



THE UNIVERSITY OF
MAINE
Cooperative Extension



Above; member of 4-H club Locke, Stock and Arrow at the Doo Doo Drive Thru, photo by 4-H staff. All other photos by Tori Lee Jackson, Associate Extension Professor.

2014 Androscoggin and Sagadahoc Counties Cooperative Extension Annual Report

Making a Difference

For more than 100 years, University of Maine Cooperative Extension has worked with Maine volunteers to offer community-driven, research-based educational programs in every county.

Our annual report features highlights of recent accomplishments and the difference we make in the lives of Maine citizens and their communities.

Cooperative Extension

University of Maine Cooperative Extension’s successful educational programs result from a federal, state and county government partnership. Since 1919, when the Maine Legislature passed the County Extension Act*, the University of Maine has been in all Maine communities with a county office whose operations are funded by county government. Our educational programs anticipate and respond to local and state needs and issues. We also communicate those issues and opportunities to UMaine faculty to influence their research and development plans.

A sampling of our educational program areas:

- Agriculture Business & Community
- Food & Health
- Gardening & Horticulture
- Home, Family & Youth Natural Resources
- Insect & Plant Disease
- Management Safety & Preparedness

Local Partnership

Our County Extension Association, the Androscoggin Sagadahoc Counties Executive Association (ASCEA), is the vital link between the county, our communities and UMaine. The ASCEA is comprised of local volunteers who represent community interests by advising UMaine Extension staff on educational programs, advocate for and secure funding from county government to support the county office, oversee the office budget and facilities, and guide UMaine Extension staff in identifying their programming goals.

*The County Extension Act

The County Extension Act explains the role of county government in funding local Extension offices:

Cooperative extension work shall consist of the giving of practical demonstrations in agriculture and natural resources, youth development, and home economics and community life and

imparting information on those subjects through field demonstrations, publications and otherwise. For the purpose of carrying out this chapter, there may be created in each county or combination of two counties within the State an organization known as a “county extension association,” and its services available to all residents of a county. The county extension is viewed as a unique and important educational program of county government. The executive committee of each county extension association shall prepare an annual budget as requested, showing in detail its estimate of the amount of money to be expended under this chapter within the county of counties for the fiscal year. The executive committee shall submit to the board of county commissioners on a date requested by the county commissioners, and the county commissioners may, if they deem it justifiable, adopt an appropriate budget for the county extension program and levy a tax therefore. The amount thus raised by direct taxation within any county or combination of counties for the purposes of this chapter shall be used for the salaries of clerks, provision of office space, supplies, equipment, postage, telephone, a contribution toward the salaries of county educators and such other expenses as necessary to maintain an effective county extension program.¹

¹Excerpted from Title 7, Chapter 7 of the Maine Revised Statutes, §191–§195.



Photo by Tori Lee Jackson, Extension Educator, Associate Professor

Androscoggin and Sagadahoc Counties Highlights

2014 Annual Report
from **Tori Lee Jackson,**
Associate Extension Professor

Military Veteran New Farmers

In the March of 2013, Rep. Craig Hickman of Winthrop introduced a bill into the Maine State Legislature titled *LD 409, An Act to Establish a Veteran-to-farmer Training Pilot Program*. Having already become involved with the development of a Maine State Chapter of the Farmer Veteran Coalition, I began working with Representative Hickman and Stephanie Gilbert from the Maine Department of Agriculture, Conservation and Forestry to try to figure out how such a program might work. After convening meetings with stakeholders from veterans' agencies and agriculture (mainly, members of the Beginning Farmer Resource Network) during much of 2013, Ms. Gilbert and I provided testimony to the Legislative Committee on Education and Cultural Affairs, which took up the bill in January of 2014. Our report was very well received and supported by all stakeholders, but ultimately our proposal was not funded by the Legislature. A resolution was passed by the committee that expressed support and charged the stakeholders to work together to the extent possible, with no funding.

The main charge to UMaine Extension was to make all resources included in the report available online. We decided it would dovetail nicely with the Beginning Farmer Resource Network website, as all of the agricultural information was already there. In mid-2014, a tab was added that included all of the [military veteran resources](#) we had found that could be useful for those wishing to work in the agricultural industry.

Since this work began, I have also seen an increase in the number of military veterans who come into the office in Lisbon Falls for new farmer consultations. I will continue to work to find ways to reach Maine's returning military veterans and help them achieve their farming goals.



Photo by Tori Lee Jackson, Extension Educator, Associate Professor

Master Gardener Volunteers

The 2014 Master Gardener Volunteers training was held at [Good Shepherd Food Bank](#) in Auburn. A long-time partner of UMaine Extension in food security work, Good Shepherd was interested in installing a demonstration garden at their headquarters on Hotel Road as well as finding a way for their employees and volunteers to learn more about growing fruits and vegetables. Twenty-one trainees attended the weekly sessions and a great start was made on the new Good Shepherd Demonstration Garden. It is located at the front entrance, where all visitors will be sure to see it.

Another project that gained momentum in 2014 is the Garden of Hope, a community garden for clients of the [Patrick Dempsey Center for Cancer, Hope & Healing](#), located at Cascades in Auburn.

A large sign was installed this year, and the garden was expanded from a few raised beds to more than twenty. Patrick Dempsey rode his bicycle by the garden during the Dempsey Challenge in September, acknowledging all of the hard work done by Master Gardener Volunteers and employees from the Dempsey Center.

In total, sixty Master Gardener Volunteers from Androscoggin and Sagadahoc Counties volunteered 1,594 hours (an estimated in-kind value of these volunteers is \$32,039.40 based on Independent Sector's 2013 valuation of volunteer hours at \$20.10 per hour). Additionally over 1,167 lbs. of produce was collected and donated to UMaine Extension initiative, Maine Harvest for Hunger.

Protecting the Farms of Bowdoinham

After years of planning, a large CMP construction project (part of the Maine Power Reliability Program) got underway in 2014. I was one of two Extension Faculty to be contracted with the Town of Bowdoinham to evaluate and inspect all portions of the construction, taking place on or above the farmland on Brown's Point. In all, six farms were directly impacted by the construction.

For most of the year, I made weekly, unannounced visits to the farms to be sure all regulations were being enforced and none of the farmland was being unduly harmed by the heavy equipment. The construction wrapped-up at the



Photo by Tori Lee Jackson, Extension Educator, Associate Professor

end of 2014, with no apparent harm to the farm fields. A final evaluation will be done in the spring of 2015, when the ground thaws. This project was a great example of how local University Faculty can partner with industry and a municipality to act as a neutral, research-based third-party.

4-H Youth Development

4-H supports young people from elementary school through high school with programs designed to shape future leaders and innovators. Fueled by [research-driven programming](#), 4-H'ers engage in hands-on learning activities in the areas of science, citizenship and healthy living. Extension Educator, Kristy Ouellette and Community Education Assistant, Cathy Gray work with youth, volunteers, teachers and afterschool providers to strengthen and support the 4-H Youth Development program locally.



Master Gardener Volunteers with the newly installed Garden of Hope sign.
Photo by Tori Lee Jackson, Extension Educator, Associate Professor



Patrick Dempsey, second from left, taking part in the 2014 Dempsey Challenge.

The 4-H Youth development program in Androscoggin and Sagadahoc counties currently serves 164 youth in traditional club programs and over 500 youth in school or community based programs. There are currently ten traditional 4-H clubs. New traditional and afterschool clubs are focused primarily on 4-H Science.

Local Impacts 4-H Youth Development has on youth:

- 86% (6) of 4-H teens that have graduated from high school have gone on to higher education. Teens reported the information learned through 4-H assisted them in being better prepared for college.
- 52% (85) of 4-H youth have annually participated in 2 hours of community service. This time is equivalent to value of over \$3,417 based on *Independent Sector's* valuation of volunteer hours (\$20.10 per hour).
- 81% (132) of 4-H youth participated in programs focused on expanding Science life skills.

Long Term Impacts:

- 50% of the clubs that existed prior to 2008 are still engaged in county and community activities.
- Nationally, Youth in 4-H Science programming reported having high educational aspirations. When asked how far they want to go in school, half of youth surveyed want to finish college.
- Nationally 4-H youth have higher educational achievement and motivation for future education than non 4-H youth.

Local Impacts of 4-H Volunteers

- In 2014, 45 volunteers collectively provided over 16,500 hours of annual service to this program, an investment of over \$331,650* in high-quality, hands on, positive interactions with young people in Maine (*an estimated in-kind value of these volunteers is \$331,650.00 based on *Independent Sector's* valuation of volunteer hours at \$20.10 per hour).



Chelbie Aube (left) presents Brynn Charron, the Janna Roseberry 4-H Sportsmanship Award with 4-H judge Sherri Thornton (right).

Selected Program Highlights

Expanding Science Programming – Youth in Androscoggin/Sagadahoc counties are not alone in their science deficiency. Prior to 2008, youth who wanted to enroll in 4-H in Androscoggin/Sagadahoc Counties were limited to animal science projects.

In 2014, Science programming including programs in Robotics, Wind Energy and Environmental Science was offered at five local libraries in Androscoggin/Sagadahoc counties, serving over 100 youth.

4-H partnered with local summer feed sites to offer a six-week summer of 4-H science program. This program was replicated in three counties state wide, using universal lesson plans and evaluation. In Androscoggin/Sagadahoc counties 127 youth participated at three locations.

Maine 4-H Community Central – In 2014, Maine 4-H received funding from the USDA/National Institute of Food and Agriculture to create Maine 4-H Community Central. In year one of this five-year project **\$93,650** was granted to provide hands on 4-H Science and life skill development to youth living in public housing in Lewiston, Bangor and Portland.

Partnering with Local Housing – 4-H has



Photo by 4-H staff.

May 2014: 4-H Youth and Volunteers in Androscoggin and Sagadahoc Counties attended the state-wide event, 4H@UMaine: Connecting Kids to Campus, where youth were able to sample real life on a real campus. University of Maine professors volunteered their time to teach workshops so that kids can have a taste of college life and see how exciting learning can be!

partnered with Lewiston Housing, Auburn Housing and River Valley Village to offer a variety of 4-H Afterschool programs to residents. In 2014, 4-H Science programming was in full swing. Middle and high school youth learned new concepts and ideas. During school vacation week, a time when at risk youth are often at risk for learning loss, these teens planned and implemented a 4-H Science Fair for younger youth. Over 100 youth participated in this event. Monthly science sessions have been offered and well attended.

- A 6th grade 4-H member from Hillview who participated in a 4-H event on campus shared, “I plan to attend the University of Maine when I apply to college. Because of 4-H, I was able to visit campus and learn from college students that I have what it takes to apply.” This youth had an increase in confidence and self-esteem as a result of participating in 4-H.

Trainings for 4-H

Volunteers and Educators

4-H Afterschool Academy

This program is a combination of face-to-face and web-based training in which 351 afterschool staff participated. Providers were introduced to 4-H and positive youth development, child development, civic engagement and 4-H Science. Afterschool staff learned how to actively engage students using 4-H Science curriculum and prepare them to engage with other students through a host of science activities, including the National 4-H Science Day. Training afterschool and out of school time providers proved to be a niche in which Maine 4-H can excel. This program was highlighted in the Spring edition of the Journal of Extension.

<http://www.joe.org/joe/2013june/tt6.php>

In addition to the afterschool academy, 130 volunteers/afterschool providers/teachers have received in depth training in 4-H science in 2013.



Members of The Busy Bees of Bowdoin 4-H Club, practicing clipping a Boer goat for their 4-H Project. Photo by Ramona Stinson.

Eat Well Nutrition Education Program

The Eat Well Nutrition Education Program improves the health and well-being of limited income families and youth by positively impacting their skills in nutrition, food purchasing, food safety and food preparation. Two Eat Well Community Education Assistants involve participants in activities such as, cooking, menu planning and food budgeting to help them gain knowledge and skills to improve their self-sufficiency skills.

In the past year, Eat Well Nutrition Associates have provided educational programs to a variety of groups including Head Start Parent groups, public schools, Summer Food Service Program Sites, various group home settings, local housing authorities, local food pantries and Two Bridges Regional Jail. A quarterly newsletter, Eat Well, is provided to potential, current and graduated clients featuring low cost recipes and current nutrition and food safety topics.

Evaluations of the program have shown that participants' scores for both dietary adequacy and food and nutrition knowledge increased significantly. Graduates also showed improvements in their knowledge of food handling and storage to reduce their risk of food borne illness.

Behavior Change Highlights:

- 95% of adults improved their diet (i.e. positive change in one or more food groups including grains, fruits, vegetables, milk, meat and beans).
- 85% of adults showed improvement in one or more food resource management practice (i.e. plans meals, compares prices, does not run out of food or uses grocery lists).
- 88% of adults showed improvement in one or more nutrition practices (i.e. plans meals, makes healthy food choices, prepares foods without adding salt, reads nutrition labels or has children eat breakfast).
- 68% of adults improved food safety practices (i.e. thawing and storing foods properly).
- 80% of youth improved their nutrition knowledge.
- 45% of youth improved their food safety practices.
- 32% of youth improved daily physical activity.

Eat Well Educational Impacts 10/13 - 9/14*

- Number of Program Families: 102 (representing 332 family members)
- Number of Children in Groups: 421 (representing 21 groups)
- Number of Newsletters distributed: 3000

**WEBNEERS FY14 Summary Report*

Food Preservation and Food Safety

In the past several years interest and demand for food preservation has grown due in part to current economics and the public's interest to support a local food system. UMaine Cooperative Extension Home Food Preservation efforts seek to create a social shift towards a more educated and skilled public that will revitalize our local food system and positively impact the local agricultural economy through an increase in safely preserving local Maine foods at home to eat year round. As the "go-to" resource for food preservation and food safety education UMaine Extension has responded to meet the needs of the public.

Home Food Preservation Education

Through hands-on workshops and educational displays over 200 people learned skills and gained confidence in the area of preserving food safely through freezing, canning and drying.

Master Food Preserver Training

Annually, 12 volunteers complete the training that includes over 40 hours of direct food preservation experience through 10 kitchen lab sessions, on-line course, independent study and meeting a minimum knowledge competency.

Food Safety Training for Volunteer Quantity Cooks – Cooking for Crowds

Workshops provided volunteer quantity cooks with the practical skills to improve their food handling practices to reduce the incidence of food borne illness. Over 50 participants attend this event from various community groups, churches, local food pantries and soup kitchens.

Maine Families Home Visiting Programs

Issue

According to the US Census' American Community Survey, 14.7% of Mainers of all ages live below the poverty line. One in five Mainers under the age of 18 (20.9 %) live in poverty and

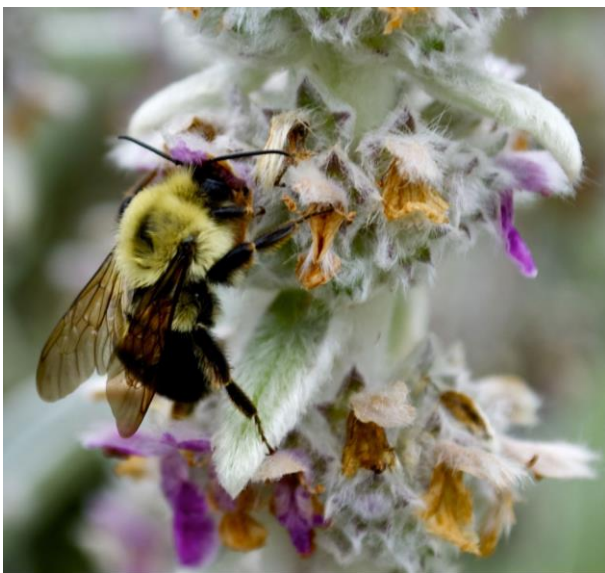


Photo by Tori Lee Jackson, Extension Educator, Associate Professor

one in four children under the age of five (26.9%) live in poverty! “Because family economic distress is associated with negative social, economic and health outcomes for children, these negative outcomes tend to be concentrated in poor and low-income families.”¹

What has been done?

Home visiting as described in the Patient Protection and Affordable Care Act of 2010, is defined as an evidence-based program, implemented in response to findings from a needs assessment, that includes home visiting as primary service delivery strategy and is offered on a voluntary basis to mothers, fathers, families, pregnant women, infants, and children birth to five. Home visiting seeks to improve maternal and child health; prevent child injuries, abuse or maltreatment; reduce emergency room visits; improve school readiness; improve family economic self-sufficiency, and improve coordination and referrals for other community resources and supports.

Results

Afforded thru external funding two FTE University of Maine Cooperative Extension Parenting Education Professionals, working in Sagadahoc County, as part of the statewide network of Maine Families Home Visiting programs have enrolled 67 families living in Sagadahoc County. These families received parenting education and support through 445 achieved home visits, numerous phone coaching conversations and referrals to other services and activities for young families in the area. Using the evidence-based home visiting model, Parents as Teachers™, with its numerous studies demonstrating positive outcomes, Parent Education Professionals have partnered with parents in being their child’s first teacher and becoming self-sufficient families. Last year 39 of these families, or more than 58%, identified their household income as unable to meet their basic needs. 28 or 41% rented a home, 14 or 20% lived with others and 2 families were homeless. With more than 50% of enrolled families identified as low-income, the parent educators serving Sagadahoc County have documented the

following results:

- 84% of new moms breastfed their babies at birth
- 49% of moms breastfed their children through 6 months of age
- 35% of moms breastfed their children through one year
- 93% of enrolled children were up-to-date with immunizations
- 98% of children had health insurance
- 91% of children were up-to-date with well child check-ups
- 94% of eligible children were screened for developmental delays.
- 63% of children are read to daily

1 Mather, Mark and Adams, Dia. April 2006. "The Risk of Negative Child Outcomes on Low-income Families." A KIDS COUNT/PRB Report on Census 2000. Annie E. Casey Foundation

Statewide Highlights

STEM Ambassadors – Sparking Student Interest in STEM Careers

4-H can encourage youth to higher education and successful careers, especially in science, technology, engineering, and math (STEM). Of the 25,000 youth that Maine 4-H engages annually, 52% engage in a STEM program, 83% want to finish college, and 73% want science-related jobs. Nationally, girls involved in 4-H are twice as likely to pursue science careers. UMaine Extension trained college students to facilitate STEM activities across the state as STEM Ambassadors. To increase the future STEM workforce in Maine, we are now developing a statewide network of STEM Ambassadors.

Wild Blueberries – Allowing Maine to Remain Competitive in the Global Market

About 100 million pounds of wild blueberries are produced in Maine, contributing over \$250 million to the state's economy. Because they must remain competitive as production increases worldwide, research-based field management and yield information from UMaine Extension helps current blueberry growers define the risk and returns on investment and assists new growers in understanding what is needed for optimal production. Growers who

sample to determine pollinator density in their fields can decide if they should change their investment in rented honeybees or if they should enhance native bee populations by planting pollinator pastures. Total net pollination income is \$257/hectare for rented honeybees and \$171/hectare for native bees. Our decision-making tools help growers determine how much to rely on rented honeybees versus native bees.

Access to Capital

Entrepreneurs need capital if their businesses are to create jobs for Mainers. By partnering with a regional economic development agency that provides Small Business Administration loan guarantees, banks can lend to Maine businesses that otherwise would not be eligible for financing. UMaine Extension, as a member of the loan review committee, helps to guide lending, review applications, and make loan decisions. In 2014, 42 loans totaling \$6.2 million were made. Together with the private funds leveraged for investment, total lending was \$18.2 million, 77% more than in 2013. One hundred forty-two jobs were created or retained, an increase of 95% over 2013.

Maine Compost School: An Economic Engine

Maine's compost industry has grown from three or four operations in the 1990s to over 50 commercial operations in 2015. The Maine Compost School, a partnership between UMaine Extension and state agencies, provides an opportunity for hands-on learning about commercial-scale composting technology and the business of composting. Since 1997 the school has served 700 participants from for-profit businesses and nonprofits in 42 states, 10 Canadian provinces, and 40 other countries. In 2014, a survey sent to all participants from 2009 to 2014 found that using knowledge gained at the school:

- 18% increased sales an average of \$8,500 per year
- 17% increased employment, hiring a total of 15 workers with a total estimated annual payroll of \$305,000
- 16% increased profitability.

The average value placed on attending the school was \$2,101. Business respondents (n=30) produced a total of 82,000 cubic yards of compost with an estimated retail value of \$2.5 million. The average business employed 23 full-time and 14 part-time workers with a total estimated annual payroll of \$796,500. The Maine Compost School has had a positive economic impact on participants, businesses, and communities in Maine and beyond.

AgrAbility – Supporting Farmers of All Abilities

To Remain Active on the Farm

The average U.S. farmer is 57 years old, and farming is the seventh most dangerous job. The Maine AgrAbility Project provides no-cost aid to farmers and their families and workers facing physical or cognitive challenges. Since 2010, UMaine Extension and its partners have conducted more than 70 on-farm assessments to suggest ways that farmers with disabilities could keep working. More than half of participants surveyed reported some increase in quality of life from their participation and remained productive in agriculture. The renewed grant allows Maine AgrAbility to work with forestry and fisheries workers, as well as farmers.

Barley Disease Control – Increasing Yields

Barley is grown on about 22,000 acres in Maine for livestock feed and malt production, and the acreage is increasing. Maine’s 2013 barley crop was worth \$3.7 million, but fungal diseases can limit yield and malting quality. UMaine Extension ran trials aimed at improving grain yields and malting quality through disease control. Researchers sought to identify when and if fungicide was necessary. More than 75 growers deployed a disease control program on 16,000 acres of barley. They received over \$200,000 in increased revenue from greater yields and grain quality with the disease control program, which they plan to continue.

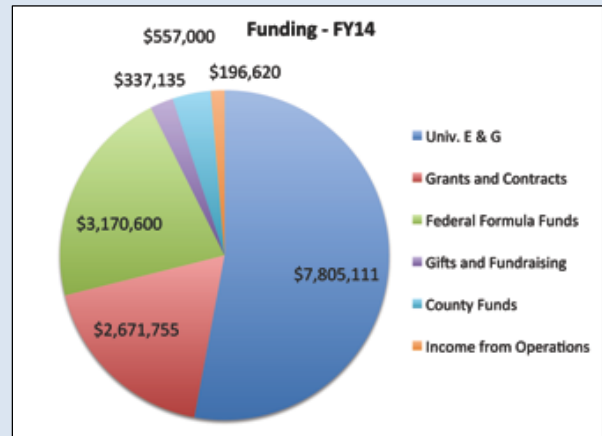
Helping Farmers Optimize Forage Production and Quality

Recent USDA incentive programs encourage cover cropping after corn silage harvest. New England’s short growing season and commonly used longer-season hybrids have hampered adoption of cover crops. UMaine researchers organized field trials to determine the benefits of cover crops, no-till, and shorter-season silage varieties. Farmers planting with no-till reduced fuel use by about 5.7 gal/ac and time in the field by 2.75 hr/ac, for total savings of about \$50/ac. At \$30/ac, the cost of planting cover crops effectively replaced nitrogen fertilizer. Shorter-season corn had similar yields but higher quality than longer-season varieties. On one Maine farm, researchers estimated that switching from a 94-day to an 85-day variety would increase income by \$670/ac, because milk production/ac increased by 3,350 lbs.

Homemaker Program Supports Maine Communities

UMaine Extension Homemaker group members help to extend the resources of UMaine Extension into their communities through educational opportunities and service projects. Members gain leadership skills and help meet community needs, such as providing

Statewide Extension Funding FY2014



As a unique partnership among federal, state and county governments, UMaine Extension uses funding from Maine counties and the University to match and leverage support from the United States Department of Agriculture, other federal grantors, state agencies and private foundations. Each county UMaine Extension office is also part of a statewide organization and the national Extension system.

UMaine Cooperative Extension Support for Androscoggin and Sagadahoc Counties

	CY2014
Local Salaries and Benefits	\$435,019
Prorated Support from UMaine*	\$426,824
Computer Equipment & Networking	\$6,994
Statewide Animal Diagnostic Lab	\$2,346
Marketing, Publications, Video	\$1,875
Local Programming Expenses	\$1,160
Postage	\$6,065
Telephone	\$1,514
Travel	\$17,279
Total	\$899,075

Prorated Support from UMaine reflects salaries & benefits for administrative and statewide staff.*

Without statewide support, UMaine Extension would not be present in this county. Funds for projects are provided through the University of Maine, Federal Formula Funds, grants, contracts, and fees. Dollars from other sources support salaries and benefits for Extension Specialists, County Educators, Extension administration, computer equipment and networking, publications, postage, telephone, and travel.

food, blankets, toys, and transportation to medical appointments for those in need. Groups raise money for causes through bake sales, raffles, and other events. The total estimated value of goods and volunteer services provided by the Homemakers was \$428,000.

Maine Colleges Addressing Food Insecurity

Nearly a quarter of Maine's school-age students are food insecure. UMaine Extension collaborated with partners to develop the first Maine Hunger Dialogue, at which nearly 100 students and faculty from 17 campuses generated action plans to end hunger in their region. Some of the projects that have since been funded will raise funds for a food bank; sponsor a competition among high schools to donate the most food to local pantries; analyze the extent of hunger on a community college campus and the feasibility of hosting a food bank for students; and establish an "edible park" where the community grows food with and for those in need. The foundation is now in place for student action among Maine's colleges to address hunger in more coordinated ways.

Maine Grass Farmers Network – Increasing Profitability of Dairy Farms

More than 274,000 acres of hay/pasture are grown in Maine, which can improve profitability for livestock operations. Organic dairy farmers must pasture their animals during grazing season. The demand for grass-fed livestock products is rising, but these operations need to improve profitability. The Maine Grass Farmers Network, with UMaine Extension, ran cultivar trials to evaluate grazing and harvest management response in perennial rye grass. As plants mature, digestibility and the concentration of crude protein (CP) decline. Improving forage and pasture management to ensure high CP and digestibility improves animal performance and farm profitability. For example, if organic protein is valued at \$1.10 per pound, an increase of 3% CP would yield about 60 additional pounds of protein per ton of feed. Assuming a yield of 4 tons per acre, that's about \$240 in protein from forage per acre, or \$24,000 on a farm that harvests 100 acres of hay/pasture. Building efficiencies into grass-based feeding can greatly improve profitability and animal performance.

Preventing Greenhouse Pest Diseases

Many greenhouse managers want to use biological pest control, but hands-on experience is critical. UMaine Extension and partners offer a workshop featuring extensive hands-on activities related to greenhouse biocontrol systems. Of the 12

respondents to the post-workshop survey, all said they had instituted better pest monitoring and scouting methods; planted habitat to raise natural enemies of aphids; and cleaned their greenhouses better. Three-quarters of respondents also implemented better recordkeeping and planted habitat for other beneficial bugs. The total reported impact on the 11 businesses responding was \$2,925. If just 10% of the approximately 550 commercial greenhouses in the state adopted these measures, it could save at least \$14,625.

Protecting Maine's Coastal Tourism Industry

Chronic bacterial pollution in Goosefare Brook, which empties near popular swimming beaches in Saco and Old Orchard Beach, threatens public health and the local tourism economy valued at over \$500 million. UMaine Extension brought together local, state, and federal partners to regularly monitor the brook. Pollution source tracking included optical brighteners, nutrients, pharmaceuticals, and personal care products, which may indicate human-sourced fecal contamination. The partners identified and removed malfunctioning septic systems and upgraded sewer and stormwater infrastructure. In 2014 the towns obtained grant funds for watershed management planning and public outreach. UMaine Extension personnel serve on the steering committee that will continue to address the health of Goosefare Brook.

Senior Companion – Supporting Seniors and Saving Millions in Costs of Long-term Care

Maine is the oldest state in the nation, with about 16% of the population 65 or older. For 33 years, the Senior Companions program has provided a cost-effective way for Maine's seniors to remain in their homes. "Senior Companion" volunteers aged 55+ with limited incomes provide companionship and nonmedical support to homebound and/or isolated older adults. Senior Companions attend monthly trainings and receive a stipend, insurance, and transportation reimbursement. In 2013-14, when 121 Senior Companions served 469 clients in 24,856 visits, the cost of the program was \$477,000. Of these clients, 43 would likely need to live in long-term care facilities if they did not have a Senior Companion. Nursing home care costs about \$98,550 per person per year in Maine, or \$4.2 million for the 43 clients. The Senior Companions program represents a substantial savings to Maine's seniors, families, and the state.

Summer of Science: Sparking an Interest in Science, and Reducing Summer Learning Loss

Improving student proficiency in science, technology,

engineering, and math (STEM) can improve job opportunities and encourage youth to higher education. In Maine, testing showed that more than 33% of 5th graders and 45% of 11th graders lacked proficiency in science. The achievement gap widens in summer for low-income students, who often lack out-of-school learning opportunities. UMaine Extension created and delivered 4-H Summer of Science curricula to underserved youth in grades 3–8. About a quarter of participants were minorities and more than half were girls. The experiments helped them return to school with reduced summer learning loss and increased interest in science.

UMaine Extension trained and supervised 18 teens to deliver the curriculum, fostering career development, leadership, and responsibility. A post-teaching survey found that:

- 100% are now more likely to volunteer in their community and feel that they can make a difference through community service.
- 92% would return to teach again.

- 62% were born in Africa or the Middle East.

Using Social Media to Advance Sustainable Agriculture

More Americans, including farmers, are integrating online resources into their daily lives, so UMaine Extension must increase its use of social media tools to reach its audience. This project sought to provide agricultural educators the skills to effectively incorporate social media, including Facebook, Twitter, blogs, webinars, and YouTube, into their sustainable agriculture programming. Trainees increased their knowledge of social media tools, learned which tools are most effective for specific objectives, and implemented and evaluated at least one social media tool for their work. Because of the program, 30 of the 34 extension educators (88%) created and/or changed sustainable ag material for at least one social media tool, collectively reaching at least 228,790 farmers and others.

Androscoggin-Sagadahoc Counties Cooperative Extension Office



Photo by Tori Lee Jackson, Extension Educator, Associate Professor



A Member of the University of Maine System

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