

AGRiVIEW



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Annual First Tapping Event Held at Gagne Maple in Highgate

By Scott Waterman, Vermont Agency of Agriculture, Food & Markets

Governor Phil Scott celebrated the Vermont Maple Season and Maple Industry with the Gagne family at Gagne Maple in Highgate. The Governor tapped a maple tree with school children from Highgate Elementary School and helped boil maple sap into sweet Vermont maple syrup, while learning more about this important industry to Vermont's economy, heritage and working lands economy.

"Vermont maple is second to none, and we wouldn't have the best in the world if it wasn't for hard working families and sugar makers like the Gagne's," Governor Scott said. "With Vermont's leadership and example, maple continues to be a valuable agricultural product



and an important part of Vermont's economy and brand."

Vermont's maple industry has led the nation in total syrup produced for decades, bringing well over \$50

million dollars of revenue to the state for the past three seasons.

"This industry is a vital element of our working landscape. Sugar makers like Gagne Maple produce

Governor Phil Scott and Highgate Elementary School students celebrate sugaring season with ceremonial tree tapping.

a natural, high quality Vermont product second to none, while also supporting the Vermont economy and our rural communities," Secretary Anson Tebbetts explained.

"The maple industry is not only growing, it is innovating new products and technologies each year," said Commerce and Community Development Secretary Lindsay Kurrle. "We have long been known for our maple syrup, but what people don't often see is how these family-run businesses can help put our rural communities on the map, push the maple industry

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AGRiVIEW

Vermont Agency of Agriculture, Food & Markets

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THE VIEW FROM 116 STATE STREET

When you get together with other states you learn quickly our neighbors often are facing many of the same challenges Vermont is facing. Agriculture is never a “cookie cutter” world. Farming comes in all shapes, sizes and family structures. But one consistent reality is the rural nature of agriculture. Farmers, ranchers and producers feed the world.

Vermont recently participated in a national conference. Out of that meeting came action. The National Association of State Departments of Agriculture (NASDA) launched their call to action for the next Administration, Resilience for Rural America. The Board of Directors approved the initiative during the 2020 NASDA Winter Policy Conference in Arlington, Virginia.

“Closing the rural opportunity gap isn’t a red or blue issue, and we can no longer wait,” said NASDA CEO Dr. Barb Glenn. “NASDA members are ready to get to work. We are using our unique, nonpartisan voice for rural America to set clear expectations for the next Administration.”



As NASDA engages presidential campaigns and works cooperatively with the next administration, we are calling on the federal government to partner with states to invest in building resilient rural communities.

To do this, NASDA is asking the next presidential administration to:

- Expand market opportunities for U.S. Producers
- Increase access to rural broadband
- Enhance rural workforce development opportunities
- Build and sustain rural communities
- Invest in climate resiliency programs

NASDA Members are already leading the response to many of Rural America’s most complex challenges, including extreme weather, market uncertainty, and long-term economic headwinds. In the coming months, NASDA will continue to refine the Resilience for Rural America policy platform.

“As state governments, we can’t do this alone. To truly build opportunity in agricultural and our rural communities, all levels of government must work together to chart a path forward.”

NASDA is a nonpartisan, nonprofit association which represents the elected and appointed commissioners, secretaries and directors of the departments of agriculture in all fifty states and four U.S. territories. NASDA grows and enhances agriculture by forging partnerships and creating consensus to achieve sound policy outcomes between state departments of agriculture, the federal government and stakeholders.

Vermont stands ready to help in this effort. Please join us.

Anson Tebbetts, Secretary, Agency of Agriculture, Food & Markets



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Vermont Ag Hall of Fame Now Accepting 2020 Nominations

Beginning March 15, the Vermont Ag Hall of Fame will be accepting nominations for 2020 inductees.

Nominations will be accepted in three categories: **Emerging Leaders** (under 40 years old), **Ag Innovators** (bringing fresh ideas and a forward-thinking approach to the industry), and **Lifetime Achievement** (30+ years of service to Vermont agriculture).

Please note that posthumous nominations in the Lifetime Achievement category are also welcome.

To nominate a Vermonter for the 2020 Vermont Ag Hall of Fame visit <http://cvexpo.org/hall-of-fame/>

Nominations will be accepted March 15 – May 1.

Coronavirus COVID-19

People are urged to go to healthvermont.gov/covid19 for the most up-to-date information and guidance about COVID-19, including from the CDC.

Who to call:

If you have questions about COVID-19: Dial 2-1-1.

If you are returning from China, Italy, Iran, South Korea or Japan: Call Health Department Epidemiology at 802-863-7240.

If you are ill, have symptoms (such as fever, cough or difficulty breathing), or are concerned about your health, call your health care provider.

Person-to-person spread of the virus is thought to occur mainly via respiratory droplets produced when an infected person coughs or sneezes. Take these everyday preventive actions to help stop the spread of germs:

- Wash your hands often with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand sanitizer.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces.

C O N N E C T

W I T H U S



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Dairy Marketing Assessment Highlights Opportunities for Dairy Sector Investment and Expansion

By Laura Ginsburg, VT Agency of Agriculture, Food & Markets

The Agency of Agriculture, Food and Markets, with Agency of Commerce and Community Development, released the Dairy Marketing Assessment to a joint hearing of the Agriculture Committees as requested by the legislature in the 2019

session. The assessment reviews current and past marketing and branding efforts, consumer trends, and how Vermont dairy can best position itself moving forward.

The assessment shows that Vermont brands are competitive in the marketplace for the high-quality products and branding in conjunction with powerful, place-based stories

that companies offer. The research found that state investment in a Vermont “brand” or label would not be the strongest investment as companies desire control of their own messaging strategy. Furthermore, state brand campaigns were shown to be challenging and costly to operate in any meaningful way. The alignment between growing consumer preferences and Vermont’s dairy

strengths, however, was noted to be a strong opportunity to elevate Vermont produced dairy products.

Recommendations from the report fall into four high-level categories: building Vermont’s dairy expertise; encouraging dairy differentiation; communicate Vermont’s dairy identities; and, investment in infrastructure and workforce. Each of these

recommendations has a set of specific strategies that will help move the dial for the dairy sector.

The complete report can be found at the following: <https://agriculture.vermont.gov/document/vermont-dairy-marketing-assessment>

Questions or feedback can be directed to Laura Ginsburg by email laura.ginsburg@vermont.gov or by phone 802-522-2252.

Funding for Farm Agronomic Practices

By Nina Gage, VT Agency of Agriculture, Food & Markets

The Agency’s Farm Agronomic Practices (FAP) Program invests state funds in soil-based agronomic practices to improve soil quality, increase crop production, and reduce erosion and surface runoff from agricultural fields.

The FAP program can provide funding for the following agronomic practices: conservation tillage (reduced tillage or no-till), cover cropping, conservation crop rotation with or without a nurse crop, manure injection, aeration, and rotational grazing. The payment rates vary by practice type and applications are due for each practice at least 30 days prior to implementation, except cover cropping, which is due August 1st. There is a maximum of \$8,000 available per farm operation from July 1, 2019

through June 30, 2020. Farm operations that meet the threshold for the Required Agricultural Practices are eligible to apply; operations must be in good standing (do not owe the any funds to the Agency, and are not in final order in enforcement) with water quality regulations in order to receive financial assistance.

The Agency advises farmers to plan ahead as best as possible for implementation of agronomic practices, especially when seeking financial assistance. Any applications that request funding for a specific practice are only eligible for funding as detailed on their application and grant agreement.

Additional financial assistance for conservation practices are available through the federal USDA-NRCS Environmental Quality Incentive Program (EQIP). Any applicant

seeking assistance through FAP will be ineligible for financial assistance if the applicant is receiving financial compensation for the same practice under another state or federal

agreement.

For more information on the FAP program, the payment rates for each practice type and to apply online, go to <http://agriculture.vermont.gov/fap>

or call 802-828-2431.

If you have specific questions about practice eligibility, or how the FAP program works, you can contact Clark Parmelee at 802-661-8284.



Reduced tillage planting systems reduce soil disturbance, improve organic matter, and help reduce nutrient runoff from agricultural fields.

Update on Agency Tile Drainage Sampling Study

By Judson Peck, VT Agency of Agriculture, Food & Markets

Subsurface tile drainage is perforated pipe installed below ground in agricultural fields to drain excess water that may accumulate naturally due to soil type, high water tables or depressions in fields.

Multiple benefits can be achieved from drier field conditions resulting from the installation of tile drainage, including potential increases in crop yields, but also the ability for farmers to implement conservation practices and better nutrient management. Drier field conditions enable farmers to plant and harvest annual crops earlier in the season, which allows cover crops and manure applications to occur earlier in the season, thereby reducing the potential for runoff to surface waters.

However, there are potential water quality concerns as tile drains outlet either directly or indirectly to surface water. The installation of tile drainage in Vermont has increased recently as farmers face wetter crop seasons with the changing climate.

In order to better understand the effects of installing tile drainage in agricultural fields on water quality, the Vermont Agency of Agriculture, Food & Markets Water Quality Division is conducting an ongoing tile drainage sampling program. The



Photo credit: Franklin County NRCD

Agency has contracted samplers to take water quality samples from 42 tile drainage outlets. The 42 sites are concentrated in the northwest of Vermont, but cover a variety of geographies, soils, crops, nutrient management and types of tile drainage. The 42 sites have been visited every two weeks for the past two years, resulting in over 1,800 site visits to date. Water samples that are collected are sent to the Vermont Agriculture and Environmental Laboratory (VAEL) where they are analyzed for total phosphorus, dissolved phosphorus and nitrogen. Flow and turbidity are also measured on site when the samples are collected.

Results

It is important to note that tile drainage outlets

were not flowing, and thus not sampled, 38% of all site visits, primarily during August and September. Preliminary lab results from over 800 water samples indicate low nutrient concentrations on average, but also considerable variation among sites and within sampling events for each site.

The average total phosphorus (TP) concentration across all sites (66 ug/L) is comparable to TP concentrations of groundwater, which averages 26 ug/L based on 267 well and spring samples taken during Agency farm inspections since 2015, suggesting that tile drainage is working as intended to remove excess groundwater in order to drain fields.

The average TP concentration on a per acre basis (total concentration

divided by acres of estimated drained area in the field) across all sites is 8.8 micrograms per liter per acre drained (ug/L/ac). Assuming the sampled flow is constant for the entire year, the estimated average annual TP load (flow times concentration) is 0.38 lb/ac/yr or 3.8 lbs of TP leaving a 10-acre drainage area each year from tile. Although highly estimated due to the infrequency of sampling in this study, annual loading (lb/ac/yr) provides a more tangible number to understand and is therefore provided for reference.

Average TP concentrations among the different sites range from 0.4 to 41.9 ug/L/ac (0.0 to 2.2 lb/ac/yr). However, the vast majority (92.5%) of sites have an average TP concentration of less than 20 ug/L/ac and 87.5% have an estimated

average TP load of less than 0.5 lb/ac/yr.

Although TP concentrations are generally low throughout the year, with 93% of TP samples less than 25 ug/L/ac (1 lb/ac/yr), they can spike up to 460 ug/L/ac (35 lb/ac/yr) if tillage occurs or manure is applied in proximity to heavy rainfall or spring snowmelt events. Concentrations were higher in May and September-October.

Dissolved phosphorus (DP), which filters out sediment-bound phosphorus, averages 6.7 ug/L/ac (0.28 lb/ac/yr) across all sites. Although phosphorus is the primary water quality concern in Vermont, nitrogen concentrations are significantly higher, averaging 861.6 ug/L/ac (33.9 lb/ac/yr) across all sites.

Conclusion

Overall, the majority of tile drainage samples and sites have low total phosphorus concentrations comparable to groundwater levels, but considerable losses were observed from certain sites and at certain times of the year, especially for nitrogen. The Agency is continuing to sample the sites for another two years and analyze the lab results to identify trends in site characteristics and agronomic management that can reduce potential losses of nutrients from fields to surface waters via tile drainage.

USDA Encourages Farmers in Vermont to Apply for Conservation Stewardship Program

CSP helps farmers take conservation to the next level. Applications due May 29, 2020.

By USDA
Natural Resources
Conservation Service

Natural Resources Conservation Service (NRCS) plans to invest up to \$725 million nationwide for new enrollments and contract extensions in fiscal year 2020 for the Conservation Stewardship Program (CSP).

Applications are accepted throughout the year but interested producers should submit applications by May 29, 2020 to their local NRCS office to ensure their applications are considered for funding this year. Last year, the VT USDA-Natural Resources Conservation Service funded 30 contracts totaling over \$700,000.



"It is the largest conservation program in the United States with more than 70 million acres of productive agricultural and forest land enrolled."

Some important improvements to the program include:

- NRCS now enrolls eligible, high ranking applications based on dollars rather than acres.
- For fiscal 2020, NRCS can spend up to \$725 million in the program, which covers part of the cost for producers implementing new conservation activities and maintaining their existing activities.
- Higher payment rates are now available for certain conservation activities,

The 2018 Farm Bill made several changes to this critical conservation program, which helps agricultural producers take the conservation activities on their farm to the next level. NRCS is authorized to accept new CSP enrollments from now until 2023.

"CSP continues to be a very effective tool for private landowners working to achieve their conservation and management goals," said Vicky Drew, Vermont NRCS State Conservationist.

including cover crops and resource conserving crop rotations.

- CSP now provides specific support for organic and transitioning to organic production activities, and a special grassland conservation initiative for certain producers who have maintained cropland base acres.

The program provides many benefits including increased crop yields,

decreased inputs, wildlife habitat improvements and increased resilience to weather extremes. CSP is for working lands including cropland, pastureland, nonindustrial private forest land and agricultural land under the jurisdiction of a tribe.

For more information and to apply, contact your local USDA-NRCS office in Vermont or visit the Vermont CSP webpage.

For More Vermont Agricultural Community Events Visit:

- The VT Agency of Agriculture Events Calendar: <http://agriculture.vermont.gov/events/month>
- UVM Extension Events Calendars: http://www.uvm.edu/extension/extension_event_calendars
- Vermont Farm to Plate Events Calendar: <http://www.vtfarmtoplate.com/events>
- Northeast Organic Farming Association of VT Events Calendar: <http://nofavt.org/events>
- DigIn Vermont Events Calendar: <https://www.diginvt.com/events/>
- Required Agricultural Resources (RAPs) Resources: <http://agriculture.vermont.gov/water-quality/regulations/rap>
- Agency of Ag's Tile Drain Report now available here: <http://agriculture.vermont.gov/tile-drainage>
- VAAFM annual report now available here: http://agriculture.vermont.gov/about_us/budgets_reports
- Farm First: Confidential help with personal or work-related issues. More info call: 1-877-493-6216 any-time day or night, or visit: www.farmfirst.org
- Vermont AgrAbility: Free service promoting success in agriculture for people with disabilities and their families. More info call 1-800-639-1522, email: info@vcil.org or visit: www.vcil.org.

For more agricultural events visit our *Funding Opportunities & Resources for Businesses* webpage at: http://agriculture.vermont.gov/producer_partner_resources/funding_opportunities

This Year's Open Farm Week Will Take Place August 10 - 16, 2020 and Registration Is Now Open!

Alissa Matthews, VT Agency of Agriculture, Food & Markets

Open Farm Week is a celebration of Vermont farms offering visitors a backstage pass to learn more about local food origins, authentic agritourism experiences, and the chance to build relationships with farmers. It's a great way to engage with customers and your community. Remember, you

can choose any day during the week to host an event or have

events on multiple days.

Our Open Farm Week team is available to provide resources and technical assistance to a limited number of farms that would like support developing ideas and preparing for visitors. There is no additional charge for this technical assistance, but space is limited, and you do need to apply for it

Vermont
Open Farm Week



via the Open Farm Week registration form.

Registration for farms, sign-up for technical assistance, scheduling, timeline, and more event information can be found at <https://www.diginvt.com/blog/openfarm-weekforfarmers/>

Take Steps to Prevent Getting Salmonella from Live Poultry

Handling those cute baby birds comes with risk of illness

By VT Department of Health & VT Agency of Agriculture, Food & Markets

If you are planning to add a few feathered friends to your household this spring, Vermont's health and agriculture officials want you to be sure to know how to avoid getting sick from Salmonella – a risk when handling chicks, ducklings, goslings or baby turkeys.

Even though baby and adult poultry may appear clean and healthy, they can carry germs. Poultry shed germs in their droppings, which contaminate the areas where they live, their bodies, and the things they touch.

"Baby birds are cute, but people can get Salmonella by holding, cuddling or kissing the birds, or by touching items in the area where the birds live and roam," said Natalie Kwit, DVM, Vermont's public health veterinarian. "It's important to wash your hands immediately after touching birds or anything in their environment," said Kwit.

Salmonella can cause diarrhea, vomiting, fever and stomach cramps for about four to seven days. Certain groups have a greater chance of getting sick from handling live poultry, such as children younger than five years old, older adults, and people with weakened immune systems. However, anyone who comes into contact with poultry can get sick.

Interest in raising birds



is growing in Vermont, and spring is the season when people buy baby poultry for their farming and backyard flocks. Children, in particular, are drawn to them and are at greater risk of illness.

"Raising chickens, ducks and other poultry is a fun and rewarding way to establish a sustainable backyard food source," said

Kristin Haas, DVM, state veterinarian with the Agency of Agriculture, Food and Markets. "Whether you're raising birds as a hobby or part of a larger agricultural practice, knowing how to prevent the spread of disease is important to protecting your family, animals and your community."

More than 330 people in 47 states, including Vermont,

were sickened by Salmonella after having contact with live poultry in 2018. Of those, 21% were children younger than five.

Steps you can take to stay healthy:

- Wash your hands with soap and water right after touching live poultry or any objects in the area where they live or roam. Adults should supervise handwashing for young children.
- Do not let children younger than age five handle or touch chicks, ducklings or other live poultry.
- Do not snuggle or kiss the birds, touch your face, or eat or drink around live poultry or in the areas where they are kept.
- Do not keep live poultry

inside the house where people live, eat or sleep.

- Regularly wash materials such as cages, water bottles and food containers. Always clean these items outdoors.
- Set aside a pair of shoes to wear while taking care of poultry and keep the shoes outside the house.
- Call your doctor if you get sick.

For more information about salmonellosis: healthvermont.gov/immunizations-infectious-disease/food-waterborne-diseases/salmonellosis

Learn more about keeping your poultry healthy: <https://agriculture.vermont.gov/animal-health-0/livestock-and-poultry-programs#poultry>

Highlights from the 2020 Industrial Hemp Conference

By Stephanie Smith, VT Agency of Agriculture, Food & Markets

Agency leadership and staff from the Vermont Agricultural and Environmental Laboratory and Public Health and Agricultural Resource Management Division attended the 2nd Annual Industrial Hemp Conference to both present to attendees on Vermont seed law, legalities of growing hemp, and inspection and testing,

and to learn about new developments and research in support of the hemp industry. The conference drew about 350 people, which was down from 500 attendees last year. What was a celebratory atmosphere in 2019, likely due to the recent passage of the 2018 Farm Bill that removed hemp from Schedule I of the Controlled Substances Act, the February 20, 2020 conference highlighted the risks in the nascent industry, ongoing research, shifting regulatory

landscape, and the uncertain market for what is becoming a commodity crop.

Dr. Jay Noller from Oregon State University began the day talking about the potential financial and legal risk associated with hemp cultivation, and the importance of knowing the end use of the crop and the intended market before growers even purchase seed. Jonathan Shepard from the University of Kentucky echoed these sentiments and shared his work with Dr. Tyler Mark in creating

a Hemp & Enterprise CBD Budget Model that can be used in business planning, <https://hemp.ca.uky.edu/>. Dr. Heather Darby of the University of Vermont Extension encouraged hemp growers to only invest as much money as the grower can afford to lose.

In addition to due diligence and potential risks in cultivating hemp, the day included informative and inspirational words from successful Vermont hemp companies, and research into the

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Reminder for 2020 Scale Testing

The Consumer Protection Section of the Agency of Agriculture, Food and Markets will be hosting multiple scale inspection events around the state during April for anyone who uses scale(s) at farmers' markets to sell produce or other commodities. This testing is required by law, and the Agency would like to encourage producers to take advantage of these testing dates as they have replaced the Agency's annual visits to Vermont farmers' markets for the same reason.

Please plan to attend one of the inspection events

listed below. Bring your legal for trade scale, and any accessories that you use with it for weighing items for sale.

The following is a list of dates and locations for the testing. Most sites will be at Agency of Transportation (AOT) garage sites. Hours for each location will be 9:00am – 3:00pm. You can come anytime during our open hours, and no advance appointment is necessary. The test should take around 10 minutes per scale.

Look for the scale checking signs. Call the Consumer Protection office at 802-828-2426 with any questions.

Date	Location	Address
2-April	AOT – Derby	4611 Route 5, Derby
3-April	AOT – St. Johnsbury	1098 US Route 5, St. Johnsbury
8-April	AOT – Chimney Corners, Colchester	Brentwood Drive, Colchester
8-April	AOT – Bradford	57 Fairgrounds Road, Bradford
9-April	AOT – Central Garage	1716 US RT. 302, Berlin
14-April	Agency of Agriculture/Weights & Measures Lab	163 Admin Drive, Randolph Center (VTC)
15-April	AOT – Middlebury	341 Creek Rd., Middlebury
16-April	AOT – Clarendon	1628 Route 7B, Clarendon
21-April	AOT – Dummerston	870 US Route 5, Dummerston
22-April	AOT – Bennington	359 Bowen Road, Bennington
23-April	AOT – Windsor	1640 US Route 5 North, Windsor
28-April	AOT – Morrisville	634 Brooklyn Street, Morrisville
30-April	Agency of Agriculture/Weights & Measures Lab	163 Admin Drive, Randolph Center (VTC)

By the Numbers

A Look at Vermont Agency of Agriculture Work in 2019

The Vermont Agency of Agriculture, Food & Markets submits an Annual Report to the Vermont Legislature each year. The following graphics were pulled for the Agency's 2020 Annual Report and speak to just a few of the important programs the Agency runs. The numbers tell some of the important stories behind the work performed by Agency staff, and our state's farmers and agriculture producers. The Annual Report in its entirety can be found at <https://agriculture.vermont.gov/sites/agriculture/files/2020%20Legislative%20Summary%20Final.pdf>. We will be reporting more of these program numbers in AgriView throughout the coming year to familiarize the public with the scope of Agency programs.

The Agency invites you to review the report and looks forward to working with our agricultural community in 2020.

Water Quality Inspection Summary

Number of operations of varying sizes permitted with the Agency

34 LFOS (Large Farm Operations)

114 MFOS (Medium Farm Operations)

310 CSFOS (Certified Small Farm Operations)

Certified Custom Manure Applicators **91**

Farm Visits for Water Quality Inspection & Technical Assistance . **1240**

Enforcement Actions Associated with 179 Alleged Violations **115**

Maple Tapping Event

continued from page 1

forward nationally and internationally, and reinforce why Vermont is a great place to live, work, and play."

Gagne Maple has sugared in the hills of Highgate for five

generations. In 2001, the family built a new sugarhouse on St. Armand Road in Highgate, accessing approximately 8000 taps in the nearby maple forest. In 2003, the family purchased another nearby maple forest, bringing their total taps to more than 16,000 today.



Governor Phil Scott and Ferdinand Gagne check the evaporator.

VERMONT FOOD SYSTEM PLAN PRODUCT BRIEF

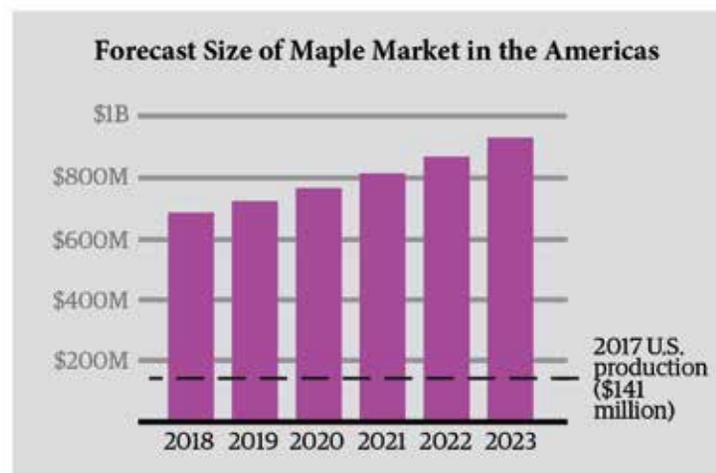
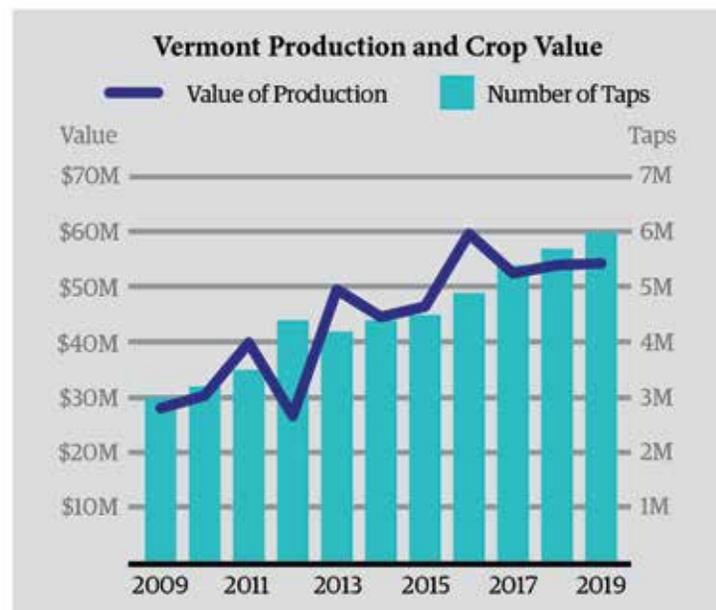
Maple

What's At Stake?

The Vermont maple sector is experiencing rapid growth in production and product innovation while holding a leadership role in maple distribution, research, and manufacturing for the United States. The expanding national demand for natural sweeteners, paired with improved production practices, creates an opportunity for continued expansion that will bolster job opportunities at all levels of the maple industry. Research estimates that 12% of the current maple resources are being used for syrup production, leaving a large amount of untapped forest available for expansion. Maple leaders are optimistic about sustained growth but recognize the need to adapt to new policy, climate, land use, and market forces to maintain Vermont's role as the premier maple state in the United States.

Current Conditions

Vermont produces 50% of the entire United States maple crop. High syrup prices from 2008-2013 facilitated rapid expansion and a significant influx of new businesses. The overall tap count and gross agricultural sales of maple syrup doubled in Vermont from 2008 to 2018 with farm-level production valued at \$54 million in 2018. By 2018 the softening market price slowed expansion but many



existing producers continue to increase production. Research from the UVM Proctor Maple Research Center and adoption of new technologies have played a major role in improving best practices that have increased yields. Recent food safety policy, water quality regulations, and climate change, however, provide a new list of issues that will require new practices to address.

Over 80% of the annual Vermont crop is sold to bulk buyers and a large portion of Vermont syrup is exported out of the state by

both packers and individual producers. In-state syrup markets are experiencing increased competition as the syrup supply and the number of producers increase. Canadian syrup imports and United States and Canadian currency exchange rates also create strong competition against Vermont syrup nationally. Recent U.S. trade policy and tariffs have provided an additional advantage favoring Canadian companies. Meanwhile, maple expansion in other states prompts the need to bolster an updated Vermont maple brand.

Bottlenecks and Gaps

- A tight labor market for sugar bush management and food manufacturing jobs is a challenge to growing companies.
- USDA National Agricultural Statistics Service (NASS) data is thought to under-report maple production and accurate sources for maple forest land use data do not exist.
- Retail inspection oversight has not kept pace with market expansion.
- Climate change impacts on forest ecosystems are not fully understood.
- A growing global syrup supply creates a pricecompetitive marketplace that favors low-cost producers and capable marketers.
- The changing demographic among sugarmakers challenges institutions of member exchange, and collective communication and advocacy.

Opportunities

- Education and verification programs can teach and promote food safety best practices.
- Markets have room to expand throughout the U.S. and internationally.
- Market research could develop relevant campaigns including more product attributes and consumer experiences. This includes maple promotion as an allnatural sweetener

and the environmental attributes of maple forest stewardship.

- Innovation in maple packaging and new product forms could expand maple into new product categories.
- Overall, appropriate investment will enable Vermont to maintain its preeminent role in maple research, production, technology innovation and marketing.

Recommendations

- Public-private marketing initiatives should be developed in order to maintain Vermont brand recognition and facilitate market expansion of pure maple syrup across the U.S. This should include the development of consumer education campaigns that position maple as a natural sweetener (i.e., corn syrup alternative) and highlight Vermont's position as a brand leader. Public-private partnerships should fund product development research and support first-mover businesses seeking to expand into new product categories, such as beverages and snacks.
- Improve preparedness for state agencies and institutions to make increased investment to keep pace with industry growth. Investment is needed in the following areas:
- Expand Vermont Agency of Agriculture, Food and

Sign Up Now to Get Help Writing a Nutrient Management Plan

By Sonia Howlett, VT Agency of Agriculture, Food & Markets

A Nutrient Management Plan (NMP) is not just a requirement for Vermont farmers — it is also a valuable tool. An NMP is a personalized budget of on-farm nutrients that helps farmers: (1) Plan manure and other nutrient applications to meet yield goals; (2) Save money on unneeded fertilizers; (3) Maintain or improve soil health; and (4) Protect water and air quality.

For Vermont farmers, creating and managing an NMP can be very expensive, very complicated, or both. That's why, in association with USDA-Natural Resource Conservation Service (NRCS), Vermont Association of Conservation Districts (VACD) developed

a Regional Conservation Partnership Program (VACD-RCPP) to provide start-to-finish support for farm operators to take UVM Extension NMP classes.

Under Vermont's Required Agricultural Practices, all farms with 50+ mature dairy cows, 75+ cattle, or 50+ acres of annual cropland need to be certified with the Agency of Agriculture and are required to develop and follow a Nutrient Management Plan. Emily Irwin, Land Treatment Planner and Nutrient Management Specialist at the Orleans District, firmly believes that taking the UVM Extension class with the support of VACD-RCPP "is the best and most inexpensive way ... for small farmers to get a nutrient management plan."

The UVM Extension NMP class not only helps

farmers to write and update their own Nutrient Management Plan, it also teaches them to decode information about nutrients on their farm, interpret soil tests, and understand nutrient recommendations. These classes are offered all around the state and are taught by Heather Darby or Kirsten Workman. Classes meet once per week for six weeks in January-March (start date depends on class location), and meet from 10am to 3 pm, with lunch included. The instructors are registered NRCS Technical Service Providers (TSPs), so the NMPs that farmers write during the class can be NRCS certified to meet EQIP requirements.

The VACD-RCPP offers farmers free tuition to the UVM Extension class and provides them with the other

services they need to prepare for the class and to use their knowledge over the following years. These services include Land Treatment Plan development, soil sampling and manure sampling, all for free. The Program also gives participants a free one-year license to GoCrop™, UVM's user-friendly nutrient management software, and help farm participants update their Nutrient Management Plans for at least the next three years.

Since 2015, conservation districts have worked with over 150 farmers, mostly from small dairy and beef operations, to write and update their NMPs. The reviews have been generally positive. "The class was informal enough to make it easy to learn," according to Earl Fournier, a long-time organic farmer in Swanton

who took the class in January 2019. Kody Baker, also from Swanton, admitted that he was skeptical when he signed up for the 2018 class, but he quickly found it was worth his time. "I think everyone should take it," he said.

If you are interested in this year's round of VACD-RCPP funding, contact at Emily Irwin at 802-624-7022 at Emily.Irwin@vt.nacdnet.net for more information and to sign up. The sign-up deadline is July 31st.

This program is supported by the USDA Natural Resources Conservation Service and the VT Agency of Agriculture Food and Markets. For more information on Nutrient Management Planning, including information on other ways of writing and funding an NMP, visit <https://agriculture.vermont.gov/nmp>.



The 2020 class UVM Extension NMP class in Franklin County concluded in January, graduating 12 farms.

VERMONT VEGETABLE AND BERRY NEWS



Compiled by Vern Grubinger,
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vtvegandberry/](http://www.uvm.edu/vtvegandberry/)

Reports From The Field

(S. Burlington/Shelburne) Our tunnels are starting to pick up, putting down a lot of water (more than usual this year) has been the key to getting them going again. I hadn't realized how dry they had become, given it has been so relatively mild most of this winter.

We are gearing up with our spring/summer transplants and doing our annual soil testing and plans for how to maintain our tunnels for another year. We are challenged with rising pH in our high tunnels and not totally sure how to combat this issue.

(Guildhall) Bulk potato sales start this week, prices will be \$10-\$15 cwt depending on grade out at the plant. Potatoes are storing well, no sprouting (knock on wood). We've had to heat the barn 3 times this past month with outdoor overnight temps going -20 to -26 degrees several times. 2020 crop plan is written. We're taking pre-orders for potatoes pumpkins and winter squash.

We had a visit from

Deputy Secretary Alyson Eastman and Ag Development Section Chief Laura Ginsburg this month, toured the farm and discussed our packing facility plans. They had a lot of suggestions about available grants and loans to help get that project done. We've been filling out grant applications, but I've never done that kind of thing, so we'll see if it works.

(Huntington) A week or so out from firing up our propagation greenhouse, I hope the mild weather continues, as there's nothing like heating a GH when the nighttime air drops below 0. It's definitely been mild this winter, as one shallow waterline to an outbuilding almost always freezes up by February yet has flowed freely this winter. Hoping to get that GH re-skinned later this week in anticipation.

(Shrewsbury) Our tunnel greens had a good winter and we've been delighted to have an additional tunnel this winter to help meet market demand. Our biggest challenges are grey mold on lettuce, and white mold that is beginning to pop up in one of our tunnels on mustard greens and spinach. The white mold isn't a big yield reducing problem right now, but I worry about it becoming a bigger factor over time.

This time of year, I'm excited to be planning some trial areas for no-till production using techniques including rolled and tarped cover crop mulches, weed-free compost as mulch, and tarping of quick-turnover crops. It's been inspiring to learn from farms who have had success managing these techniques well while reducing or eliminating tillage, and to

see the results of improved soil structure and reduction in weed seedbank. After seeing declining soil structure and increased annual weed pressure from 8 years of tillage on our land, I'm looking forward to trying to manage some small areas well with significant tillage reduction, and getting some perspective on how we might improve and expand those practices.

(Shaftsbury) Spinach, collards, and kale putting on nice growth. Irrigated winter greens for the first time since November around Feb. 25. Direct seeded baby lettuce, kale, mustards, radishes, and turnips all up, looking AOK, and holding on through some cold nights. Keeping one direct seeded house heated at 35 degrees. One prop house going with flats of early greens and flowering bulbs. We start onions and leeks next week and a second round of tunnel spring greens for transplanting.

Loan and grant all set for two new walk-in coolers in the pack house. We've been running five cool-bot coolers for 12 years. An actual compressor and someone willing to come and fix it will be a welcome change.

Since the intensity of windstorms is increasing, I am planning on planting wind breaks this spring. Lots of great information on wind-breaks on extension websites in the mid-west, like: <https://mdc.mo.gov/property/agriculture/wind-breaks>

(Westminster) You can never tell, of course, but we're looking forward to an early spring, or at least an early start in the fields: not much snow and not much frost in the ground. Our

Winter Market is doing great. We're still cutting plenty of greens from our hoop-houses, although our winter kale crop was dismal. We're also looking forward to a new wash/pack line for root crops, which will make us more efficient, help us meet FSMA standards and can be available for other area farms, as well.

On another, less optimistic note, this year's 8 percent increase in mandated wages for our H-2A workers (and therefore for all our workers) means it will be ever more difficult to make it profitable to grow food.

(Orwell) Harvesting a nice flush of winter greens, suddenly in a bit of a hurry to get tunnels prepared for summer crops. Interestingly, salanova fared better in an unheated tunnel with a single layer of row cover than in a minimally heated tunnel in raised beds; lost less to bottom rot.

Meetings with local buyers get us excited and nervous about possibilities and commitments for the coming season. We are worried about labor this season with the closing of Green Mountain College, which has supplied a steady stream of young farmers excited to learn. Not sure if we should lean more heavily on the local high school population, or piece together with part time adults (or just work harder ourselves!).

Fired up the propagation house after a month of lights and racks inside our house. Realizing how much space we'd really need to get everything started indoors--is it worth investing in more lights to stretch our time indoors another few weeks, or just heat the prop house

while it is still cold out? In either case, it's nice to smell the soil, plant the seeds, and feel the tug of attentive vigilance to keep things alive, healthy, and growing.

(Burlington) Mild and sunny winters sure show up in the tunnel crops. Spinach is fast approaching runaway growth, and the lettuce came through the winter with very little cold damage. Things are actually green again. I'm really looking forward to our second cut red Russian kale this spring, complete with delicate and delicious flower buds; our CSA members will be so happy.

The paperpot transplanter seems like it has some real benefits in getting lots of spinach transplants closer together than we'd ever consider hand transplanting; we are thinking about going to a 2" x 6" spacing next year, after hand transplanting on a 6" x 6" grid.

Storage crops are holding well, reminding me that all of our investments in high quality storage infrastructure really do make a difference, and also reinforcing that a warmer, drier autumn also makes a huge difference, excellent storage notwithstanding.

After having poor establishment of our tunnel cucumber transplants the second week of May we are going to try to raise the soil temps with clear poly laid on the soil surface a couple of week prior to planting, with the hope that higher soil temperatures will reduce our problems.

I am really appreciating the good work of breeders out there working on high performing and delicious tunnel tomatoes; one of

continued on page 13

CLASSIFIEDS

For Sale:

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McFarline Apiaries

Untreated bee breeding



VT 5 frame Nucs and deep singles

\$200-\$300, Available May-June

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Bees & Honey

Queens and nucs: This year Singing Cedars Apiary is selling 3# packages @ \$140 each. We also have our regular 5 frame nucs @ \$175. We will have 'ready-to-go' 5 frame nucs @ \$190. All of these require a non-refundable \$40 deposit. Our Northern Survivor queens are selling \$32 unmarked, \$34 marked. See our website for orders over 10-20 on pricing. These are our hybrid queens from our own stock bred from various strains to breed favorable traits. See our site for more details. *We cannot ship queens priority mail outside of new england. Must be express!* For more information call 802-948-2057 and go to www.vtbees.com.

Cattle

4 year old black angus proven bull for sale. Good bloodlines. Excellent temperament. \$2,500 delivered price. Call 802-558-8196 or 802-265-3078 for more info.

12 - 2 month old Holstein heifer calves. \$200 each or make an offer on all. We milk 200 cows and have too many. 802-375-5795.

350+ cow and 200+ young stock barn/farm facility available for rent. Complete dairy farm with modern double 10 Boumatic parlor. No livestock included. All buildings have slatted floors, no alley scraping necessary.

Headlocks in all livestock barns, mattresses, curtains, 2 bulk milk tanks. 700 acres of feed for purchase. Rent, buy or will consider raising young stock for other farmers. Let's discuss the possibilities. 802-533-2984

Equipment

Hay elevator - 15 ft, by Snowco, GE motor S-line; 11 (eleven) Utility Gates by Tractor Supply (50" high - 4 at 8 ft, 5 at 4 ft, 1 -6 ft, 1- 10 ft). One 16 gal heated tub, a 4.5 gal Fortex bucket, and various stock tanks. Call 802-694-1602 or emailbonnehagenfarm@gmail.com.

2 Gehl forage boxes 970 and 980 on heavy running gear, 2 manure spreaders: NI 3932 and Kuhn tandem, Uebler 810 feed cart. I can be reached at 802 230 8525

International 843 4 row narrow combine cornhead; 3250 Reel Auggie Mixer on gas 1995 Ford 450; Used Agway water bowls. Call for prices 802 770 0959.

Free old tires, good for farm use only. Call 603 2568422

3 pt hitch wood splitter, Farming wench, Emphyre Pro Outdoor Wood Furnace, two 550 gal fuel tanks and two 275 gal fuel tanks. 802-746-8979

1949 Farmall H good paint & tires, runs well 8802-592-3356

Sled used for gathering sap. Made by Ben Thresher in Barnet. 802-592-3356

John Deer 4420 4wd combine, 2800 hours, two heads in good shape. \$15,000 phone (802) 442-5353.

New Holland 900 Forage Harvester. Excellent condition/field ready. Tandem axles. All tires new or like new. Has been very well maintained and always stored indoors. Metal Alert III, electrical control box. Price \$12,000. Westfield, VT, Orleans County. 802-355-3496. jcouture@maplesyrupvt.net.

1 new 12-4-28 tire. Also, Farmall H good condition - paint & tires. 802-592-3356

Reel Auggie 3250 mixer with scales on F-450 truck; IH 843 4 row narrow corn head; IH 7ft window head off 881 Harvester. Rutland, 802-770-0959

375 gal full tank \$100. CMT bale wrapper \$250. 2 bottom plow \$75. 802-426-3339

3000 gallon Mueller bulk tank with 2-5 horsepower compressor. 802-487-4467

1250 gallon bulk tank for sap or storage 802-895-4683

Mueller 500 gallon bulk tank with compressor in good condition \$800 OBO. Pequea model 250 3 pt hitch tractor saw with 30" blade - like new- \$1000 OBO. 3 pt hitch - 4 ft hydraulic log splitter \$1800 OBO 802-893-2262



General

High tunnel greenhouse assembly and maintenance: ledge-wood, harnois, rimol and more. Complete assembly, end wall construction, poly installation, renovation, and repairs. Experienced and professional. Plan ahead! Get in touch now to get on the 2020 schedule. Contact Mike Feiner at feinervt@gmail.com, www.vineripe.net, (802) 498-8031.

Hay, Feed & Forage

Quality Canadian hay for sale, big/small squares wrapped, or unwrapped, round bales wrapped or unwrapped, 1st, 2nd, 3rd cuts available. Switch grass and straw available, call Richard at 802-323-3275

Square baled hay - top quality, vof certified organic, generous sized. 1st cut \$4.50/bale, 2nd cut \$5.50/bale at the barn in Barnet. 802-592-3088

2019 1st cut Timothy and clover hay \$5.00 a bale plus delivery fee. Call 603-256-

8422.

1000 tons corn silage, processed in Colchester. 50 @ ton 802-272-3478 or 802-223-1370 or email sethgardner@hotmail.com

4x4, 1st cut, wrapped, round bales. \$40 each, loading available. Reading, VT 802-383-1236.

ADDISON COUNTY

Large squares available in Addison, Vt. Hay is stored under cover. Looks like a long winter ahead of us. Call now and make sure you have enough. Contact S. L. Moore at 802-463-3875.

1st cut 4x5 round bales never wet. Good horse & cow hay. 802-948-2627 or 802-558-0166.

Certified organic, small square bales always stacked and stored under cover, 35-40lbs/bale. \$4/bale, discounts available for large quantities. Call 802-989-0781 for inquiries

Hay for Sale in Addison, VT. Large square bales and

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 VT DGA Education Coordinator
Maryellen.franklin@uvm.edu
 P: 802-254-2228

Want to farm? Check us out...
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small squares. \$50-60 for Large, \$3.50-4.50 for Small. Delivery Available. Call Jack 802-989-8968

Hay for sale. \$3.25 bale. 802-377-5455.

73 1st cut 5ft diameter round bales. \$30-\$35. Orwell 802-948-2211

Straw for sale - \$7/bale for 50 or more. \$8/bale for less than 50, \$6/bale for all in the barn, approx. 350. from our winter rye harvest in August. Certified organic. Thornhill Farm, Greensboro Bend, 05842, todd@thornhillfarmvermont.com, 802-441-3176

BENNINGTON COUNTY

Corn Silage 1000 ton plus. Haylage 500 ton plus. Round bales 4x4. Square bales small. 802-394-2976

CALEDONIA COUNTY

Square baled hay- Top quality, VOF certified organic, generous sized. 1st cut \$4.50/bale, 2nd cut \$5.50/bale at the barn in Barnet. 802-592-3088

CHITTENDEN COUNTY

Round bales for horses. Clean first cut timothy mixed grass, quality net wrapped 4' X 5' bales. Never wet. \$45. each. 802-879-0391 Westford.

15 large 5x5 round bales mixed grass w/some timothy and clover 800+lbs \$50 each. Call 899-4126.

FRANKLIN COUNTY

Good Quality Hay 1c & 2c from western US & Canada. Alfalfa orchard & orchard sweet grass 18 to 20% plus protein large bales & organic by trailer loads. Large or small square bales of straw whole or processed at farm we load on direct delivery by trailer load. Mountain View Dairy Farm 802-849-6266

LAMOILLE COUNTY

Organic baled straw. \$5.50/bale. Certified Organic. Valley Dream Farm, Cambridge, VT. 802-644-6598. email: valleydream@myfairpoint.net.

ORANGE COUNTY

2019 first cut square hay bales

for sale. \$4.00 per bale. Delivery available. Bonnie Kennedy, Chelsea, VT. 802-685-2292.

Approximately 375 ton of high quality grass and clover first and second cut, cut extremely early in 2018. First finished May 22, second finished July 2nd. Tests high in energy and protein. 45% harvested "hay in a day" \$50 per ton. Chris 802-522-9485

ORLEANS COUNTY

Pure alfalfa for sale and also 1st, 2nd and 3rd cut big/small squares, round bales, wrapped or unwrapped, straw and switch grass. Call Richard at 802-323-3275.

Organic Certified Silage for sale: We will deliver from our farm or you can come and pick up. Call for prices and delivery charge. 1-802-744-2444 or 802-274-4934 or 802-744-6553.

2nd & 3rd cut haylage and corn silage for sale. Call Peter Gebbie 802-533-2984, leave a message.

RUTLAND COUNTY

First cut 4x5 round bales. 802-265-4566

Good quality 1st and 2nd round bales available, wrapped and dried please call 802-446-2435.

WASHINGTON COUNTY

200 - 4x4 round wrapped bales 1st \$45. 802-229-9871

WINDHAM COUNTY

2017 4x4 wrapped baleage 1st & 2nd cutting certified organic good quality \$40 per bale 802-254-6982.

Hay for sale 4x4 wrapped dairy quality@\$45 1st cut square bales never wet good horse hay at \$5. 802-387-4412. Livewaterfarm@comcast.net

1st cut 4x5 round bales. Don Pettis 802-265-4566

2018 4X4 wrapped baleage. June cut. Certified organic, never wet. \$40.00 per bale, quantity discount. 802-254-6982

1st cut hay. Good horse hay. \$4.50 bale 802-254-5069

WINDSOR COUNTY

Hay for sale-100 square bales, Reading, Windsor County VT. \$3.50 per bale at the barn. Call 802-484-7240.

4x5 dry round bales \$45.00 delivery available. 802-457-1376

Rolling Meadows Farm: square bales in the field or barn \$4.00. Delivery can be arranged at \$5.50. Very nice hay from fertilized fields in the South Woodstock and Reading area. Call 802-484-5540 or goodfarmvt@gmail.com. Ask for David.

1st. cut dry round bales for sale. Never been rained on, stored under cover. \$50. @ 1st. cut haylage bales for sale. \$45. Rte. 5 Weathersfield Bow 802-546-4340.

Dry Round Horse Hay, \$50/bale. 200 bales left. Call 802-356-5030.

Wanted

Kuhn FC350GMower or will sell mine for parts 802-728-3760

Employment

High-Tunnel/Hoophouse/ Greenhouse Construction - Spring 2020 - Building season runs roughly April - November throughout Vermont and across New England. Candidate is ideally located in the Central VT/ Mad River Valley/Northfield/Roxbury/Randolph/Montpelier area. Dependable, punctual, flexible, detail oriented, hardworking skilled workers only. Good pay for the right person. Go to www.vineripe.net/employment for more information.

www.vineripe.net/employment for more information.

Farm & Farmland

For Lease - 10 acres of organic meadow in Brandon, currently in alfalfa. Producing roughly 12-15 tons per year in dry hay. Three year lease available, price negotiable but approximately \$600/yr 802-247-8459

Horse Training Farm: 7 plus acres with X-C obstacles, galloping track, stadium jumps, full size ring, covered small arena, trails. 3 stall stable with paddocks, tack/feed room, hay storage. 4 pastures have board fencing. Open concept cape farmhouse has 3 bedrooms, office, sun room, deck, fiber optic internet, solar, 2 car detached garage. Workshop, equipment storage, chicken house, gardens, orchard, stream, woods, views. Convenient to Dartmouth College and DH Medical Center. Comes "turn key, as is". \$675,000. 802-785-4410

Opportunity for barn lease in Williston, summer 2020: Well maintained farm residence with equine barn, stalls, and pasture for up to four animals. Call Robin at 802-434-2788 for details.

Maple

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Markets retail inspections and oversight to maintain standards for syrup in the marketplace.

- Expand educational programs focused on syrup grading and quality standards.
- Initiate a statewide workforce development and workplace safety program to address the needs of both forest management and food manufacturing career tracks as job opportunities increase.
- Develop Vermont as the industry leader in maple food safety programs.

Expanded funding is needed to maintain the Vermont Sugarhouse Certification Program coordinated by the Vermont Maple Sugar Makers Association past 2020. Industry and state representatives must collaborate to determine which entities have the long-term capacity to oversee critical maple food safety training and verification programs. Additional programs will be needed for maple processors and handlers throughout the supply chain. Cost: ~\$100,000.

- Improved economic and land use data is needed

to evaluate the impact of maple in Vermont and nationally.

- Prioritize forest climate change research and new programs to develop adaptation strategies.

Farm to Plate is Vermont's food system plan being implemented statewide to increase economic development and jobs in the farm and food sector and improve access to healthy local food for all Vermonters.

The Vermont Agency of Agriculture, Food & Markets (VAAF) facilitates, supports, and encourages the growth and viability of agriculture in Vermont while protecting the working landscape, human

health, animal health, plant health, consumers, and the environment.

Lead Author: Mark Cannella, UVM Extension. Contributing Authors: John Kingston, formerly of Butternut Mountain Farm; Amanda Voyer, Vermont Maple Sugarmakers Association; Abbey Willard, VAAF; David Folino, Hillsboro Sugarworks; Mark Isselhardt, UVM Extension; Brad Gillilan, Leader Evaporator Co.; and Eric Sorkin, Runamok Maple. For more information including citations or to read other food system briefs, visit: agriculture.vermont.gov/administration/annual-report

Vegetable & Berry News

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these days I am going to love growing and eating the same tomato cultivar!

(Dummerston) Still lots of carrots and parsnips in the root cellar, hoping to sell them soon. The carrots don't seem to be holding up as well as usual, though, and require a lot of sorting. Maybe they were too wet going into the bags.

In the high tunnels it's been a good winter for greens but I'm starting to see the same problems as usual this time of year. Spinach is running out of N, pathways filling with water due to rain and snowmelt, cyclamen mites in the spinach, rodents eating spinach. So far it's all manageable with neem, snap traps and fertilizer but I am wondering about ways to prevent these things. Of course, it would help to keep the water out but that's easier said than done.

CSA sign ups a little slow for the beginning of March but hopefully will pick up as the weather warms. I'm excited to be starting seedlings for the coming growing season and for our upcoming spring greens CSA.

(Pownal) Has been too cold for us to do blackberry pruning, that still needs attention. With warmer temperatures, and if wind stops, we will get on this. Also need to plow and till a spot for 200 new raspberries for spring planting. Planted 100 last spring, so will have raspberries for sale in another year or so. Will make the new rows wide enough for spreading mulch/chops with JD Gator, no more wheelbarrow.

Spring blueberry work

will be re-mulching all 500 bushes with fresh mulch/chips that has been setting for over a year. This is a pretty big task and lots of labor hours. Then on to the pumpkins and flower gardens along with corn and potatoes. So, hoping the weather breaks.

Tunnel Spinach Updates

Ann Hazelrigg, UVM Plant Diagnostic Clinic

We're seeing a lot of leaf edge scorch on high tunnel/row covered spinach. Anytime you see a clear definition between brown/dead tissue right next to green and healthy, it is usually abiotic. We chalk it up to either earlier cold damage, or a scorch issue with bright sun/warm temps. The older leaves were likely the cold injury; new leaves would probably be the latter.

Several samples of spinach

crown mite have come in. These teeny arthropods feed way down in the center of the crown and are very hard to see without a dissecting scope. They cause stunting and leaf curl typically in late winter/early spring. We don't see them much when the weather is warmer or if the plants are outside because the spinach is growing faster and can 'outrun' the damage. The damage is generally associated with soils that are high in organic matter and cool, wet conditions. Cleaning up the crop when it is finished may help reduce mite populations. Effectiveness of rotations with non-host crops is unknown. Spot treating with azadirachtin should work. See <https://plant-pest-advisory.rutgers.edu/might-be-mites/>

One grower sent pics of downy mildew infected spinach, cultivar Verdil.

Yellowing on the tops of the leaves with brown/purple sporulation under the leaf. Be sure to look at both sides of the leaf when you suspect a problem. <https://ag.umass.edu/vegetable/fact-sheets/spinach-downy-mildew>. A sample is being sent to be race typed. Let us know if you see any more and we can report it to Meg McGrath, Cornell, since she is keeping track. Also, send pics or samples to the Plant Diagnostic Clinic or ann.hazelrigg@uvm.edu <https://www.uvm.edu/extension/pdc>

UVM Extension Ag Engineering Update

We've published a new blog post titled *Planning an Efficient and Safe Wash/Pack Area*. This post summarizes the things to consider when thinking about your wash/pack design. <http://go.uvm.edu/washpackplan>

UVM Graduate Student Research On Farming vs. Gardening

Do you have experience producing vegetables both commercially and non-commercially? A research project comparing market and non-market vegetable production is looking for individuals who have experience in both, and are willing to be interviewed about it. Maybe you used to garden and now work on a farm, or vice versa. The idea is to learn about how practices and values differ in these two types of systems, from people who have grown in both. If you are interested in participating, have questions, or want to learn more about this study, contact Sam Bliss at samcbliss@gmail.com or (206) 280-3194.

Farm to School Infrastructure Grant Now Accepting Applications

Vermont schools and early care providers encouraged to apply

By Trevor Lowell, VT Agency of Agriculture, Food & Markets

The Vermont Agency of Agriculture, Food, and Markets is now accepting applications for the Farm to School Infrastructure Grant program. This grant program helps schools and early care providers advance the goals of farm to school through the purchase of equipment and/or supplies. The deadline to apply for this funding opportunity is April 19th at midnight.

Grants of \$1,000 are available to Vermont schools and early care providers pursu-

ing goals around improving their meal programs, utilizing more local food, and increasing agriculture and nutrition education. Successful grantees will receive \$1,000 as reimbursement for purchases of equipment and/or supplies. \$8,000 in grant funding is available through this opportunity. Notification of awards will be made in mid May 2020.

The infrastructure grant program is made possible through the Roza McLaughlin Farm to School Act, which seeks to increase agricultural literacy, improve child nutrition, and help Vermont schools and early care providers develop rela-

tionships with local farmers and producers.

More information about the program, and links to apply, can be found on the Agency of Agriculture, Food & Markets' website: [https://](https://agriculture.vermont.gov/grants/earlychildhood)

agriculture.vermont.gov/grants/earlychildhood.

Questions about the program should be directed to Trevor Lowell at (802) 585-9186 or trevor.lowell@vermont.gov.



Hemp: Planning Ahead for a Healthy Crop

By Stefano Pinna, PMNRCD, RNRCD, BCCD

In 2019, the Vermont Agency of Agriculture, Food, and Markets (VAAF) registered over 9,000 acres for growing hemp and if the market continues supporting this growth in future years, hemp will definitely gain a place in the fields of Vermont next to corn and hay. New hemp farmers will face pest-control and disease challenges in the coming years, linked to the type of cultivation which, in most cases, involves substantial investments in one single field and limited possibilities for rotations, making hemp an atypical annual crop. Indeed, one could argue that the crop demands and the practices used for growing hemp are more similar to

those of an orchard crop than an annual crop.

Hemp is similar to an orchard crop in the following ways: 1) the spacing of the plants (5x5, 6x6, 6x8) is similar to modern apple orchards with dwarf varieties, 2) the frequency with which farmers need to have their boots on the ground to monitor growth (i.e. fruit development and pests/disease scouting for orchard and male identification/buds development and pest/disease scouting for hemp) and manage the vegetation between the rows, and 3) the infrastructure that many farmers install in their fields such as fertigation systems, plastic covers, raised beds.

The difficulty rotating hemp fields could have consequences on the field ecosystem. Increased pressure from insects and dis-

eases, which can become more aggressive year after year, should be on top of the list of problems to prevent. A control strategy is fundamental given the scarcity of approved pesticides that can be used on hemp. In December 2019, the Environmental Protection Agency (EPA) approved the first ten products to control insect pests and diseases, nine of which are organic, and one is conventional.

Many of the practices that orchard and vegetable farmers use in their fields to manage insects and diseases could be easily transferred to hemp fields, especially those that focus on managed vegetation between the rows and around the edges of the fields where many of the harmful insects/fungi spend part of their life cycle. Maintaining vegetation between rows and

around the edges of the crop will also work to improve the quality of both surface water and groundwater runoff from the site, decreasing erosion and utilizing nutrients from the runoff.

Here are some of the steps and biological practices that hemp farmers should consider when they come across a new pest or disease.

Pest control

1. Determine what insects are causing damage to your hemp crop and whether they can transmit potential viruses.
2. Collect info (books, internet, Extension) on the life cycle of the insects and find out which other plants can potentially host the insects, and which could be an alternative source of food for the insects.

3. Determine which predators can keep your pests under control and create the conditions for them to thrive:

- plant the space between the rows with species that attract beneficial insects (table 1). An example can be clovers to attract leafhopper assassin bug, dandelion and alfalfa for lady bugs to control aphids, or dill/fennel to attract lacewings against spider mites.
- choose plants or different varieties of the same plant that have staggered flowering time so that predators can survive and protect your crop throughout the cycle;
- alternate cuttings between rows; this can be helpful to maintain some habitat

This Month's Recipe

Sweet & Savory Apple Butter Grilled Cheese

Servings: 2 • Recipe courtesy of New England Dairy

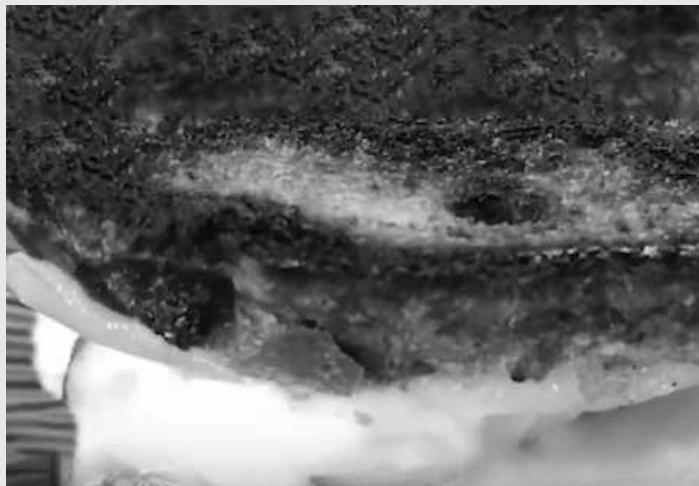
Ingredients:

- 4 slices of cinnamon swirl bread
- 4 slices of white cheddar cheese or about 2 cups of shredded white cheddar cheese
- 1/4 cup of apple butter
- 2 Tablespoons of butter
- 3/4 cup vanilla ice cream or frozen yogurt (optional)

Instructions

1. On each piece of cinnamon swirl bread, spread 1/2 Tablespoon of apple butter on one side.
2. Put slice of cheese on each bread slice or about 1/2 cup of shredded cheese on each bread slice.
3. In a grill pan over medium-high heat, toast the sandwiches on both sides until the cheese is thoroughly melted. Mmm-mmm.

Want this to be a bit more like dessert? Top two of the warm sandwiches with the ice cream or frozen yogurt, 1 large scoop or 2-3 smaller scoops. Cut each in half and serve. Enjoy!



Hemp Conference

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potential of multi-purpose hemp crops, diseases affecting hemp yields, and genetic testing to identify hemp varieties. The conference was a great opportunity to network with industry representatives, and to learn from universities that are leading hemp research nationally.

Have questions? You can find information on our website <https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/hemp-program> or contact us through email AGR.Hemp@vermont.gov or by phone 802-828-1732.

for beneficial insects. Different rows could also have different blooming times.

4. Manage plants surrounding fields by planting a trap crop. In perimeter trap cropping, plants that are especially attractive to target pests are planted around a cash crop, surrounding it completely without gaps. Examples of trap crops for stink bugs (feeds on hemp flowers) are millet, vetch and buckwheat.

Disease control

Disease control is more complicated than pest control, given that the most effective tool for hemp farming would be to rotate the field to another crop. Most of the time, successful disease control is a matter of applying all possible preventive measures to limit humidity build up in the stand, especially toward the end of the cycle when hemp plants reach a high volume and limit air flow.

1. The first and easiest step

Plants That Attract Beneficial Insects

Umbrelliferae

Caraway, coriander (cilantro), dill, fennel, bishop's flower, queen Anne's lace, toothpick ammi, parsnip

Compositae

Blanketflower, coneflower, coreopsis, cosmos, goldenrod, sunflower, yarrow

Legumes

Alfalfa, big flower vetch, fava bean, hairy vetch, sweet clover, crimson clover

Brassicaceae

Basket-of-gold, alyssum, hoary alyssum, mustards, sweet alyssum, yellow rocket

Other species

Buckwheat, cinquefoil, phacelia

is to choose a variety that completes flowering early (by the end of September) when the temperatures are still relatively high and

there are less chances for powdery mildew or grey mold to develop. Talk with your colleagues to see which variety performed best last year and look at the CBD variety trials done by UVM Extension. (<https://www.uvm.edu/extension/nwcrops/research>)

2. The second thing to consider is spacing. Spacing should be determined by the final volume of plants in the stand and should include enough space to allow good air flow within and between the rows.
3. If spacing is wide enough but you still foresee problems with molds, consider pruning your plants when they are knee-high so that they branch out to a more open shape, encouraging air circulation within the plants.
4. Don't overapply nitrogen. Adding too much nitrogen, especially in fields already high in organic matter, can extend your vegetative phase, induce the production of additional leaves and make your plants more prone to diseases.
5. Remove leaves that show signs of disease and burn that material out of the field.
6. Apply fungicides promptly when the first signs of disease are visible. Fungicides approved by EPA are intended for preventive use, not to eradicate a disease, and are effective only if applied on time.
7. Keep your soil healthy. Healthy soil includes a complex web of roots, fungi and macroinvertebrates that can provide mutual protection against parasites. Try to keep soil disturbance low and limit

tillage.

In summary, think ahead, plan accordingly, and monitor your plants (whether they are hemp or not); your

crop's growth will give you many clues about growing conditions in the complex ecosystem which is your field!

As Learnings on Hemp Grow, State Ag Officials Adapt Policies

By National Association of State Departments of Agriculture

At the 2020 Winter Policy Conference of the National Association of State Departments of Agriculture (NASDA) held last month, policy items addressing some of the implementation challenges that states have with the U.S. Department of Agriculture's (USDA) Interim Final Rule (IFR) were passed.

Two separate policy items were passed by NASDA Members including:

- A policy item focusing on extending the mandatory date of October 31st for states to change from pilot programs to approved USDA plans by Minnesota Commissioner of Agriculture Thom Petersen;
- A policy item calling for a hemp data reporting system by interim Wisconsin Secretary of Agriculture Randy Romanski

"We support an extension of the 2014 Farm Bill Industrial Hemp Pilot Program through the end of next year to facilitate states' transition into an approved USDA plan" said NASDA CEO Dr. Barb Glenn. "With the vast majority of states

needing to call on their state legislatures to be in compliance with the Rule, we need more time to stand up regulations that support the growth of our hemp industry."

"States are doing what they can with limited resources to ensure regulatory compliance. Securing an electronic system that allows for states to routinely submit data to USDA will be crucial for state departments of agriculture. We encourage the USDA to work collaboratively with states to create a uniform and reliable data reporting system."

At the conference, USDA Marketing and Regulatory Programs Under Secretary Greg Ibach announced deferment of the certified U.S. Drug Enforcement Administration (DEA) laboratory requirement to the 2021 season and new flexibility for disposal of non-compliant crops.

"We thank USDA for the work they have done this far, and we look forward to continuing our work with them to create a rule that will allow the hemp industry to grow. We are co-regulatory partners and we must provide our producers with a commonsense rule."

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Hemp Policies

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NASDA's organizational hemp policy was also amended to underscore the needs of states in regulating hemp and also called for clarification of federal law that allows hemp-infused products not exceeding federal concentration thresholds to enter interstate commerce. All three actions were complimentary to NASDA's comments on USDA's interim final rule on hemp

which highlighted 10 major changes to the rule.

Hemp is a term used to classify varieties of cannabis that contain 0.3% or less THC content per dry weight as defined in the 2018 Farm Bill. NASDA adopted policy supporting the legalization and production of hemp for the first time in 2002, and since, NASDA has voted in favor of numerous policy items that support the growth of the industry and development of uniform standards for the regulation of this crop. Learn more

about our work on hemp at www.nasda.org/hemp.

NASDA is a nonpartisan, nonprofit association which represents the elected and appointed commissioners, secretaries and directors of the departments of agriculture in all fifty states and four U.S. territories. NASDA grows and enhances agriculture by forging partnerships and creating consensus to achieve sound policy outcomes between state departments of agriculture, the federal government and stakeholders.

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