testing confirmed negative status*

**SHELTER AND RESCUE PROGRAM**

Patricia Cabral

The Division of Animal Health’s Shelter and Rescue Program ensures the health and safety of companion animals being offered to the public for adoption, through the registration of individual shelters and rescue groups who operate adoption programs within Massachusetts and those that adopt animals into Massachusetts from other states. Since many shelter and rescue animals have had little or no veterinary care, this disadvantaged portion of the domestic animal population requires greater attention. The rules that are in place serve as protection to the Commonwealth’s resident animal population, the animals being handled within the shelter and rescue community, and the individuals who seek to help them. For more information, see <http://www.mass.gov/eea/agencies/agr/animal-health/shelter-and-rescue/>

### **Enforcement Actions**

In 2015, there were 355 registered shelters and rescues operating in Massachusetts, in 2016, that number increased to 365. The Division issued 22 Orders to Cease and Desist in 2015, and 9 such orders in 2016, to shelters and rescues that had failed to register with the Department and operate within the prescribed rules (Order 1-AHO-05).

Administrative fines were issued to 5 groups in 2015, and another 4 in 2016 to groups that failed to comply with the Orders to Cease and Desist.

### **SWINE PROGRAM**

Esther Wegman

The Swine Program includes permitted garbage feeders, licensed swine dealers, as well as Classical Swine Fever, Brucellosis and Pseudorabies testing. The word “garbage” is defined as any meat waste, or meat waste combined with food waste, resulting from handling, preparation, cooking, and consumption of foods, including animal carcasses or parts thereof. Anyone feeding garbage to swine being raised to be sold for public consumption must obtain a permit from the Division of Animal Health and USDA/APHIS Veterinary Services. The issuance of this permit requires a facility inspection and garbage cooker temperature check. All garbage, regardless of previous processing, must be heated to 212 degrees Fahrenheit for a minimum of 30 minutes prior to being fed to swine. These strict regulations were implemented to mitigate the risk of disease transmission associated with feeding meat scraps to swine herds. In 2015, 17 permits to feed garbage were issued to swine operations in the Commonwealth, and in 2016, that number increased to 20.

## **DIVISION OF CROP AND PEST SERVICES,**

**Taryn LaScola, Director**

The Division of Crop and Pest Services has four programs within the Division. They are the following:

1. Farm Products and Plant Industries: oversees the inspection and licensing of farm products, plant industries under Chapter 128 and its' accompanying regulations
2. Pesticides: regulates all pesticide use within the. It also is responsible for the registration and licensing of pesticide products, commercial applicators, and certain pesticide uses.
3. Apiary: ensures the health of the Massachusetts Honey Bee population by inspection.
4. State Reclamation and Mosquito Control Board: oversees the Mosquito Control Districts (MCD) throughout the state.

### **FARM PRODUCTS AND PLANT INDUSTRIES PROGRAM**

The Farm Products and Plant Industries (FPPI) Program staff support multiple programs based upon seasonal or workload needs, including nursery inspection, CAPS, and feed and fertilizer programs. In many cases, inspectional staff members provide coverage for programs outside of their primary area of responsibility, which results in more effective program administration. FPPI works cooperatively with USDA and UMASS Extension on different aspects of the program.

The FPPI Program had a challenging year, with staff fluctuations and meeting the demands of the industry. Demand for inspection of farm products, nurseries, and greenhouses remains high. These quality-control programs have proven to be extremely popular and helpful with growers, farmers, shippers, sellers, buyers and consumers as demand for high quality products continues to increase.

The FPPI Program administers a number of diversified quality-control programs for farm products and nursery stock, including Truth-in-Labeling Laws on fruit, vegetables, commercial feed, pet food, fertilizer, lime and seeds. The FPPI Program has also expanded into the certification of farms and production facilities under the USDA Good Agricultural Practices (GAP) requirements, which has the potential to become a significant new programmatic area.

### **FERTILIZER PROGRAM**

Bob Rondeau/Howard Vinton

In 2015: 383 companies were issued licenses to manufacture and distribute fertilizer in Massachusetts, and over 4,639 products were registered as specialty fertilizers. There were a total of 322 samples of fertilizer take from products being offered for sale in Massachusetts. They were tested for Nitrogen, Phosphorus and Potash. If any shortage of guaranteed levels were found a fine was assessed to the manufacturer.

In 2016: 404 companies were issued licenses to manufacture and distribute fertilizer in Massachusetts, and over 5,550 products were registered as specialty fertilizers. There were a total of 320 samples of fertilizer take from products being offered for sale in Massachusetts. They were tested for Nitrogen, Phosphorus and Potash. If any shortage of guaranteed levels were found a fine was assessed to the manufacturer.

### **FEED PROGRAM**

Howie Vinton

In 2015: the Feed Program reviewed and registered 13,843 products, with receipts of registered products and late fees

totaling \$1,384,300. There were 230 feed products sampled for crude protein, crude fat and crude fiber under the Truth in Labeling law.

A total of 454 feed products were found to not be registered. There were 12 letters issued to companies for unregistered products and for label violations or unapproved ingredients.

In 2016: the Feed Program reviewed and registered 13,843 products, with receipts of registered products and late fees totaling \$1,384,300. There were 250 feed products sampled for crude protein, crude fat and crude fiber under the Truth in Labeling law.

A total of 341 feed products were found to not be registered. There were 8 letters issued to companies, for unregistered products and 22 for label violations or unapproved ingredients. Six additional companies were issued Stop Sale orders, with their products removed from the shelves until payment was received.

## **BRANDING LAW**

Howie Vinton

Inspections were made at hundreds of retail stores for conformance with the Branding Laws on potatoes and apples. Any misbranded products found are relabeled or removed from sale by issuing a Stop Sale Order. There were 14 Stop Sale Orders issued in 2015 and 5 Stop Sale Orders issued in 2016 on lots of apples or potatoes that did not meet grade requirements. The lots in question were removed from the store shelves and shipped back to the packer.

## **FRUIT AND VEGETABLE INSPECTION**

Bob Rondeau/Howard Vinton

Demand for fruit and vegetable inspection services continues to be primarily for the export of apples, with the majority of those being shipped to the United Kingdom, Canada and El Salvador. The Export Apple Inspection Program is of importance primarily because of the demand for controlled atmosphere (CA) stored apples, including the valuable McIntosh variety. Apples for export are required to meet quality standards set forth by the US Export Apple Act and must also meet the phytosanitary requirements of the importing country.

2015: 17,208 cartons of apples were certified in as complying with the US Export Apple and Pear Act. Receipts in excess of \$1,207 were collected for apple export inspections.

2016: 16,574 cartons of apples were certified in as complying with the US Export Apple and Pear Act. Receipts in excess of \$1160 were collected for apple export inspections.

## **NURSERY INSPECTIONS**

Phyllis Michalewich/Howard Vinton

The Nursery Inspection Program requires the inspection and certification of nurseries and greenhouses in the state. All known growers and agents are required to be licensed and must renew annually. A grower's certificate is required to sell, exchange, give, deliver or ship within the commonwealth any tree, shrub or plant commonly known as nursery stock. An agent's license is issued to those who buy and sell nursery stock from certified nurseries throughout the country.

2015: There were 4 inspectors on staff that conduct annual inspections of all certified nurseries in the Commonwealth to ensure that they are free of insects and plant diseases for half of the year. That number decreased to 2 after the early retirement incentive. The top pests/pathogens identified during inspection were Winterkill, Powdery Mildew,

Anthracnose, Winter Moth, and Eastern Tent Caterpillar. The Department licensed 1100 agents and 130 growers, for a total of \$90,110 in receipts. The Inspectors conducted 189 nursery inspections.

2016: There were 3 inspectors on staff that conduct annual inspections of all certified nurseries in the Commonwealth to ensure that they are free of insects and plant diseases for half of the year. The top pests/pathogens identified during inspection were Summer Drought Stress, Scorch, Winter Moth, Gypsy Moth, Powdery Mildew, Anthracnose, and Cedar Apple Rust. The Department licensed 1,129 agents and 147 growers, for a total of \$11,160 in receipts. Inspectors conducted a total of 197 nursery inspections. Inspectors also conducted trace forward inspections to determine whether any growers or agents received nursery stock from other states that had been infected with Boxwood Blight.

## COOPERATIVE AGRICULTURAL PEST SURVEY (CAPS)

Sarah Grubin

The Cooperative Agricultural Pest Survey (CAPS) program is a partnership between states and the United States Department of Agricultural Animal and Plant Inspection Services (USDA-APHIS) to detect and monitor for exotic insect pests and pathogens.

2015: As part of the Cooperative Agriculture Pest Survey (CAPS) program, nursery inspectors performed inspections for the following non-native pests at 59 nurseries in 12 counties:

- City longhorned beetle, *Aeolesthes sarta*
- Emerald ash borer, *Agrilus planipennis*
- Asian longhorned beetle, *Anoplophora glabripennis*
- Rough-shouldered longhorned beetle, *Anoplophora chinensis*
- Mountain oak longhorned beetle, *Massicus raddei*
- Chinese longhorned beetle, *Trichoferus campestris*
- Tremex woodwasp, *Tremex fuscicornis*
- Mile-a-minute vine, *Polygonum perfoliatum*

A total of 43 site visits were conducted, and over 25,000 nursery plants were inspected. Inspectors continued to monitor one existing Mile-a-minute vine infestation, which is under management by growers. No other pest species were found.

The State Pest Survey Coordinator and one CAPS Survey Technician also performed targeted insect surveys with pheromone traps at 25 sugarbushes, state parks and nurseries carrying maple/oak stock across the state, targeting the following pests:

- Variegated golden tortrix, *Archips xylosteanus*
- Oak ambrosia beetle, *Platypus quercivorus*
- False codling moth, *Thaumatotibia leucotreta*
- Green oak tortrix, *Tortrix viridana*
- European Hardwood Ambrosia beetle, *Tryodendron domesticus*

None of the above target species were found.

Other 2015 CAPS projects included:

- Year 6 of a biological control program using beetles to control invasive mile-a-minute vine in Canton, Falmouth, and Foxborough, MA.

- Farm Bill-funded survey of small fruit and berry growers to detect the presence of diseases and pests of berries and a nursery survey for the disease Ramorum Blight (*Phytophthora ramorum*). No targets were found in these surveys.
- CAPS staff collaborated with USDA-APHIS-PPQ to present a Farm Bill-funded 2-day workshop for field identification and taxonomy of exotic jewel and longhorned beetles in 2 states with experts from USDA, Purdue, and Brigham Young University. The workshops were attended by participants from 28 states representing government and university interests. CAPS staff received a Pest Detection Recognition award for their efforts in organizing this program.
- *Cerceris* Wasp Biosurveillance –With the help of 16 participants in the MA “Wasp Watchers” program including MDAR staff and volunteers, over 650 jewel beetles were collected and identified. No target pests were found.

2016: Nursery inspectors performed inspections for the following exotic pests:

- Asian longhorned beetle, *Anoplophra glabripennis*
- Rough-shouldered longhorned beetle, *Anoplophra chinensis*
- Sakhalin pine sawyer, *Monochamus saltuarius*
- Small white-marmorated longhorned beetle, *Monochamus sutor*
- Mile-a-minute vine, *Polygonum perfoliatum*
- Scot’s pine blister rust, *Cronartium flaccidum*

A total of 47 site visits were conducted, and over 27,000 nursery plants were inspected. One new nursery was found to have a mile-a-minute infestation during the course of the survey. No other pest species were found.

In 2016, the State Pest Survey Coordinator and CAPS Survey Technician also performed targeted insect surveys with pheromone traps at 25 Christmas tree farms, state parks and nurseries carrying coniferous tree stock across the state, targeting the following pests:

- Masson pine moth, *Dendrolimus punctatus*
- Pine sawfly, *Diprion pini*
- Japanese pine sawyer, *Monochamus alternatus*
- Black fir sawyer, *Monochamus urussovii*

None of the above target species were found.

Other CAPS projects included:

- Year 7 of a biological control program using beetles to control invasive Mile-a-minute vine in Canton and Foxborough, MA.
- *Cerceris* Wasp Biosurveillance –Over 300 jewel beetles were collected and identified. Emerald ash borer (*Agrilus planipennis*) was found at 2 sites using these wasps, including a new record for Middlesex County.
- Farm Bill-funded survey of MA nurseries to detect the presence Ramorum Blight (*Phytophthora ramorum*). No targets were found in this survey.

## INVASIVE OUTREACH PROGRAMS

Jennifer Forman-Orth

MDAR provides educational outreach about invasive insect pests through the Forest Pest Outreach Program as well as the Asian Longhorned Beetle (ALB) Outreach Coordinator, who provides outreach through an agreement with the USDA/DCR ALB Cooperative Eradication Program.

In 2015: The ALB outreach program covered 51 events including 75 tabling events and 16 presentations, the majority of which were in Worcester County. The ALB Outreach program also worked with several municipalities on the outskirts of the current ALB infestation to construct an information flier that was distributed to thousands of homeowners and businesses.

The Forest Pest Outreach Program covered 30 events including 34 tabling events and 21 presentations. In 2016, the Forest Pest Outreach Coordinator also coordinated a regional EAB Preparedness Forum in conjunction with the Forest Pest Task Force, and developed an alert system to notify stakeholders when EAB shows up in a new location within the state.

In 2016: The ALB outreach program covered 40 events. In total combined with 2015 the outreach events covered a total of 75 tabling events and 16 presentations, all of which the majority of which were in Worcester County.

The Forest Pest Outreach Program covered 25, including 34 tabling events and 21 presentations. The Forest Pest Outreach Coordinator also coordinated a regional EAB Preparedness Forum in conjunction with the Forest Pest Task Force, and developed an alert system to notify stakeholders when EAB shows up in a new location within the state.

## **COUNTRY OF ORIGIN LABELLING (COOL) INSPECTIONS**

Trevor Battle

Since 2006, MDAR has been working under a Cooperative agreement with the USDA to perform audits relative to Country of Origin Labeling [COOL] requirements. Country of Origin Labeling is a labeling law that requires retailers, such as full-line grocery stores, supermarkets, and club warehouse stores, to notify their customers with information regarding the source of certain foods. Food products (covered commodities) contained in the law include muscle cut and ground meats (beef, veal, pork, lamb, goat, and chicken), wild and farm-raised fish and shellfish, fresh and frozen fruits and vegetables, peanuts, pecans, macadamia nuts, and ginseng. Currently MDAR has two staff members that work on the COOL program

In 2015: 22 initial were assigned and completed. 33 follow up inspections were completed. The Department received \$38,400 in reimbursement from the USDA for the inspections.

In 2016: 19 initial were assigned and completed. 32 follow up inspections were completed. The Department received \$37,000 in reimbursement from the USDA for the inspections.

## **GOOD AGRICULTURAL PRACTICES (GAP)**

Howard Vinton

There has been an increased focus on Good Agricultural Practices (GAP) to verify that farms are producing fruits and vegetables in the safest manner possible. Third party audits are being utilized by the retail and food service industry to verify their suppliers are in conformance to specific agricultural best practices. The USDA Agricultural Marketing Service, in partnership with MDAR, offers a voluntary audit-based program that verifies adherence to the recommendations made by the Food and Drug Administration. Currently MDAR has two staff member that conduct the GAP/GHP inspections.

In 2015: 32 companies applied for USDA GAP/GHP and GAP Harmonized audits and completed the inspection process.

In 2016: 25 companies applied for USDA GAP/GHP and GAP Harmonized audits and completed the inspection process.



## **PHYTOSANITARY INSPECTIONS**

Howard Vinton

Growers in Massachusetts who export plant material and/ or seed require inspections prior to shipping. State and Federal Phytosanitary Certificates are issued by staff for shipment of plants and plant materials to other states or countries, certifying the shipment as being free from insects and plant diseases.

In cooperation with USDA-APHIS Plant Protection and Quarantine, MDAR conducts phytosanitary inspections and issues federal and state certificates.

In 2015: Staff inspected and issued 713 Federal Phytosanitary Certificates for the Boston and Amherst State duty stations using the USDA PCIT electronic application process. The certificates were issued for exports. In addition, staff also issued 853 State Phytosanitary Certificates.

When requested, inspectors also provide inspections for houseplants that are being moved to other states. There were 4 of these inspections conducted.

In 2016: Staff inspected and issued 646 Federal Phytosanitary Certificates for the Boston and Amherst State duty stations using the USDA PCIT electronic application process. The certificates were issued for exports. the leading importers in that order. In addition, staff also issued 945 State Phytosanitary Certificates.

When requested, inspectors also provide inspections for houseplants that are being moved to other states. There were 4 of these inspections conducted.

## **APIARY PROGRAM**

Kim Skyrn

As a service to Massachusetts beekeepers, MDAR Apiary Inspectors work with beekeepers to help them maintain healthy colonies, and conduct hive inspections to check and assist with the detection of diseases and/or pests. Beekeepers are advised on how to treat any problems found. Apiary Inspectors also certify the movement of honey bee colonies throughout the state and the nation and inspect these colonies for diseases, pests and unwanted bee species.

Approximately 4-4,500 resident beekeepers maintained over 40-45,000 hives in Massachusetts. These numbers fluctuate from year to year due mainly to high winter hive mortality and the addition of hobbyist beekeepers to county apiary inspection lists. While the largest number of hives belong to commercial beekeepers, the Commonwealth is host to mainly hobbyist bee keepers. Both hobbyist bee keeper colonies and commercial honey bee colonies are systematically checked for diseases, parasites and other issues

A new Chief Apiary inspector was hired in August of 2015. Since then, the program has been growing and changing to meet the new needs of bee keepers in the current environment. A state apiary was developed in 2016 in which trainings and educational classes can take place at. New and improved ways to track the inspections and collect information have been developed as well. In 2016 the first draft of the Pollinator Protection Plan was also released. A Hive Loss Survey has also been developed for bee keepers to report the loss of hives.

Inspections of hives for 2015 and 2016 show that Amercian Foulbrood levels remain low while the European Foul Brood levels rose considerably in 2016. Varroa Mite levels remain extremely high and there appears to be evidence that repeated control methods for Varroa Mite may not be as effective as in the past.

In 2015: Apiary inspectors conducted 1,080 inspections (5,258 colonies

In 2016: Apiary inspectors conducted 783 inspections (4,640 colonies)

The Apiary program and Pesticide enforcement program work collectively when addressing any bee kills that potentially could have been the result of a pesticide application. In 2015, the program follow up on five bee kill complaints. Samples were collected and none of the results showed pesticides at the limit of detection. In 2016, the program followed up on 10 bee kill complaints with one set of samples resulting in a positive result of a pesticide. It should be noted that the results of that case were very low and it was determined that the bee kill was not the result of the pesticide application.

### **STATE RECLAMATION BOARD (SRB)**

Alisha Bouchard/Taryn LaScola

The SRB oversees mosquito control in the Commonwealth of Massachusetts including 11 regional programs. The Board also establishes administrative and technical policy, guidelines, and best management practices to insure that mosquito control programs are effective and safe.

### **Mosquito Control Districts/Projects, and Member Municipalities**

In the Commonwealth, there are 10 regional districts/projects providing mosquito control services to municipalities. One additional municipality, the town of Gardner, voted to join an established mosquito control program (Central MA) during 2015, resulting in a slight increase in total membership to 197 (56%) of the state's 351 municipalities. In 2016, the Sherwood Green Road Improvement and Maintenance District (part of the town of Becket) opted to join the Berkshire County MCD. The towns of Deerfield and Greenfield (Franklin County) also began contracting out for mosquito surveillance and arbovirus testing services (not shown on map).

In 2015: The districts/projects collected over 370,000 mosquitoes during surveillance, with over 121,000 of these submitted for arbovirus testing. Lack of habitat made it a very quiet year for *Culiseta melanura*, and therefore for EEEV, with only 1 EEEV-positive mosquito pool reported for the entire season and no human or animal cases. The continued lack of precipitation accompanied by a hot July and August eventually led to an uptick in WNV-positive mosquito pools, as catch basin water levels dropped, creating more stagnant water that was prime mosquito breeding habitat for *Culex* spp. that are known to carry WNV. By Epi Week 36, WNV hotspots had been detected within the East Middlesex Project area, and isolated WNV-positive mosquito pools were found in communities outside of existing mosquito control districts. There were 164 WNV-positive mosquito pools and 9 human cases.

In 2016: The districts/projects collected over 376,000 mosquitoes during surveillance, with over 140,000 of these submitted for arbovirus testing. Once again, lack of habitat made it a very quiet year for *Culiseta melanura*, and therefore for EEEV, with only 4 EEEV-positive mosquito pools reported for the entire season and no human or animal cases. Drought conditions also brought a spike in WNV, mainly focused in the East Middlesex Mosquito Control Project area, with 189 WNV-positive mosquito pools reported, and 15 human cases.

### **PESTICIDE PROGRAM**

The Massachusetts Department Agricultural Resources is the lead state agency for pesticide regulation in the Commonwealth under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) as well as the Massachusetts Pesticide Control Act. The Pesticide Program carries out the day to day responsibilities of regulating pesticides in the Commonwealth, including the licensing of pesticide applicators, the registration of pesticide products, and the enforcement of the statute and regulations. In addition, the Pesticide Program carries out other pesticide related activities in support of the regulatory mandate, such as education, outreach, and water monitoring. The Pesticide Program also acts as support staff for the Pesticide Board and Pesticide Board Subcommittee.

## **AQUATIC VEGETATION MANAGEMENT**

Hotze Wijnja

### Review Process

Reviews of new active ingredients of aquatic herbicides and rights-of-way herbicides are conducted cooperatively by MDAR and MassDEP-Office of Research and Standards (ORS). During 2015 and 2016, there were no reviews conducted for aquatic herbicides. Relative to the rights-of-way herbicides, the review of the new active ingredient aminopyralid was completed and added to the Sensitive Area Materials List.

MDAR staff interacted with stakeholders on issues related to the aquatic vegetation management in lake and pond management through participation in the meetings of the Lakes and Ponds Advisory Committee.

Relative to water quality monitoring efforts, the Department continued to collect samples from the Aberjona River, Winchester-Woburn, MA as a follow-up the monitoring study that was conducted in 2009 and 2010 (Wijnja et al., 2014). During 2015, staff collected samples from the Aberjona River in June and August. The target analytes were imidacloprid, carbaryl, fipronil, and bifenthrin. Only imidacloprid was detected at levels below 1 ppb. The measured levels are below aquatic life benchmarks for this pesticide. During 2016, drought conditions during spring and summer limited opportunities for sampling. The only sampling event in early October did not show detections of the target pesticides.

Another monitoring effort was for assessment of methoxyfenozide residues in two cranberry bogs in Bridgewater, MA. The effort is related to a re-evaluation of the ground water protection list status of this insecticide. Samples were collected at a cranberry bog during June 2015. Methoxyfenozide was detected at concentrations in the range of 1- 4.8 ppb. These levels were below human health and aquatic life benchmark values.

## **CHILDREN AND FAMILIES PROTECTION ACT (CFPA)**

Trevor Battle

The Children & Families Protection Act (CFPA), which protects children and families from harmful pesticides, was enacted in the year 2000. The Act mandates that all public/ private schools K-12, school age child care programs and daycare centers have an Integrated Pest Management (IPM) Plan, puts limitations on pesticide use inside and outside of schools, and requires notification for some pesticide applications.

The school IPM Program continues to move closer to near 100% compliance. Currently, IPM plan compliance for both schools and daycare programs stands at 98.4% and 96% respectively.

The Pesticide enforcement division conducts routine inspections with schools regarding their IPM plans. During the inspection an inspector reviews the plan, pesticide application records and provides education and outreach regarding the requirements.

In 2015: 131 CFPA inspections were completed, and resulted in 16 Letters of Warning and 1 Administrative Order being issued.

In 2016: 66 CFPA inspections were completed, and resulted in 4 Letters of Warning being issued.

## **ENFORCEMENT**

Taryn LaScola/Michael McClean

The Enforcement program is charged with enforcing the provisions of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Massachusetts Pesticide Control Act (MGL 132B) and the regulations promulgated thereunder. The

enforcement program conducts routine inspections of pesticide users' establishments and the producers from which they acquire the products. Enforcement also investigates complaints regarding the misuse of pesticides in addition to providing education and outreach about Department pesticide programs. There are 4 pesticide inspectors and 1 Chief inspector. There was a change of personnel in FY 2016.

In 2015: Overall, a total of 688 pesticide inspections covering a wide range of pesticide use in the Commonwealth were completed. Inspections of note include:

- 237 physical and 16 documentary samples were collected during inspections.
- 10 Producer Establishment Inspections (PEI) were conducted using federal credentials.
- 10 Restricted Use Dealer inspections were completed.
- 212 certified applicator records inspections were completed.
- 21 Agricultural For Cause (follow-up) inspections were completed
- 54 Non-Agricultural For Cause investigations were completed; Non-Agricultural For Cause inspections consisted of consumer complaints and/or licensing violation inspections due to possible misuse pursuant to Massachusetts requirements 333 CMR.
- 48 Worker Protection Standard inspections were completed.

The pesticide enforcement staffed issued the following enforcement actions:

- 3 License suspensions
- 2 License revocations
- 88 Letters of warnings
- 12 Administrative orders
- 1 fine
- 5 cases forwarded to the Environmental Protection Agency

In 2016: Overall, a total of pesticide inspections covering a wide range of pesticide use in the Commonwealth were completed in FY14. FY14 inspections of note include:

- 157 physical and 14 documentary samples were collected during inspections.
- 11 Producer Establishment Inspections (PEI) were conducted using federal credentials.
- 8 Restricted Use Dealer inspections were completed.
- 126 certified applicator records inspections were completed.
- 11 Agricultural For Cause (follow-up) inspections were completed
- 49 Non-Agricultural For Cause investigations were completed; Non-Agricultural For Cause inspections consisted of consumer complaints and/or licensing violation inspections due to possible misuse pursuant to Massachusetts requirements 333 CMR.
- 20 Worker Protection Standard inspections were completed.

The pesticide enforcement staffed issued the following enforcement actions:

- 2 License revocations
- 36 Letters of warnings
- 12 Administrative orders
- 4 cases forwarded to the Environmental Protection Agency

## **GROUND WATER PROGRAM**

Hotze Wijnja

## Registration Review

As part of the pesticide registration process, MDAR has an on-going program to assess the potential of pesticides to impact water resources. A total of 10 new active ingredients with use patterns that may impact water resources were reviewed and registered during 2015 and 2016:

### New Chemicals:

- aqueous potassium silicate
- benzovindiflupyr
- bicyclopyrone
- fenpyrazamine
- fluensulfone
- flupyradifurone
- isofetamid
- kasugamycin
- oxathiapiprolin
- pinoxaden

### New Biological Pesticide Active Ingredients:

- *Bacillus thuringiensis* (BT) susp. *Galleriae*, strain SDS-502
- GS-omega/kappa-Htxx-Hv1a
- Tea tree oil
- *Ulocladium oudemansii* (U3 Strain)

None of these new active ingredients met the criteria for the Massachusetts Groundwater Protection List.

## Enforcement

MDAR staff continues to include the enforcement of the groundwater regulations as part of their standard inspections. These inspections ensure that pesticide users understand and comply with groundwater regulations, particularly the notification requirement for the use of ground water protection-listed (GWP) pesticides within Zone II areas. Records of these notifications are maintained such that information on these pesticide applications is available when needed.

## MASSACHUSETTS WORKER PROTECTION STANDARD

Laurie Rocco

The Agricultural Worker Protection Standard (WPS) is a regulation aimed at reducing the risk of pesticide poisoning and injury among agricultural workers and pesticide handlers. The WPS offers occupational protections to agricultural workers (people involved in the production of agricultural crops) and pesticide handlers (people who mix, load, or apply crop pesticides) that work at agricultural establishments (farms, nurseries and greenhouses). It requires that owners and employers on agricultural establishments provide protections to workers and handlers from potential pesticide exposure, train them about pesticide safety, and provide mitigations in case exposures occur. Pesticide enforcement inspectors made WPS materials including record keeping manuals available when conducting compliance monitoring of farms, and “How to Comply” manuals were distributed on DVD as well as in hard copy format.

EPA updated WPS and began educating the states on the changes in 2015. 2016 was dedicated to provided education and outreach to growers on the changes as they went into effect at the beginning of 2017. This was done when the Department was asked to provide presentations to the agricultural community along with educating growers on the

changes during the 2015/2016 inspections.

## **PESTICIDE APPLICATOR AND LICENSING PROGRAM**

Steve Antunes-Kenyon

The Massachusetts Pesticide Control Act requires all persons who apply pesticides in public and private places used for human occupation and habitation, with the exception of residential properties with three or less dwelling units, to be in possession of a valid license or certification issued by MDAR. There are 4 types of pesticide licenses in Massachusetts: Commercial Applicator License, Commercial Certification License, Private Certification License and Dealer License. These licenses permit the legal use of pesticides including but not limited to the following: purchase, sale, application, mixing, loading, storage, disposal, and transport.

### **Certification and Licensing exams**

Pesticide examinations are offered to individuals seeking pesticide licensure throughout the year, with a minimum of one exam each month.

In 2015: the Department administered 25 pesticide exams for the four licensure types. A total of 1996 individuals registered for exams. 1,799 took the exam. Out of the 1,799 who took exams, 1334 passed

In 2016: the Department administered 25 pesticide exams for the four licensure types. A total of 2,193 individuals registered for exams. 1,943 took the exam. Out of the 1,945 who took exams, 1475 passed.

### **New and Renewal Pesticide Licenses**

Once individuals have passed the appropriate exam, they are sent a pesticide license application. This document must be renewed on an annual basis pursuant to state pesticide law and regulations.

All commercial and private certifications and licenses, with the exception of Dealer Licenses, expire on December 31st of each year (Dealer Licenses expire on the last day of February of each year). Individuals eligible to renew for the next year automatically receive a renewal application each October. Each applicator must renew his/her certification and/or license by January 1st.

In 2015: There were 1,243 new licenses issued and 7,568 renewal licenses issued

In 2016: There were new 1,370 licenses issued and 7,756 renewal licenses issued

### **Continuing education**

License holders must attend continuing education programs and obtain contact hours to maintain and enhance their pesticide application knowledge. Applicators who do not meet the required number of educational hours are obligated to retake the state examination to be recertified or relicensed.

In 2015: there were 953 applicators chosen as part of a random audit to verify that they had met the required number of contact hours by the end of a three year training period. There were 754 audits approved. The remaining individuals either did not return the audit paperwork or did not satisfy the educational hours required.

In 2016: there were 1359 applicators chosen as part of a random audit to verify that they had met the required number

of contact hours by the end of a three year training period. There were 972 audits approved. The remaining individuals either did not return the audit paperwork or did not satisfy the educational hours required.

### **PESTICIDE APPLICATOR CONTINUING EDUCATION (PACE)**

Trevor Battle

MDAR staff, UMASS Cooperative Extension, and various industry associations and companies continued to educate the pesticide-user community regarding laws and regulations through lectures and presentations.

In 2015: The Department approved 515 continuing education programs to support the recertification requirements for all licensed applicators

In 2016: The Department approved 426 continuing education programs to support the recertification requirements for all licensed applicators

### **PESTICIDE PRODUCT REGISTRATION**

Susie Reed

Any person who has obtained a pesticide product registration from the EPA must then apply for a registration with MDAR. The registrant, or an agent acting on behalf of the registrant, is required to submit an “Application for New Pesticide Registration”, a Material Safety Data Sheet (MSDS), and a product label. A fee of \$300 dollars is also required for each different EPA registration number. New products are usually registered on a monthly basis. Every product label is thoroughly reviewed for compliance with state and federal laws and then brought to the Pesticide Board Subcommittee for consideration. A registration is valid for a period beginning with the initial date of approval by the Subcommittee and ending on the next June 30th. Each registration must be renewed annually no later than July 1, at a cost of \$300 per EPA number. Registrations of products with new active ingredients are assessed a fee of \$750 each.

#### **State Restricted Use Pesticide classification (SRUP)**

A Federal General Use pesticide product registered by the Commonwealth may be classified as either general use or reclassified as State Restricted Use based upon its use pattern or the potential to become a groundwater contaminant

#### **Special Local Needs (SLN) registration**

When a particular agricultural problem exists that can only be mitigated through the use of a pesticide that is not federally registered for that specific purpose, a Special Local Need registration may be issued by the state under section 24c of FIFRA. There were no new SLNs registered in 2014.

#### **Experimental Use Permits (EUP)**

State experimental use permits are required to control potential hazards of pesticide experimentation under outdoors, greenhouse, and domestic animal trial conditions. To obtain such a permit, a state application must be filed with the Pesticide Board Subcommittee along with a product label, a copy of the EPA EUP and a fee of \$300 dollars.

In 2015: The following went through the product registration program:

Products renewed: 8282

New products: 884

New Active ingredient: 12

Reclassified SRUP: 16 (re-classified)  
EUP: 1 (renewal)  
SLN: 1

In 2016: There following went through the product registration program:

Products renewed: 8442  
New products: 862  
New Active ingredient: 13  
Reclassified SRUP: 36  
EUP: 2 (1-new, 1-renewal)  
SLN: 0

## **RIGHTS-OF-WAY (ROW) MANAGEMENT**

Mike McClean

The Rights-of-Way (ROW) program enforces the provisions of 333 CMR 11.00 by regulating the use of herbicides to control vegetation on all rights-of-ways within the Commonwealth. The ROW program has substantial interaction with many state agencies and municipalities through its administration and also provides public notification and opportunity for the general public and interested parties to comment on the various ROW treatments.

### **Compliance Monitoring**

In 2015: MDAR staff conducted 71 “Use Observations” along rights of way in the Commonwealth 2 complaint investigation was conducted that resulted in one Letters of Warning being issued.

In 2016: MDAR staff conducted 11 “Use Observations” along rights of way in the Commonwealth 2 complaint investigation was conducted that resulted in two Letters of Warning being issued.

### **Vegetative Management Plans (VMPs)**

VMPs are an overview of an entire ROW System. They describe potential methods of herbicide control, including pesticides, mechanical and biological methods, or any Integrated Pest Management or IPM techniques. Plans must be renewed on a 5 year cycle and must be presented at public hearings in areas affected by ROW practices.

In 2015: 6 plans were reviewed, brought to public hearing, and approved by the ROW Coordinator.

In 2016: 9 plans were reviewed, brought to public hearing, and approved by the ROW Coordinator.

### **Yearly operational Plans (YOPs)**

These plans covered operational activities along ROWs within the Commonwealth. .YOP’s consist of the names, rates and amounts of pesticides to be applied along specific ROWs, as well as the individual sites, and identification of “sensitive areas” where prohibitions in standard application practices are warranted. Each plan was reviewed and comments were made by the ROW Coordinator.

In 2015: 37 plans were reviewed

In 2016: 39 plans were reviewed



**APPENDIX 1: STAFF DIRECTORY**

# MDAR Staff Directory

Employee Listing (information current as of December 2017)

Adams, Melissa L.	AIP, MEGA, SARA, Ag-Business Training Coordinator, Conservation & Technical Assistance <a href="mailto:Melissa.L.Adams@state.ma.us">Melissa.L.Adams@state.ma.us</a> 413-548-1904
Antunes-Kenyon, Steve	Pesticide Operations Coordinator, Crop & Pest Services <a href="mailto:Steve.Kenyon@state.ma.us">Steve.Kenyon@state.ma.us</a> 617-626-1784
Arruda, Rose	Urban Agricultural Coordinator <a href="mailto:Rose.Arruda@state.ma.us">Rose.Arruda@state.ma.us</a> 617-626-1849
Battle, Trevor	Environmental Health Inspector, Crop & Pest Services <a href="mailto:Trevor.Battle@state.ma.us">Trevor.Battle@state.ma.us</a> 617-626-1775
Bodian, Michelle	Counsel, Legal Services <a href="mailto:Michelle.Bodian@state.ma.us">Michelle.Bodian@state.ma.us</a> 617-626-1707
Bouchard, Alisha	Chief of Staff, Administration <a href="mailto:Alisha.Bouchard@state.ma.us">Alisha.Bouchard@state.ma.us</a> 617-626-1703
Botelho, Michael	Commonwealth Quality Program Coordinator <a href="mailto:Michael.Botelho@state.ma.us">Michael.Botelho@state.ma.us</a> 617-626-1721
Bowen, Sean	Aquaculture Coordinator, Conservation & Technical Assistance <a href="mailto:Sean.Bowen@state.ma.us">Sean.Bowen@state.ma.us</a> 617-626-1724
Bruckner, Joshua	ALB Outreach Coordinator, Crop & Pest Services <a href="mailto:Joshua.Bruckner@state.ma.us">Joshua.Bruckner@state.ma.us</a> 617-626-1764
Bruso, Amanda	Dairy Promotion Board and Agricultural Markets Outreach Coordinator <a href="mailto:Amanda.Bruso@state.ma.us">Amanda.Bruso@state.ma.us</a>

617-626-1763

Burbridge, Lauren  
Program Coordinator, Animal Health  
[Lauren.Burbridge@state.ma.us](mailto:Lauren.Burbridge@state.ma.us)  
617-626-1790

Burgess, Jessica  
Counsel, Legal Services  
[Jessica.Burgess@state.ma.us](mailto:Jessica.Burgess@state.ma.us)  
617-626-1722

Cabral, Patricia  
Shelter and Rescue Coordinator, Animal Health  
[Patricia.Cabral@state.ma.us](mailto:Patricia.Cabral@state.ma.us)  
617-626-1786

Callanan, Margaret  
General Counsel  
[Margaret.Callanan@state.ma.us](mailto:Margaret.Callanan@state.ma.us)  
617-626-1705

Cahill, Mike  
Director, Animal Health  
[Michael.Cahill@state.ma.us](mailto:Michael.Cahill@state.ma.us)  
617-626-1794

Cai, Sunny  
Environmental Health Inspector, Crop & Pest Services  
[Sunny.Cai@state.ma.us](mailto:Sunny.Cai@state.ma.us)  
(617) 626-1785

Chisholm, Christine  
APR Program Planner, Conservation & Technical Assistance  
[Chris.Chisholm@state.ma.us](mailto:Chris.Chisholm@state.ma.us)  
617-626-1788

Colon, Elsie  
Rabies Program Coordinator, Division of Animal Health  
[Elsie.Colon@state.ma.us](mailto:Elsie.Colon@state.ma.us)  
617-626-1810

Cornman, Keri  
Grants Manager  
[Keri.Cornman@state.ma.us](mailto:Keri.Cornman@state.ma.us)  
617-626-1777

Davidson, Rebecca  
Farmers' Market Nutrition Program Coordinator, Agricultural Events Certification  
Coordinator  
[Rebecca.Davidson@state.ma.us](mailto:Rebecca.Davidson@state.ma.us)  
617-626-1744

Delongchamp, Delia	Steward Planner, APR Program, Conservation & Technical Assistance <a href="mailto:Delia.Delongchamp@state.ma.us">Delia.Delongchamp@state.ma.us</a> 617-626-1737
Demakakos, Michael	Counsel, Legal Services <a href="mailto:Michael.Demakakos@state.ma.us">Michael.Demakakos@state.ma.us</a> 617-626-1783
Diamond, Jesse	Pesticide Inspector (Southeast), Crop & Pest Services <a href="mailto:Jesse.Diamond@state.ma.us">Jesse.Diamond@state.ma.us</a> 617-626-1827
Du, Dorothy	Administrative Assistant II, APR Program, Conservation & Technical Assistance <a href="mailto:Dorothy.Du@state.ma.us">Dorothy.Du@state.ma.us</a> 617-626-1741
Edwards, Clayton	Pesticide Inspector/ROW Program <a href="mailto:Clayton.Edwards@state.ma.us">Clayton.Edwards@state.ma.us</a> 617-626-1826
Edwards, Jessica	Animal Health Inspector <a href="mailto:Jessica.Edwards@state.ma.us">Jessica.Edwards@state.ma.us</a> 617-626-1795
Forman Orth, Jennifer	Environmental Biologist, Crop & Pest Services <a href="mailto:Jennifer.Forman-Orth@state.ma.us">Jennifer.Forman-Orth@state.ma.us</a> 617-626-1735
Funk, Stephanie	Dairy and Animal Health Inspector, Animal Health <a href="mailto:Stephanie.Funk@state.ma.us">Stephanie.Funk@state.ma.us</a> 617-626-1795
Gill, Alexander	Contract Administrator, Administration <a href="mailto:Alexander.Gill@state.ma.us">Alexander.Gill@state.ma.us</a> 617-626-1765
Gold, Michael	Management Analyst, Animal Health <a href="mailto:Michael.Gold@state.ma.us">Michael.Gold@state.ma.us</a> 617-626-1712
Grubin, Sarah	State Survey Coordinator, Crop & Pest Services <a href="mailto:Sarah.Grubin@state.ma.us">Sarah.Grubin@state.ma.us</a>

617-626-1787

Gustafson, Sheri  
Animal Health, Spay and Neuter Community Liaison  
[Sheri.Gustafson@state.ma.us](mailto:Sheri.Gustafson@state.ma.us)  
617-626-1740

Gutierrez, Juan Carlos  
SRB Operations Coordinator  
[Juan.Gutierrez@state.ma.us](mailto:Juan.Gutierrez@state.ma.us)  
617-626-1723

Hachem, Alexandra  
Nehme  
Produce Safety Coordinator  
[Alexandra.Hachem@state.ma.us](mailto:Alexandra.Hachem@state.ma.us)  
617-626-1709

Hall, Ron  
APR Program Coordinator, Conservation & Technical Assistance  
[Ronald.Hall@state.ma.us](mailto:Ronald.Hall@state.ma.us)  
617-626-1704

Harrod, Linda  
Dairy and Animal Health Inspector, Animal Health  
[Linda.Harrod@state.ma.us](mailto:Linda.Harrod@state.ma.us)  
617-626-1795

Henderson, Dake  
GIS Coordinator, Conservation & Technical Assistance  
[Dake.Henderson@state.ma.us](mailto:Dake.Henderson@state.ma.us)  
617-626-1729

Hopson, Barbara  
Land Use Administrator, Conservation & Technical Assistance  
[Barbara.Hopson@state.ma.us](mailto:Barbara.Hopson@state.ma.us)  
413-548-1906

Jordan, Mary  
Director, Agricultural Markets  
[Mary.Jordan@state.ma.us](mailto:Mary.Jordan@state.ma.us)  
617-626-1750

Kaseta, Kyle  
Nursery Inspector, Crop & Pest Services  
[Kyle.Kaseta@state.ma.us](mailto:Kyle.Kaseta@state.ma.us)  
617-626-1804

Kennedy, Gerard  
Director, Conservation & Technical Assistance  
[Gerard.Kennedy@state.ma.us](mailto:Gerard.Kennedy@state.ma.us)  
617-626-1773

LaScola, Taryn	Director, Crop & Pest Services <a href="mailto:Taryn.LaScola@state.ma.us">Taryn.LaScola@state.ma.us</a> 617-626-1776
Lebeaux, John	Commissioner <a href="mailto:John.Lebeaux@state.ma.us">John.Lebeaux@state.ma.us</a> 617-626-1733
LeBlanc, Richard	Website, Massgrown Coordinator, Agricultural Markets <a href="mailto:Richard.LeBlanc@state.ma.us">Richard.LeBlanc@state.ma.us</a> 617-626-1759
Lopez-Swetland, Allie	Marketing and Product Utilization Specialist, Crop & Pest Services <a href="mailto:Alejandra.Lopez-Swetland@state.ma.us">Alejandra.Lopez-Swetland@state.ma.us</a> 413-253-2414
Maul, Laura	Environmental Analyst, Conservation & Technical Assistance <a href="mailto:Laura.Maul@state.ma.us">Laura.Maul@state.ma.us</a> 617-626-1739
McClellan, Michael	Chief Pesticide Inspector, Crop & Pest Services <a href="mailto:Michael.McClellan@state.ma.us">Michael.McClellan@state.ma.us</a> 617-626-1781
Megrath, Megan	Poultry Inspector, Animal Health <a href="mailto:Megan.Megrath@state.ma.us">Megan.Megrath@state.ma.us</a> 617-626-1798
Nguyen, Ngoc-Nu	Accountant, State Reclamation Board <a href="mailto:Ngoc-Nu.Nguyen@state.ma.us">Ngoc-Nu.Nguyen@state.ma.us</a> 617-626-1708
Nunes, John	Administrative Assistant, Animal Health <a href="mailto:John.Nunes@state.ma.us">John.Nunes@state.ma.us</a> 617-626-1813
O'Connor, Dr. Lorraine	Chief Veterinarian Health Officer, Animal Health <a href="mailto:Lorraine.O'Connor@state.ma.us">Lorraine.O'Connor@state.ma.us</a> 617-626-1791
Oakes, Fred	Pesticide Inspector (Northeast) <a href="mailto:Fred.Oakes@state.ma.us">Fred.Oakes@state.ma.us</a>

617-626-1828

Oehlke, Bonita  
Market Development and Food System Planning  
[Bonita.Oehlke@state.ma.us](mailto:Bonita.Oehlke@state.ma.us)  
617-626-1753

Padula, Michele  
APR Program Planner, Conservation & Technical Assistance  
[Michele.Padula@state.ma.us](mailto:Michele.Padula@state.ma.us)  
617-626-1758

Palano, Gerry  
Alternative Energy Specialist, Conservation & Technical Assistance  
[Gerald.Palano@state.ma.us](mailto:Gerald.Palano@state.ma.us)  
617-626-1706

Payne, Sandra  
Administrative Assistant, Inspectional Services & Pest Mgt.  
[Sandra.Payne@state.ma.us](mailto:Sandra.Payne@state.ma.us)  
617-626-1720

Phelon, Sheila  
Dairy and Animal Health Inspector, Animal Health  
[Sheila.Phelon@state.ma.us](mailto:Sheila.Phelon@state.ma.us)  
617-626-1795

Pitel, Nick  
Stewardship Planner, Conservation & Technical Assistance  
[Nicholas.Pitel@state.ma.us](mailto:Nicholas.Pitel@state.ma.us)  
413-548-1902

Pilis, Steven  
Produce Safety Coordinator  
[Steven.Pilis@state.ma.us](mailto:Steven.Pilis@state.ma.us)  
617-626-1747

Reed, Susie  
Product Registration Specialist, Crop & Pest Services  
[Susan.Reed@state.ma.us](mailto:Susan.Reed@state.ma.us)  
617-626-1778

Rice, Robin  
Field Investigator, Animal Health  
[Robin.Rice@state.ma.us](mailto:Robin.Rice@state.ma.us)  
617-626-1814

Richov, Craig  
Farm Viability Coordinator, Conservation & Technical Assistance  
[Craig.Richov@state.ma.us](mailto:Craig.Richov@state.ma.us)  
617-626-1725

Robb, Katharine  
Massachusetts Building Manager and Economic Development Specialist, Agricultural Markets

[Katharine.Robb@state.ma.us](mailto:Katharine.Robb@state.ma.us)  
617-626-1748

Western Massachusetts Pesticide Inspector, Crop & Pest Services

Rocco, Laurie  
[Laurie.Rocco@state.ma.us](mailto:Laurie.Rocco@state.ma.us)  
617-626-1831

Budget Director, Administration

Rock, Michael  
[Michael.Rock@state.ma.us](mailto:Michael.Rock@state.ma.us)  
617-626-1716

Accountant, Division of Administration

Rosa, John  
[John.Rosa@state.ma.us](mailto:John.Rosa@state.ma.us)  
617-626-1730

MMARS Liaison, Administration

Scoff, Barbara  
[Barbara.Scoff@state.ma.us](mailto:Barbara.Scoff@state.ma.us)  
617-626-1714

Program Coordinator Animal Health

Shulock-Sexton, Carry  
[Carry.Shulock-Sexton@state.ma.us](mailto:Carry.Shulock-Sexton@state.ma.us)  
617-626-1797

Chief Apiary Inspector/Apiary Program Coordinator

Skyrm, Kim  
[Kim.Skyrm@state.ma.us](mailto:Kim.Skyrm@state.ma.us)  
Amherst 413-548-1905; Boston 617-626-1801

Animal Health Inspector

Sylvester, Megan  
[Megan.Sylvester@state.ma.us](mailto:Megan.Sylvester@state.ma.us)  
617-626-795

Accountant IV, State Reclamation Board

Szeto, Peggy  
[Peggy.szeto@state.ma.us](mailto:Peggy.szeto@state.ma.us)  
617-626-1731

Paralegal, Legal Services

Szocik, Carol  
[Carol.Szocik@state.ma.us](mailto:Carol.Szocik@state.ma.us)  
617-626-1718

Database Administrator, Conservation & Technical Assistance

Tavares, Joao  
[Joao.Tavares@state.ma.us](mailto:Joao.Tavares@state.ma.us)  
617-626-1719

Theodore, Sheila	Executive Assistant-Commissioner <a href="mailto:Sheila.Theodore@state.ma.us">Sheila.Theodore@state.ma.us</a> 617-626-1733
Toland, Joyce	Payroll Program Coordinator, Administration <a href="mailto:Joyce.Toland@state.ma.us">Joyce.Toland@state.ma.us</a> 617-626-1713
Vinton, Howard	Inspector, Feed Control Officer, Crop & Pest Services <a href="mailto:Howard.Vinton@state.ma.us">Howard.Vinton@state.ma.us</a> 617-626-1803
Vo-Phuong, Hoang	Systems Analyst, Crop & Pest Services <a href="mailto:Hoang.Vo@state.ma.us">Hoang.Vo@state.ma.us</a> 617-626-1818
Vollinger, Cathy	Dairy Inspector, Animal Health <a href="mailto:Cathy.Vollinger@state.ma.us">Cathy.Vollinger@state.ma.us</a> 617-626-1795
Webber, David	Farmers' Market Program Coordinator, Agricultural Markets <a href="mailto:David.Webber@state.ma.us">David.Webber@state.ma.us</a> 617-626-1754
Wegman, Esther	Program Coordinator, Animal Health <a href="mailto:Esther.Wegman@state.ma.us">Esther.Wegman@state.ma.us</a> 617-626-1795
Wentworth, Jason	Assistant Commissioner <a href="mailto:Jason.Wentworth@state.ma.us">Jason.Wentworth@state.ma.us</a> 617-626-1715
Wijnja, Hotze	Chemist, Crop & Pest Services <a href="mailto:Hotze.Wijnja@state.ma.us">Hotze.Wijnja@state.ma.us</a> 617-626-1771