Champlain Valley CROP, SOIL & PASTURE Team

University of Vermont | Extension
College of Agriculture and Life Sciences

Fall 2025 Newsletter

Drought Impacts the Champlain Valley — Reflecting and Thinking About Resilience

Shawn Lucas, Assistant Professor, UVM Extension Agronomy

As the summer growing season winds down, it affords us some time to both reflect and look forward. The summer of 2025 will not be remembered fondly by Champlain Valley producers, in large part due to unfavorable weather patterns. After more flooding in summer 2024, in Fall 2024 producers were happy to have drier conditions which favored chopping corn and forages and enabled most of them to easily make the Farm Agronomic Practice (FAP) Program cover crop deadlines of October 1 for broadcast crops and October 10 for drilled crops. As time passed though, the dry fall of 2024 was the beginning of a trend in drier weather patterns with four of the seven months between October 2024 and April 2025 being below historical averages (figure 1). May of 2025 brought significant rains, however that precipitation came through the month dropping 2.3 inches more rain than the monthly average and creating wet soil conditions that made fields inaccessible. Cover crop termination was delayed as was planting. Many farmers did not have their corn crops planted until mid-June and in mid-June the rain went away. June, July, August and September all had deficits in rainfall compared to historic averages and when viewing the 12 months from October 2024 to September 2025, the Champlain Valley received nearly 8 fewer inches of precipitation than would be expected over that time.

The late planting and dry conditions created corn crops that were anywhere from 40 to 70% of what they would normally be (figure 2), according to different farmers in the region. Farmers were getting one or two cuts off hay fields where they normally get 4 or 5 cuts (figure 3). As of the time of this writing (mid-October) chopping is nearly complete but the dry trend has continued (we're two thirds of the way through the month and have received less than half of the precipitation that we might expect) and

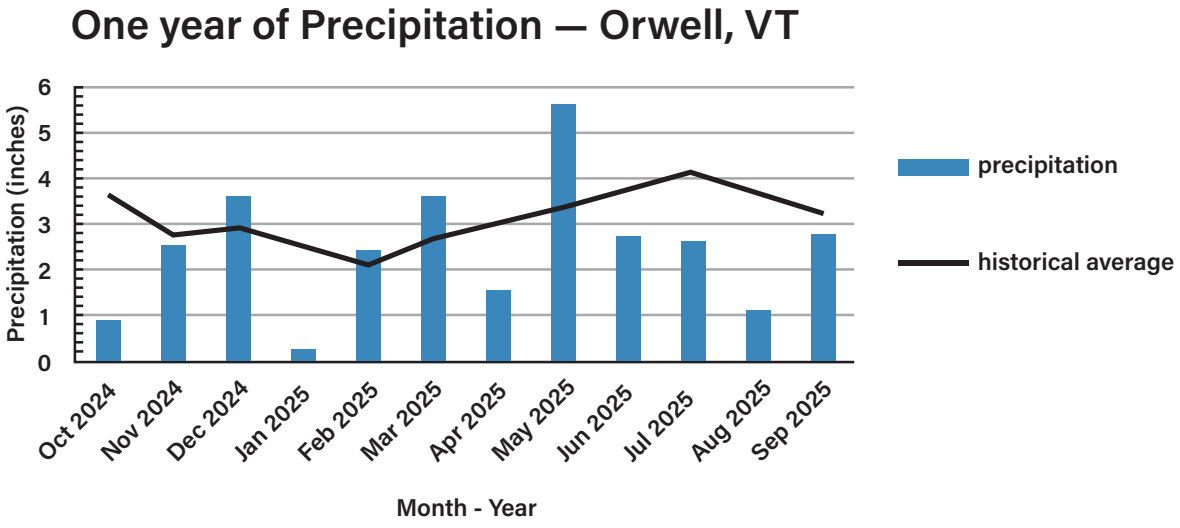

Figure 1. Precipitation in Orwell, VT from fall of 2024 to fall of 2024. Addison county received about 8 fewer inches of rain over the period compared to historical averages. Data compiled from Community Collaborative Rain, Hail, and Snow Network (https://www.cocorahs.org/).

many producers are looking to buy in feed to make up for shortfalls. With about one inch of rain falling in early September and another 1.75 inches at the end of the month there was just enough moisture to give the crops a little bump so corn was being left out to develop as long as possible to try and make up for the late start and dry conditions.

Figure 2. A corn crop in Addison County, VT on October 9, 2025, just before harvest. Corn crops in the region generally underperformed in 2025 due to dry conditions. For reference, the shovel in the picture is about 46 inches.

The FAP program cover crop deadlines are implemented for a reason; in Vermont cover crops typically don't establish as well if planted after the deadlines. Less cover crop growth in the fall means less erosion control and reduced capacity for cover crops to scavenge nutrients (especially N) through winter. With corn in the field longer, far fewer producers will make the FAP cover crop deadlines this year compared to 2024. Many producers juggled with whether to plant them at all given cost of seed and concerns about germination in the dry soil conditions. The decision to plant should consider the potential for successful establishment before colder weather arrives in light of weather forecasts and soil moisture.

A good rule of thumb (again, the moisture and forecast conditions must be considered) is that cereal rye or winter wheat will typically establish when planted up to two or three weeks past the first frost. Rye can germinate and grow at temperatures as low as 33°F, while winter wheat is similar but requires slightly higher germination temperatures) and grow slowly through winter. While many Vermont producers have started to favor wheat to rye because wheat produces less aboveground biomass and matures later, making it easier to manage in spring (in terms of termination), rye may be a better option for later plantings because it will generate more biomass in spring. Drilling is better for later plantings as it insures better seed-to soil contact. Wheat and rye are fairly drought tolerant, and planting depth for both is 1–2 inches. During drought years when there is little moisture in the surface soil planting on the shallow side of the range and waiting for rains to bring germination is advisable.

For those who do get cover crops planted and established, management in spring must adapt to drought conditions if they persist through the winter. A rye cover crop can use almost an inch of water per week as it starts to ramp up growth in late March and early April, and by May rye can use over an inch per week. With this in mind, in the case of a dry spring, cover crops should be terminated early to conserve moisture in the seed-zone. The residue from the cover crop will keep the underlying soil cooler reducing evaporation and further conserving water.

As we face more uncertainty in annual weather patterns, promoting a resilient farm is key to having top productivity in "normal" years and having acceptable productivity (or at least reduced negative impacts) in extreme

Figure 3. A hayfield in Addison County, VT on Sept. 4, 2025. This field is showing cracks in the clay soil. For reference the trowel in the picture is 1 foot long. Due to the dry conditions, many farms got fewer forage cuttings than usual in 2025.

seasons. Building soil organic matter is one of the best means to promote resilience in drought conditions as well as in flood situations. Soil organic matter promotes aggregation and good soil structure, which in turn enhances water holding, allows infiltration and enables better root penetration. Cover crops are a critical part of management practices that build soil organic matter. Additionally, cover crops like rye and wheat have deep fibrous root systems, which may help alleviate compaction, allowing subsequent crop roots access to water stored deeper in the soil profile. In Vermont, producers, particularly those in dairy, also add manure to fields; another practice that builds organic matter. In addition to the benefits associated with good soil structure, healthier soils generally have improved microbial activity, nutrient cycling and tend to be more productive.

The 2025 drought followed two years of wetter-than-normal seasons in 2023 and 2024. The differ-

ences between these seasons highlight the unexpected extremes that producers must deal with year to year. In talking about the drought, producers have stated things like "trucking water and buying feed, after we already spent money on the usual inputs, are not situations we budgeted for in our annual business plan". Many farmers in the region embrace the notion of managing soil health and while soil health alone won't completely solve extremely dry (or wet) conditions it is part of a strategy of adaptive management that helps to mitigate the losses associated with extreme weather. For more information on soil health, cover crops, or farm resiliency reach out to us at the Champlain Valley Crop, Soil, and Pasture Team. How did you handle cover cropping in Fall 2025? Shawn Lucas can be reached at shawn.lucas@uvm.edu.

UVM Extension's New Agronomist: Alyssa Thelin

Hello! My name is Alyssa Thelin!

I have a bachelor's degree in Plant and Soil Science with a concentration in Soil and Water Resources from Oklahoma State University. After graduating with my undergraduate degree, I pursued a master's degree from the University of Tennessee in Plant Science.

My thesis research covered the impact of cover cropping and tillage systems on Angular Leaf Spot in tobacco. Through my research, I had the opportunity to travel all over the state of Tennessee and into some parts of Kentucky to listen and learn from tobacco farmers about their experiences with Angular Leaf Spot.

I am very excited to start my journey as the new Agronomy Specialist with the Champlain Valley Crop, Soil, and Pasture Team. I look forward to meeting everyone!

You can contact Alyssa at Alyssa.Thelin@uvm.edu.

Eating From the Garden All Winter Long

Becky Maden, UVM Extension Research Assistant Professor

Oftentimes in early spring, I meet an eager gardener who loves to tell me about how they are still eating carrots from last fall's harvest, or how their potatoes are starting to sprout but are still creamy and delicious, or about how excited they are about the garlic seed they saved and planted last fall. The enthusiasm and joy gardeners have in growing their own food are a huge part of Vermont culture. This time of year, it is important to consider the logistics of crop storage and to tuck favorite crops into spaces where they will last as long as possible. Below are a few key principles to help improve the storage life of these crops.

1. Avoid physical damage to crops. Crops like onions, beets, squash, and potatoes may seem as durable as rocks, but these crops bruise or skin can be wounded, creating entry points for disease. Gently handle these crops, especially during harvest.

2. Harvest during optimal conditions. Some crops, like winter squash, are sensitive to cool nights, and if possible, it's important to harvest before they are damaged by the cold. Other crops like cabbage or root vegetables benefit from cooling (but not freezing!) nights just prior to harvest to remove field heat and minimize respiration in storage.

3. Do not store vegetable crops with apples or other fruit, which give off ethylene gas and can diminish the flavor of stored crops and promote sprouting.

In an ideal world, you would have several different spaces to store vegetables for the winter; although this is not always possible, there are **three broad categories** for winter storage described below. With some creativity, it can be possible to create micro-storage scenarios, even in your home with garden scale harvests.

Cold, moist storage (32–40°F, 90–95% relative humidity)

• Potatoes: For good "skin set", leave potatoes in the soil 10–14 days immediately after harvest. Once cured, potatoes should be stored around 40°F, ideally with high relative humidity (90 to 95%). Tubers should be stored in the dark to prevent greening. Storage temperatures above 50°F may sprout sooner, whereas at temperatures below 40°F, potatoes develop a sugary taste. These sweet-tasting potatoes can be restored to their natural flavor by leaving them at room temperature for a few days before use.

• Beets, Carrots, Parsnips, Turnips, other roots: Remove tops in the field, remove dirt; if washing before storage, be sure to use perforated plastic bags. Roots can also be stored in sand or sawdust. High humidity (95%) will prevent shriveling and dehydration.

• Cabbage: Cabbage can keep remarkably well in cool conditions and provide a fresh eating treat all winter long. Trim off any diseased leaves, place in a ventilated plastic bag or tote, and keep as cool as possible.

Cool, dry storage (32–55°F)

• Onions, garlic. Onions are garlic should be trimmed and cured after harvest. For winter storage, storing them in a mesh bag in a cool dry place promotes excellent keeping.

Warm storage (55–60°F)

• Winter Squash: Early ripening varieties like acorn and delicata are sweet at harvest and become starchier in storage, so they should be eaten immediately after harvest. Other squash such as butternut, hubbard, and kabocha should be given some time to allow the starches to convert to sugars and sweeten up the squash. Pumpkins and winter squash should be stored in a cool, dry space at 50–60°F.

• Sweet potatoes: Sweet potatoes can be challenging to grow in Vermont, especially in the clay soils of the Champlain Valley. But it can be done, and they are an excellent storage crop. Ideally, sweet potatoes should be cured at 85°F and 80–90% humidity for 10 days before storage (you want them to think they are in South Carolina); for gardeners, using a warm garage or seed starting chamber for two weeks will help sweeten them up. Once cured, they can be stored in your house at 55–60°F, ideally at high relative humidity (85–90%).

Finally, focusing on the crops that your family will truly consume and appreciate over the winter can guide your efforts towards improving storage. Are carrots a popular crop in your house? Maybe it is as simple as purchasing a small fridge that runs in your basement during the winter. Or maybe squash is a favorite; dedicate a corner of your kitchen to a few stacked crates of squash. It doesn't have to be complicated—but it can be delicious and gratifying!

References:

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https://www.umass.edu/agriculture-food-environment/vegetable/fact-sheets/potato-harvest-storage
https://yardandgarden.extension.iastate.edu/how-to/storing-winter-storage-vegetables

Irish vs. Vermont Organic Dairy Farming: Reflection of a Day with Dr. Padraig French

Carly Bass, Grazing Specialist

Ever since I started working with livestock I have been fascinated by Ireland, specifically their abundance of agriculture. My interest and passion for the country only grew when I got the opportunity to work during a calving season on a dairy farm in County Cork after finishing my undergraduate degree in 2018. That is why I was so excited to be able to participate in a pasture walk about Irish Grazing Systems right here in Addison County, Vermont with Dr. Padraig French from Teagasc. It was a unique experience to be able to compare Irish grazing systems to what we typically see here. I learned a lot during the discussion that I will be thinking about as I travel to dairy farms around Vermont in the future.

One interesting topic we covered was mud mitigation and how to go about grazing during a rainy season (hard to think about this year, I know), something Irish farmers deal with regularly. Dr. French mentioned that farmers in Ireland will graze for roughly 3 hours before bringing the cows back to the barn. He pointed out that a cow can fill up her rumen in about that amount of time and will lay down for a while after that. Therefore, why not allow them to lay down where it is dry and also protect the pastures from getting rutted up/compacted? This seems like an interesting way to get through a rainy Spring when you still want to get the cows out on fresh grass. Although this strategy takes more labor, it can potentially save your fields from damage that is hard to reverse. The key is to have a close eye on the paddock to make sure it is not getting muddy before the 3-hour mark. Dr. French was also sure to point out you need a good laneway to/from the barn!

Another discussion point was about plant species seen in pastures and how they differ between Ireland and Vermont. Ireland is known for having nearly monoculture stands of Perennial Ryegrass, which allows them to graze more frequently and shorter because it is a sod-forming, turf-like grass. Perennial Ryegrass works well in a place like Ireland because the winters are milder and does well in moist conditions. Therefore, Vermont's ever-changing weather makes it hard to keep a good stand. For this reason, our pastures are much more diverse in plant composition. While diversity has many benefits for animals and the soil, it also makes it so that we need to keep a taller, more abundant post-grazing residual because many of those plant species, such as orchardgrass, require that type of management.

An Irish practice that seems to be piquing interest around here lately is seasonal milking. Seasonal milking has many benefits for human and animal health. For example, seasonal milking ensures that all of the cows are getting the highest quality feed (vegetative pasture) while lactating and saves stored feed for when they are dried off in the winter. The farmers also often have more flexibility in their schedules during the winter because they do not need to worry about milking cows! I believe this form of management could be beneficial to the organic farms in Vermont, but some shifts in the US dairy industry would have to change in order for it to become a popular practice. The key to it working in Ireland is their primary dairy products are ones with a longer shelf-life, such as butter and powder. Having the dairy market based on these products gives the farms and cooperatives more flexibility because they can store products and continue shipping them all year, even when the cows are not producing. The farmers are also paid based on their components and not volume.

While Vermont and Irish dairy farming will never look the same, there are many similarities between the systems, and it is great to learn from each other. I am so pleased to have had the opportunity to engage with Dr. French, and I hope the discussion about pasture- based dairy between Vermont and Ireland in the future. I want to thank Jon Winsten, Vermont Grass Farmers Association, and the Champlain Valley Farmer Coalition for putting on this great event.

Photos of cows grazing from my time in Ireland

Upcoming Events

Planning for the Upcoming Cropping Season

CVFC and UVM extension will be hosting a workshop geared towards planning for the 2026 cropping season. Highlights will include talking about spring cover crop termination, ideal planting conditions, and how to plan for an unpredictable season. Stay tuned for dates and times!

2026 No-Till & Cover Crop Conference

UVM Extension and Northeast Cover Crops Council will jointly host the annual 2026 No-Till & Cover Crop Conference, inviting farmers, technical advisers, Ag businesses and agencies, and consultants. Current speaker highlights include Illinois Crop Tech Consultant Ken Ferrie, and Aaron Daigh from the University of Nebraska-Lincoln. Topic highlights include soil compaction, soil health, nutrient management with no-till and cover crops, interseeding, and cover crop seed production.

New this year will include a second afternoon track specific for vegetable farmers. Vegetable farmers should join for the full day as the morning sessions will be relevant for all cover cropping practitioners. The afternoon vegetable track will include sessions on cover crops and equipment on veg farms for cover cropping, interseeding, and reduced tillage.

Thursday, February 19, 2026, 9:00 a.m. – 4:30 p.m. Registration open at 8:00 a.m. $75 per participant and $50 per student.

At DoubleTree by Hilton
870 Williston Road, So. Burlington, VT 05403

Register online today at https://na.eventscloud.com/ereg/index.php?eventid=856952& or call UVM Non-Credit Registration Office at 802-656-8407 to register by phone.

Dairy Sustainability Day

UVM Extension Champlain Valley Crops and Soils team is hosting a Dairy sustainability day. We will be discussing genetic selection strategies for diary herds, precision ag, and much more! We look forward to seeing you there!

March 5, 2026, 9:00 a.m. – 3:30 p.m.

Northeast Dairy Innovation Summit

Join the Northeast Dairy Business Innovation Center at their Dairy Innovation Summit. Hosted by the Northeast Dairy Business Innovation Center (NE-DBIC), the Summit highlights the innovations being made across the dairy sector right now — and how you can apply them to your business.

The 2026 Summit will offer tracks on Dairy Farm Innovation and Modernization, Processing Modernization and Expansion, and Dairy Workforce Development.

From forage and robotics to sensory training and dairy marketing, we'll dig into the systems and factors driving innovation on the farm and in the processing plant.

March 10–11, 2026, Albany, NY

For more information go to:
https://summit.nedairyinnovation.com/

Grain Growers Conference

Join the University of Vermont Extension Northwest Crops and Soils Program and Northern Grain Growers Collaborative (NGGC) for the Annual Grain Growers Conference. Hear presentations from grain growers, bakers, millers, and more, participate in our Baker's Showcase, attend a baking session, hear updated research, and network with others.

Wednesday, March 18, 2026, 9:00 a.m. – 4:30 p.m., with a Networking Social Hour from 4:30 p.m. to 5:30 p.m.

At the Essex Resort & Spa
70 Essex Way, Essex, VT 05452

A full brochure, agenda & registration will be available soon!

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