CHAMPLAIN VALLEY CROP, SOIL & PASTURE TEAM



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FOCUS ON AGRICULTURE

In This Issue

By Kirsten Workman, Agronomy Outreach Professional Senior

If one thing is for certain, it is that change is inevitable. More and more our discussions around conservation farming practices are moving away from strictly improving water quality and more towards building resilient systems that can withstand climate change, build healthy soil, and create frameworks for the long-term sustainability of Vermont farms.

Fortunately, most of the conservation practices we have worked on for the last several years (or decades) fit the bill for all of these goals. In previous newsletter issues, we have outlined some of the work going on around Vermont to create strategic plans that will help our farming industry meet climate change goals.

This issue goes more in-depth, and you will hear from Joshua Faulkner, UVM's farming and climate change coordinator, about the local and regional climate data that goes into this larger planning process, and that can also be used as you make decisions in your own farming operations.

Cheryl shares strategies for grazers which range from the "too little" to the "too much" water scenarios and can be implemented with limited infrastructure investments.

As we all know, farming is inherently risky—especially amid climate change, uncertain market dynamics and extreme weather patterns. You can manage that risk, both by building a resilient farming system, but also by utilizing crop insurance.

There are more and more specific crop insurance policies that have coverage for producers which range from whole farm policies, beekeeping, livestock-specific, all crop types and revenue protection. Take a look at the enrollment deadlines in the article.

AND in case you missed it, check out the story highlighting the newly named "Jeff Carter Crops Exhibit" on the north end of the 4-H Youth Hall at Addison County Fair and Field Days. While some things do change, the crops exhibit is one constant thanks to Jeff's hard work over the last 36 years.

As inevitable as change may be, we know that farming is here to stay. Stay engaged and remember that farming may just hold the key to solving some of the most complex environmental issues of our time.



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NEWS, EVENTS & INFO YOU SHOULD KNOW

February 1-3, 2022 | Vermont Farm Show - Farm and Home Products Contest | Essex Junction, Vt.

The Vermont Farm Show returns to Essex Junction on February 1-3, 2022! And so does the Product Contest. Check out the website (http://www.vtfarmshow.com) for more information as it becomes available.

March 10–11, 2022 | Northeast Cover Crop Council (NECCC) Virtual Annual Conference

Join the NECCC for two half-day virtual sessions to learn about the newest information about cover cropping in the Northeast states. For more info and to register: <u>https://northeastcovercrops.com/event/northeast-cover-crops-council-annual-conference/</u>

Crops Exhibit Named for Jeff Carter, by Kristen Workman

This year we were so glad to see the return of the Addison County Fair and Field Days. After an unprecedented year off due to COVID-19 safety precautions in 2020, you could feel the joy of people getting to reconnect with this iconic annual event and each other as you walked around the fairgrounds. As we do every year, the Champlain Valley Crop, Soil and Pasture Team hosted the Field Crops Exhibit. While this display allows farmers to enter their harvested crops and have them judged against their peers for quality, it ultimately allows us to share what farmers do with their non-farming neighbors.

Personally, I love to pop open a jar of corn silage, ask a fairgoer what they think it smells like. Then I share the complex and fascinating process of growing a crop from one corn kernel to a field of plants that are harvested, stored, and fed to cows so they can enjoy that maple milkshake down at the Maple Building. I also love to see the folks who bury their noses deeply into baskets of beautiful hay and reminisce about the memories that smell brings back from their days in the haymows of their grandparents or scoping out who's won the Best-in-Class rosette for the top hay or corn. With 17 different crop categories to enter, and usually more than 100 individual entries every year, it really is a great showing of what we do best in Addison County.

What you may not know is that this may be the only crops exhibit of its kind at a county fair in Vermont. And the reason it still exists is one man—Jeff Carter. This year marks Jeff's 36th year serving in his role leading the agricultural activities of the UVM Extension Office in Middlebury. One of his first days on the job those many years ago he was directed to report to the fairgrounds. Upon his arrival, he was pointed to a table with a few flakes of hay and was told that he was in charge of the Crops Exhibit.

Since then, Jeff has stewarded the Crops Exhibit displays and judging across almost four decades to include more crops, more entries, a place for producer organizations to highlight their work, equipment demonstrations, hands-on activities, and he has truly created a legacy that is one of the key pieces of outreach and education for UVM Extension. We were proud to honor that impact and effort this year, when on August 9th we surprised Jeff right before we started judging all those crops entries by formally naming the Jeff Carter Crops Exhibit. Located at the north end of the 4-H Youth Hall, a sign now marks the significant contributions Jeff has made not just on the crops exhibit, but on farming in this community.

If you want to see more about this story and hear Jeff share why the crops exhibit has been important to him, check out this Across the Fence episode: <u>https://youtu.be/UsRL2CwlgeQ</u>.

Our Survey Needs More Respondents and We Still Need YOUR Input!!

All of our work, including the publication of this newsletter, is grant funded. We need to demonstrate impact to keep our grants going, which means establishing that our work matters to YOU! Please help us by filling out a VERY SHORT anonymous 3-question survey at <u>go.uvm.edu/cvcropssurvey</u>.



ADDISON COUNTY FAIR AND FIELD DAYS

Photos from the Jeff Carter Crops Exhibit



VERMONT'S CLIMATE IN A TIME OF CHANGE

By Joshua Faulkner, Farming and Climate Change Program Coordinator UVM Extension Center for Sustainable Agriculture



A good friend recently gave me a small book full of Yankee weather proverbs, edited and illustrated by a couple of Vermonters (Peter Miller and Daryl Storrs). Many of these folk sayings certainly contain some wisdom and common sense gained through generations of farmers and others living close to the land (e.g., "When clouds look like black smoke, a wise man will put on his cloak"). However, I also reflected that a fair number of these proverbs may now be relics of Vermont before the era of climate change.

Given the roller coaster of weather that we now see during most years, I unfortunately hesitate to rely on nature's signs to predict the coming seasons (e.g., "If there's spring in the winter and winter in spring, the year won't be good for anything"). In fact, and as I think we've all witnessed, the very unpredictability of the seasons is now the rule. Especially to the farmer, there is no longer a dependably "normal" spring, summer or fall.

Despite the craziness that seems to now define our weather, we can look at local and regional climate data to help understand how much things have changed, and to provide some clues for what the future may hold.

For example, I have heard many times from farmers that storms seem to be more severe than they were when they were younger.

That is in fact true, as Figure 1 shows. No region of the country has seen a greater increase in heavy rainfall events than the Northeast. These storms make soil management more challenging and make healthy soil critical to farm resilience.

In addition to the heavy storms, Vermont has also seen a significant increase in annual precipitation, with the largest uptick happening in the spring.

Recent data taken from the National Centers for Environmental Information show that annual precipitation in Addison County has increased by about 8 inches since 1960, and the increase was even greater in the Northeast Kingdom. So, it makes sense that we now see more interest in drainage, with its improved trafficability and yield benefits.

Ironically, even with this increased overall rainfall, drought conditions in the summer are still common, and will possibly become even more frequent. A UVM study projected that by mid-century, rainfall during the month of July in the Champlain Valley will typically be less than what crops need (Guilbert et al., 2014).



Observed Increase in Frost-Free Season Length



We have certainly seen this happen on occasion, but it has not yet been the norm. This may be one more reason to improve soil health, as we know that healthy soils with high organic matter hold more moisture and help crops bridge periods of drought.

There may also be an upside to a changing climate for some farms when one considers the change that has been observed in the length of the Vermont growing season. Across the region, there has been a 10-day increase (Figure 2).

And when you take a closer look at Vermont-specific data, the Vermont Climate Assessment found that the Vermont growing season has been increasing by about 3.4 days per decade (Galford et al., 2014).

Hopefully this will mean extended grazing seasons, better cover crop establishment, and the ability to grow higher-yielding varieties.

I am grateful to have these and other data points to help with decision-making, even if it includes a bit of uncertainty. After all, one weather proverb that still resonates today is that "if you don't like the weather in Vermont, wait five minutes."

While those weather changes may be more on the order of days and weeks, I can't think of better advice to offer the farmer planning for climate change.

Image Sources

Figure 1 source: CICS-NC and NOAA, found in USGCRP, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I[Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp.

Figure 2 Source: Kenneth E. Kunkel, Cooperative Institute for Climate and Satellites – NC. Image Source: NOAA NCDC / CICS-NC

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CLIMATE RESILIENCY IN GRAZING SYSTEMS

By Cheryl Cesario, Grazing Outreach Professional

In early 2021, Governor Phil Scott formed a Commission on the Future of Vermont Agriculture. One of the committee members recently asked me what systems I thought would be most useful as grazing farms navigate a changing climate. From a field-based perspective, it seems that systems that help us manage water whether too much or too little—will build more resilience into existing management systems.

While installations of pasture irrigation and tile drainage systems are effective, they are both big investments and may not be practical or logistically possible for all. For example, a large water source is needed in order to irrigate on any significant acreage. To put on just one acre-inch of water takes almost 28,000 gallons of water. There are farms in the Champlain Valley that are allowed to pull irrigation water out of Lake Champlain or large on-farm leachate storage systems. However, smaller on-farm streams and ponds tend to dry up during droughts, so unless there is proximity to a larger water body, irrigation presents a logistical hurdle. To read more about this, see the data from Heather Darby's pasture irrigation study at <u>https://go.uvm.edu/lz40q</u>.

There are other ways to build resilience without large infrastructure investments. We are seeing more farms plant warm-season annual crops for grazing, such as sorghum-sudangrass and millet. These crops provide needed forage in hot, dry periods when cool-season perennial pastures tend to go dormant. This summer I visited a dairy farm and a beef farm experimenting with grazing for the first time. On the dairy operation, sorghum-sudangrass (hybrid grass) was planted with turnips and clover. On the beef farm, sorghum-sudangrass was planted with soybeans and peas. The taller growing crop is planted with companions that grow in the understory providing more forage density.

Sorghum-sudangrass can be a tricky crop to graze. It must be grazed over 18 to 24 inches tall or animals are at risk of prussic acid poisoning. However, once plants are above that height, they grow exponentially in hot weather and can quickly become over six feet tall. It was interesting to see that the dairy cows and the beef cows grazed this plant differently. What we saw on the dairy was that when plants were between 30 and 60 inches tall, cows efficiently grazed the sorghum-sudangrass, stripping the leaves off the plant while trampling the stems into the ground. Once the grass topped six feet, the farmer noted that the dairy

cows were trampling an increasing number of whole plants and not effectively grazing the crop. The decision was made to chop the remaining part of the field as stored feed, rather than continue to graze it. The farmer had a later and less mature planting of the same annual mix to try it again.

On the beef operation, the farmer set up a paddock he anticipated would last the herd three days. The farmer was astonished by the amount of forage consumed by the animals in a 24-hour period. The grass that he thought would last three days, lasted just one, so he shifted to daily moves of the herd through this forage.

It can be hard to estimate dry matter availability in these annual plantings, since although there is a lot of leaf biomass and there is also quite a bit of stem. As you can see, in both situations the farmers had to adapt their plan in the moment—another key to farm resiliency.

Improvements to basic grazing infrastructure can also help mitigate weather challenges. Over the past three years, the Pasture and Surface Water Fencing program (PSWF) administered through the Vermont Agency of Agriculture has helped fund many such improvements. Improved animal trails (or laneways) topped with fine stone have been installed on at least half a dozen farms I have worked with to address lanes that turn to mud and create problems with both hoof health and erosion/runoff. Other PSWF projects have included funding for additional fence and water lines to expand grazing systems and incorporate more acreage under managed grazing. This allows for added management flexibility to move beyond a basic cookie cutter rotation, so that farmers can apply more adaptive grazing management strategies. This year, in many areas, we experienced both drought and then saturated soil conditions. Having contingency plans in place for each of these scenarios will help build stronger systems that withstand the weather ups and downs and unexpected curveballs Mother Nature likes to throw at us.

For more information about the various pasture programs and resources, contact <u>cheryl.cesario@uvm.edu</u>.





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FALL CROP INSURANCE ENROLLMENT DEADLINES

Jake Jacobs, Ag Risk Management Educator

While most crop insurance policies require enrollment in March of the crop year to be covered, there are a few exceptions. If you are interested in the following programs, please note the fall enrollment dates.

- PRF (Pasture, Rangeland and Forage) This covers losses of forage produced for grazing or harvested for hay which result in increased costs for feed, destocking, depopulating, or other actions. The only peril covered is lack of rainfall, based on the 40-year average national rainfall index for your location. The deadline to enroll is November 15.
- API (Apiculture) This provides coverage for honey, pollen collection, wax and breeding stock. Like PRF, it is a rainfall index policy and covers losses due to lack of rainfall. The deadline to enroll is November 15.
- MPCI (Multi-Peril Crop Insurance) for tree fruits (depending on county, apples and peaches) - These policies cover losses caused by several perils, including a variety of adverse weather conditions, failure of irrigation or fire if caused by one of the covered perils, insect or disease damage, and wildlife damage. The deadline to enroll is November 20.
- WFRP (Whole Farm Revenue Protection) for late tax year filers - This insurance provides a risk management safety net for all commodities on the farm under one insurance policy. Farms can get WFRP with only one commodity or with multiple commodities. This insurance plan is tailored for any farm with up to \$8.5 million in insured revenue, including farms with specialty or organic commodities (both crops and livestock), or those

marketing to local, regional, farm-identity preserved, specialty, or direct markets, wholesale or retail. Sales closing date for WFRP is March 15 for calendar year or early fiscal year tax filers but the deadline is November 20 for late fiscal year tax filers.

- Dairy-RP (Dairy Revenue Protection) This is a milk revenue policy. You can participate in this program and the FSA Dairy Margin Protection Program at the same time. You may have LGM-Dairy and Dairy-RP policies in effect for the same crop year, but only one policy, either LGM-Dairy or Dairy-RP, can have endorsements in effect for the quarterly insurance period. Producers can apply for Dairy-RP daily, when prices are posted.
- LGM-Dairy (Livestock Gross Margin Dairy) This provides protection against loss of gross margin (market value of milk minus feed costs) on milk produced from dairy cows. LGM-Dairy uses the Chicago Mercantile Exchange Group futures prices for corn, soybean meal, and class III milk to determine the expected gross margin and the actual gross margin. You may have LGM-Dairy and Dairy-RP policies in effect for the same crop year, but only one policy, either LGM-Dairy or Dairy-RP can have endorsements in effect for the quarterly insurance period. Producers can apply 12 times per year, the last business Friday of each month.
- LGM-Swine (Livestock Gross Margin Swine) This insurance provides protection against the loss of gross margin (market value of livestock minus feed costs) on swine. Producers can apply 12 times per year, the last business Friday of each month.

For more information, contact your crop insurance agent or go to the UVM Agricultural Risk Management and Crop Insurance Education website at <u>http://go.uvm.edu/ag-risk</u>.

WHY I PLANT FOOD PLOTS FOR DEER

By Jeff Carter, UVM Extension Agronomist

I have been fascinated with whitetail deer and have been going to our land and hunting camp in central Vermont for over 50 years. Planting wildlife food plots has been the key for me and now allows me to watch more bears, deer and turkeys on my wooded property. I have shot my fair share of deer over the years and now the thrill of seeing them up close and personal for a photograph excites me just as much as the hunting part. Maybe I am just getting softer with age. Or maybe 45 years of working with farmers makes me still want to grow plants, even on a small scale.

The **science** of growing plants and managing soil, weeds, plant diseases and insect damage is a challenge that I enjoy. Perhaps it is why farming is exciting for so many people in Vermont. I have a tree farm and have always planted patches of clovers, wheat and other plants for the wildlife to enjoy. I don't make money at this but do eat venison and help provide "food for the soul" with Christmas trees and greens.

The **math** of figuring out the right rates for seed mixes, sprayer calibrations and fertilizer, and lime applications can be a challenge that most people skip over, but I enjoy. My fields are micro-plots with mixed forages that are designed to provide good grazing over the entire year. I want a long-term crop program that improves my

soil and feeds wildlife. Soil testing results and recommendations for a complete food plot system can be easy or complex, depending on how much success I want. Some years, I skip the lime and just throw seed out there and have some very poor results. For the past few years I have paid close attention to soil fertility recommendations and used appropriate seed mixes for my land, with great success and pleasure.

See the new UVM Fertilizer recommendations for Wildlife Food Plots that I updated at <u>https://go.uvm.edu/I7kv0</u>.

Wildlife grazing is the wild card in food plot management. Animals come when they want and eat what they will. The planting sequences that I use include multiple crops in the same field each year to provide high quantities and high-quality forages for fawns, does, bucks, sows, boars, cubs, toms, hens and poults alike. I have many small plot fields and I rotate between perennial legumes that produce well in the hot summer, cool-season brassicas for fall feeding and bulking up for winter, and then root crops and cereal grains for the tough snow-covered winters and early spring recovery periods. Of course, the main food is in the forest, and I have also done a lot of timber stand management to open areas with young succulent browsing and bugging areas. Food plots are just a supplement to the natural soft and hard mast trees and bushes, natural vegetation forbs and weeds, and of course forest tree browse.



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