Cornell Cooperative Extension
North Country Regional Ag Team

Ear to the Ground

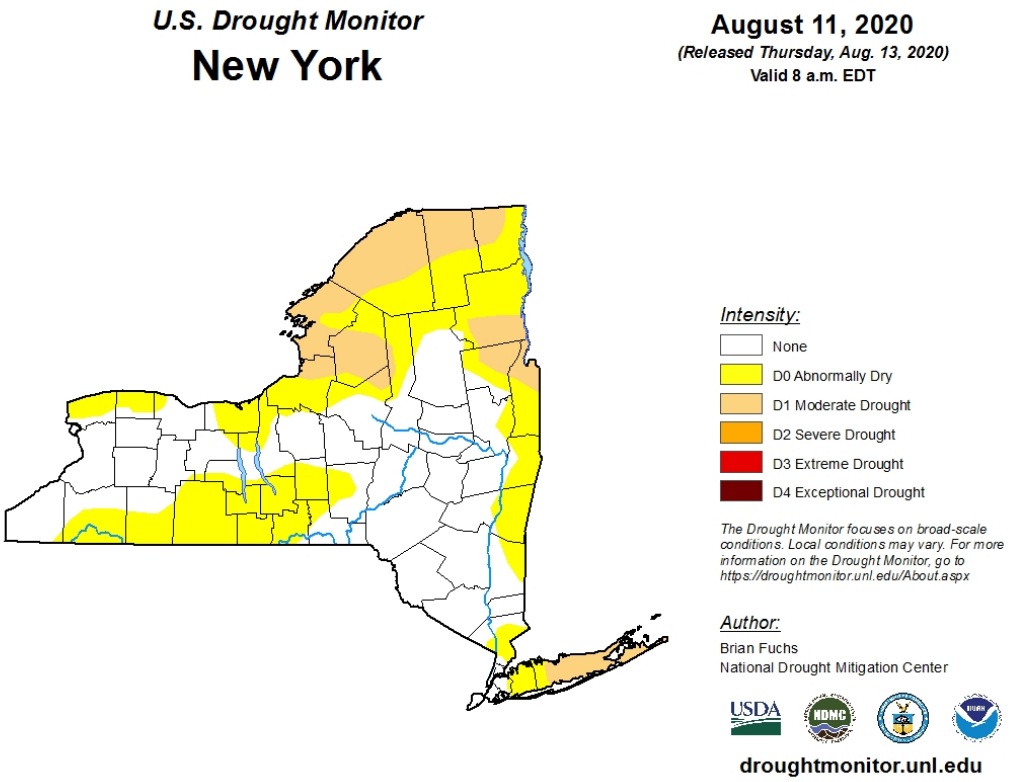
Field Crops, Forages and Soils Updates for NNY ***14 August 2020***

NNY Weather Summary for April 1 through July 31, 2020.

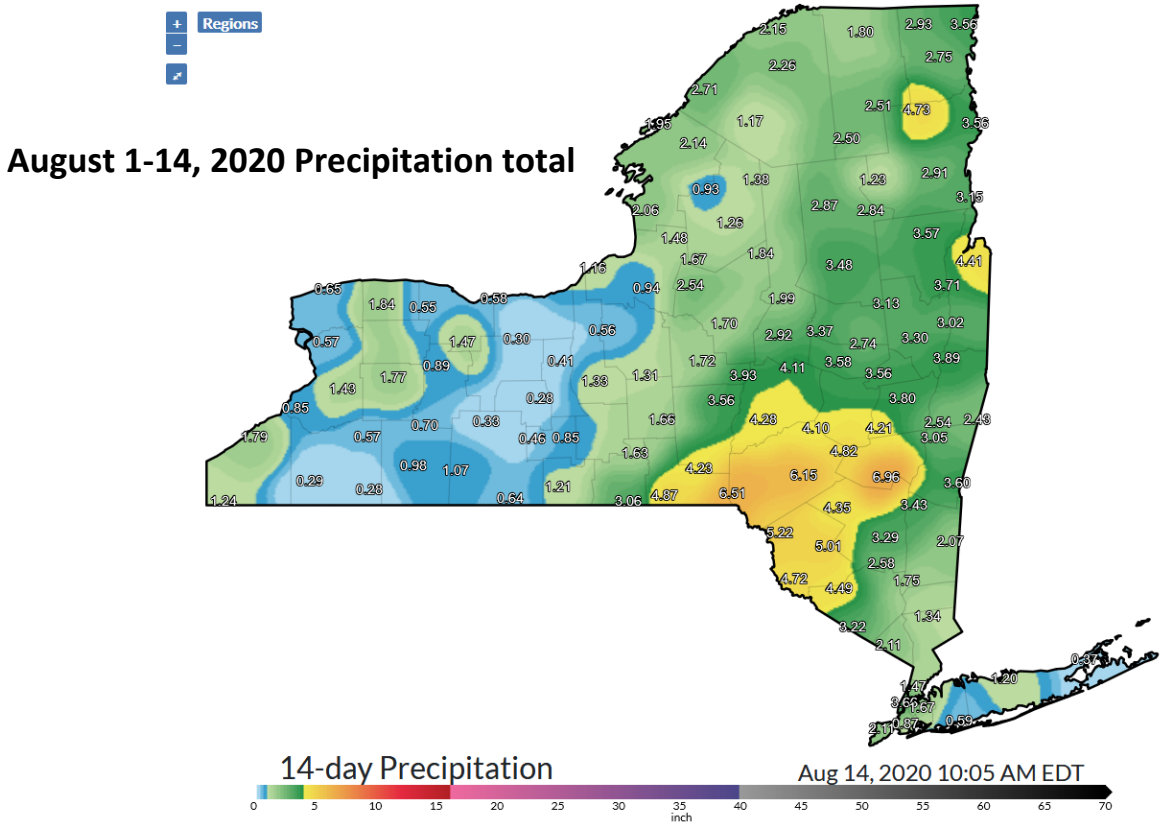
The 2020 growing season in the North Country has been dominated by drought since early May. St. Lawrence and Franklin Counties, with bits of a few other nearby counties, were initially labeled as 'D0 Abnormally Dry' back during the week of May 19, 13 weeks ago. A portion of St. Lawrence and Jefferson Counties were upgraded to a 'D1 Moderate Drought' on June 30 and, as of July 7, the majority of St. Lawrence County was reclassified as a 'D2 Severe Drought.' The most recent 11 August, 2020 NOAA Drought map is below, showing the downgraded D1 rating for St. Lawrence County.

		- - - - - - - Accumulation from April 1 to June 30, 2020 - - - - - - -					
		- - - Precipitation, in - - -			- GDD Base 50F -		GDD Base 40F
County	**Town/Village**	**Total**	**DFN**	**Days**	**Total**	**DFN**	**Total**
Clinton	Champlain	10.30	-6.85	50	1487	124	2414
	Ellenburg Depot	9.22	-6.81	48	1396	165	2274
	Beekmantown	8.33	-7.04	43	1501	116	2418
	Peru	9.58	-4.61	43	1498	120	2410
Essex	Whallonsburg	8.61	-7.51	**41**	1540	138	2466
	Ticonderoga	8.28	-8.78	38	**1561**	96	2507
Franklin	Bombay	9.79	-7.03	**61**	1547	213	2480
	Malone	9.42	-6.72	53	1477	**231**	2375
	Chateaugay	**11.81**	-5.05	**61**	1447	190	2330
Jefferson	Rodman	11.35	-3.84	49	1410	**82**	2282
	Cape Vincent	8.83	-5.07	46	1377	166	2265
	Evans Mills	11.34	-3.97	57	1559	139	2467
	Redwood	7.68	-9.44	49	1553	218	**2478**
	Antwerp	11.39	-3.91	53	1455	164	2352
Lewis	Talcottville	10.93	-4.96	54	**1235**	102	**2087**
	Martinsburg	11.13	**-3.51**	53	1405	127	2296
	Carthage	11.12	-3.94	53	1435	134	2323
St. Lawrence	Gouverneur	8.19	-8.73	58	1380	152	2272
	Hammond	8.08	-8.73	47	1469	**231**	2376
	Ogdensburg	8.61	-7.67	48	1508	201	2432
	Canton	7.02	**-9.98**	53	1499	171	2408
	Madrid	**6.27**	-9.94	48	1476	172	2383
	North Lawrence	7.34	-9.25	58	1503	153	2414
	Louisville	8.04	-9.31	42	1484	189	2401
Average		**9.28**	**-6.78**	**50**	**1467**	**158**	**2371**

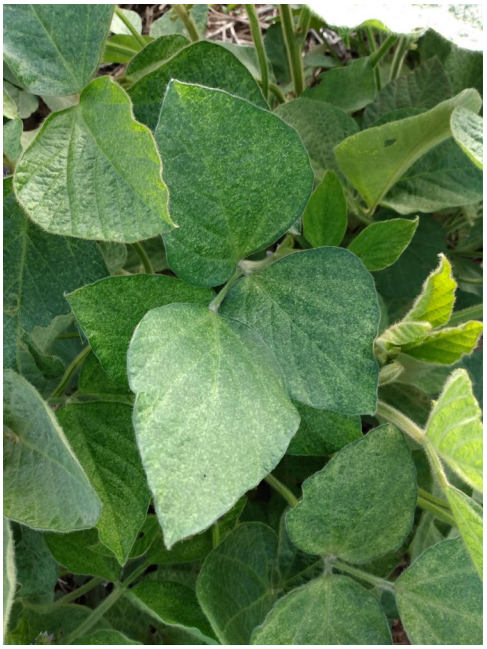
* Precipitation in inches, temperature in Fahrenheit, DFN = difference from 15-year average, Days = days with precipitation. Calculated from ACIS NRCC 2.5-mile gridded datasets. **High** and **low** values within each column are highlighted.



The first 2 weeks of August have brought soil moisture relief to much of the North Country. The NYS MesoNet map below shows precipitation totals for August 1-14 across NYS. Green shaded areas received 2-4" of rain during that short time frame and yellow indicates 4-6". This precipitation will help with ear development in corn and 3rd-4th cutting productivity for alfalfa and alfalfa-grass fields.



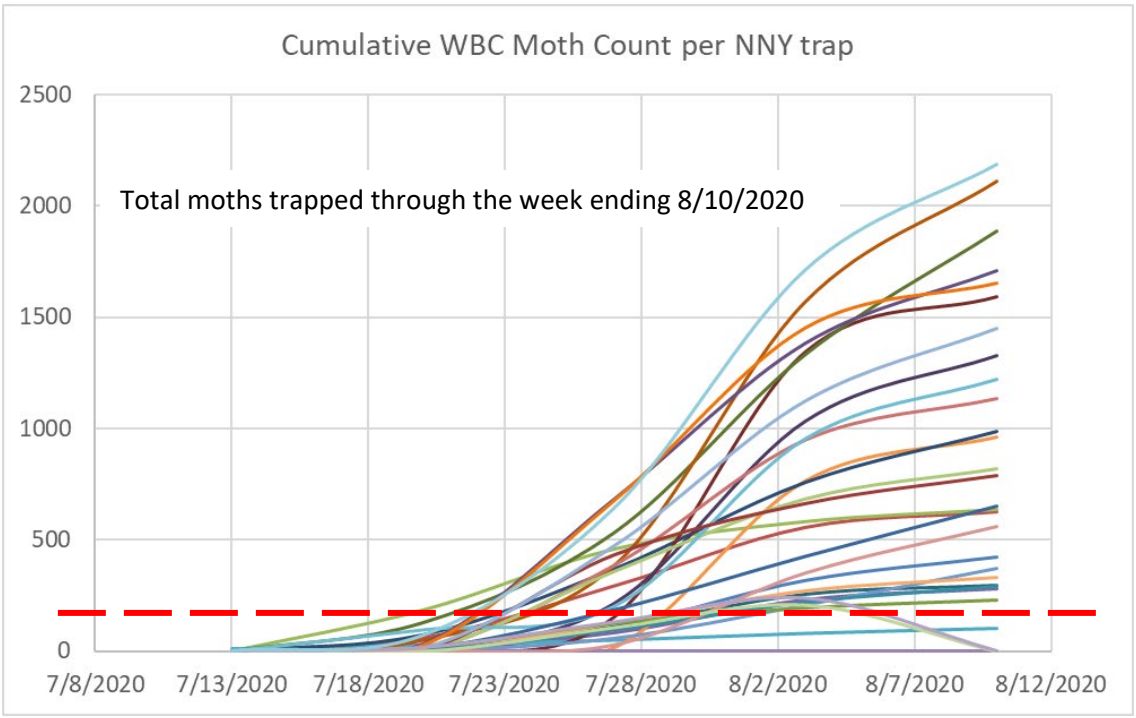
<u>Spider mites have been problematic for some soybean fields this season.</u>



- Two spotted spider mites (TSM) are an occasional pest of soybeans and corn in NNY. There have been a small number of outbreaks of this pest in NY this summer, including in the North Country. TSM are tiny and tough to see without magnification. Very hot, dry weather conditions are favorable for the development of TSM. The infestations will usually start at the edge of the field. The leaf damage will be yellow or white spots referred to as "stippling". For more information, check out this article on the Cornell Field Crops blog from July of this year.
- The picture to the right was taken by Mike Hunter in Lewis County in late July and shows TSM stippling on soybean leaves.

<u>Peak flight for Western Bean Cutworm in NNY is juuust past.</u>

- Collaborators are again trapping and counting WBC moths across NYS. We have installed 29 traps across the 6 NNY counties and have been monitoring moth catches since mid-June. Typically, the last week of July or first week of August is when peak trap catches occur, marking peak flight. This week we are just past peak and NYSIPM's WBC model (link here) predicts we have now seen 88-97% of moth flight activity for this season. The graph below depicts cumulative catches in each of those 29 traps across NNY. Only one field has not crossed the scouting threshold of 100 moths, shown with the dashed line.
- WBC prefers the upper leaves of pre-tasseling corn to lay eggs, so any field that is still at pre-tasseling or tasseling should be scouted thoroughly for WBC egg masses. Those fields will be targeted by emerging and arriving moths.



Armyworm infestations problematic in summer annuals.

- Another pest that we encounter from time to time is armyworm. There have been recent reports of armyworm damage to sudangrass, sorghum-sundangrass and even grass hayfields across NYS. We did have a major infestation of armyworm feeding on sudangrass in Jefferson County this past week. There are several farms that planted sorghum sudangrass, forage sorghum and sudangrass across NNY this season. These are crops that are not typically scouted for insect and diseases. If you have any of these forage crops planted keep a close eye on any leaf feeding from armyworm.
- Armyworm moths are long-range migrants, arriving from the south with spring storms. More than one armyworm generation per season is typical, but the first generation is responsible for most economic losses in NYS. Check fields regularly for ragged holes chewed from the leaf margins (as in the picture to the right, taken by Mike Hunter in Jefferson County earlier this week) and pellet-like droppings (frass) in the whorls and scattered on the ground. The larvae are nocturnal and may be found in the leaf whorls or at the surface of the soil though they are often difficult to find during the day. Some species of parasitic wasps and flies may help control armyworm. If most larvae have small white eggs attached to their sides (also pictured at right), Tachinid flies are helping take care of the problem. Armyworm prefer grasses and will lay eggs in grass hayfields and pastures, corn, small grains and summer annual grasses such as millet, sorghum, sorghum-sudangrass or oats.
- Economic thresholds for treatment decisions are:

  Corn – More than 50% of plants show armyworm feeding, live larvae less than 1.25" long are numerous in the field

  Wheat – 5 or more larvae per linear foot of row, larvae less than 1.25" and not parasitized, watch for flag leaf reduction or if grain heads clipped off – yield losses, a spray before soft dough to save the remaining 3 upper leaves is generally beneficial since these tissues are still important to grain filling

  Grasses – no specific guidelines available need for treatment based on the level of damage and stage of larvae observed in relation to the expected value of grass harvest

Be aware of potential nitrate and prussic acid dangers in heat- and drought-stressed summer annuals.

- Our drought-stressed forages can occasionally present some nitrate toxicity problems for livestock. Plants take up nitrate (NO_3) and convert it to proteins as a normal course of business, but this process can be interrupted when plants are subjected to stress such as lack of moisture or a frost. In those cases, NO_3 can accumulate to levels toxic for animals, especially after N fertilization and especially in lower plant stems. Corn, sorghum, and sudangrass are most likely to accumulate NO_3, followed by oats and small grains, followed lastly by cool season grasses. Forage feeding method influences the degree of risk from nitrate toxicity. Grazing or feeding green-chop are the highest risks while dry hay and silage are lower risk. Silage feeding is the least risk, as significant amounts of nitrates are lost or converted to other compounds during the ensiling process. Toxic NO_3 risk can

be avoided by delaying harvest for at least 7 days after a drought-ending rain event, by raising cutter bars and by testing suspect forages before feeding to animals.

- Prussic acid toxicity is a risk specific to forages in the sorghum family – forage sorghum, sorghum-sudangrass, and sudangrass. Prussic acid is formed by plant tissues in these species in response to heat, drought or frost stress. It is greatest risk in leaves of shorter, younger plants. Waiting until the crop is taller than 18" reduces risk as does waiting 14 days after a frost to graze or harvest these plants at any height. Dry hay will have lower prussic acid as it dissipates with drying – faster when crimped or conditioned.
- Pearl and Japanese millets do not have prussic acid risk.

Keep an eye out for resistant marestail - and let us know if you find it.

- Glyphosate resistant marestail continues to spread across NNY. Marestail is a winter or summer annual weed that reproduces by seeds. Seeds can germinate in the spring or late summer. Those seeds that germinate in late summer will overwinter as a small rosette of leaves and grow a flowering stem in the early spring. To successfully manage marestail in no till cropping systems it is important to implement control tactics in both the fall and spring. Instead of using just glyphosate as the fall burndown program, we should consider including either 2,4-D ester, dicamba or Sharpen herbicide to the tank mix. Using just glyphosate alone is not good a good resistance management practice.

Marestail rosettes August 14, 2020 in winter wheat stubble in Jefferson County, NY. Photo by M. Hunter.

Additional resources:

1. Cornell Cooperative Extension's North Country Regional Ag Team Web Resources
2. New York Integrated Pest Management (NYSIPM) Web Resources
3. Weekly Crop Progress & Condition Report. 2019. New York USDA-NASS.
4. Northeast Regional Climate Center
5. NYS Mesonet

For more information about field crop and soil management, contact your local Cornell Cooperative Extension office or your CCE Regional Field Crops and Soils Specialists, Mike Hunter and Kitty O'Neil.

Kitty O'Neil
CCE Canton Office
(315) 854-1218
kitty.oneil@cornell.edu

Mike Hunter
CCE Watertown Office
(315) 788-8450
meh27@cornell.edu

Our Mission

"The North Country Regional Ag Team aims to improve the productivity and viability of agricultural industries, people and communities in Jefferson, Lewis, St. Lawrence, Franklin, Clinton and Essex Counties by promoting productive, safe, economically and environmentally sustainable management practices and by providing assistance to industry, government, and other agencies in evaluating the impact of public policies affecting the industry."