

# Checking the Back Forty



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## Soil Temperatures and Corn Planting

Corn planting is potentially 5-10 days away in parts of the team's 8 counties. As we approach the end of April and the beginning of May, when to plant becomes more about your local soil conditions and less about the calendar date. The critical soil temperature for corn seed is 50° F.

I have an example from the spring of 2018. The pictures at right were taken Wednesday, May 2, 2018 at 3:30 pm in a field at an elevation of 1230 feet. The field was a long term notill corn field that had been combined the year before. The soils in the field are Cazenovia and Honeoye so they are well drained. The weekend before there had been 3-5 inches of snow on the ground but overall soil moisture was tending toward the dry side.

Note the soil temperature in the top picture where there was no residue was 76° F. In the bottom picture with full residue, the soil temp was 61° F and more than warm enough to be planting, even notill. Don't assume because of a calendar date and residue it is too early to plant; know your conditions. This is all about timely planting not early planting and taking advantage of the growing season as best you can.

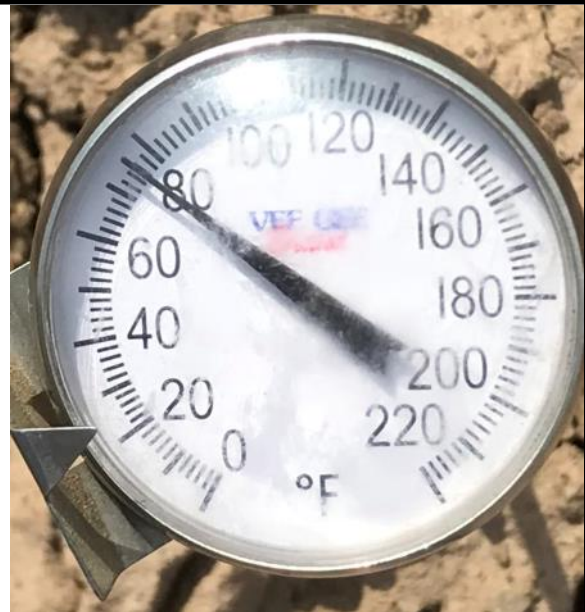
A key here is that the soil temps 48 hours after planting remain around 50° F. Corn seed imbibes or takes in water immediately after planting. Imbibitional chilling can occur when corn takes in 30-40° F water leading to poor germination and poor seedling growth. So if there is an obvious cold front with rain and snow coming it might be best to back off. Otherwise take advantage of every planting window you can get to put seed in the ground.

### Reference:

*University of Nebraska-Lincoln, Institute of Agriculture and Natural Resources, CropWatch, April 12, 2018*

*Cold Soil Temperature and Corn Planting Windows*

<https://cropwatch.unl.edu/2018/cold-soil-temperature-and-corn-planting-windows>



Soil temp May 2, 2018 in bare ground, 76° F.



Soil temp May 2, 2018 in corn residue, 61° F

## Report Seedcorn Maggot and Wireworm Damage: We Need Your Input

Jaime Cummings, Field Crops and Livestock IPM Coordinator  
New York State Integrated Pest Management, Cornell University

Given the recent controversy surrounding the proposed legislative bans on some pesticides in NY, Cornell researchers and extension specialists are working to provide necessary data on the efficacy, usefulness and perceived need for these products in our agricultural systems. To do this, we need your help with identifying, documenting and quantifying losses to early season pests, such as seedcorn maggot and wireworm in your corn and soybean fields.

A collaborative effort between the NYS Integrated Pest Management program and Cornell Cooperative Extension field crop specialists will begin in 2020 with the goal of monitoring for and documenting losses to pests that the neonic seed treatments are intended to protect against. Given the sporadic distribution of damage caused by seedcorn maggot and wireworm, it can be challenging to quantify losses to these pests in research plots alone. Therefore, we need assistance from farmers, crop consultants, agribusiness associates, and crop insurance claim adjusters to report fields with damage from these pests across NY State.

Your valuable input would require nothing more than a phone call or email to your local field crops extension specialist to report the specific location of damage soon after planting, while pests are still active and can be confirmed (by V2 stage). The extension specialist will then visit the field to confirm pest activity, and may conduct plant stand counts to estimate potential yield losses. Location and farm identity will remain anonymous, as we are only interested in quantifying losses across NYS, not where they occur.

Claims on the value (or lack thereof) of these insecticide seed treatments in NY field crop production cannot be validated or quantified without this sort of data, and we can't obtain this statewide data without your assistance. Therefore, whether you grow corn for silage or grain (or even sweet corn), soybean or dry beans, conventionally or organically, we need to hear from you! Give a call, text or email.

### Is it seed corn maggot or wireworm... Or something else?

Even in this time of social distancing give a call and I will be happy to help you determine for sure what your crop issues are. We can work out a field visit if needed.

Missing plants in the spring can be one of a number of problems. So if you see plants missing time to start digging around to find out what is wrong.

A key to confirming these insects as the reason for the missing plants is seeing the maggots or the wireworm feeding in the seed as seen in the pictures at right.

Another difference is that the flies of seed corn maggot lay eggs on decaying organic matter like manure or cover crops. Wireworms are typically found after old grass sods and more likely to be seen in first year corn after a killed or plowed sod.

Feeding Seed Corn Maggots



Photo by J. Cummings

Feeding Wireworm



Photo by J. Obermeyer

## First look at herbicide resistant weeds: Marestail (Horseweed)

There is much to be done in the spring but one thing to keep an eye out for what is a growing list of herbicide resistant weeds. One of which is marestail or horseweed. Marestail in NY and through out the country is known to be resistant to glyphosate (Group 9) and ALS inhibitors (Group 2) and there is concern over Groups 5 (photosystem II inhibitors, like triazine) resistance.

Marestail can have a winter or a summer annual life cycle so one of the reasons to be looking now is that you may pickup on those in a winter annual cycle.

Leaves have toothed edges and as the plant bolts or sends up a flower stalk the leaves have no petioles. Identification can be crucial if you are looking to plant soybeans this coming year because starting fields clean is a must for control. If you have questions on identifying or you believe you have a population of herbicide resistant marestail I encourage you to get in touch with me. Beginning in 2020, a screening effort by Dr. Lynn Sosnoskie, Weed Ecology and Management for Specialty Crops, School of Integrative Plant Science at Cornell University, to describe the distribution of herbicide resistance in the state will be begin and important you know what herbicide resistance your dealing with. An effort will be made to get her seed from suspect plants.

For more info on identifying marestail and other herbicide resistant weeds and Dr Sosnoskie's screening work:

<https://blogs.cornell.edu/weedid/field-crops/horseweed>

<https://blogs.cornell.edu/weedid>

<http://blogs.cornell.edu/whatscroppingup/2020/03/23/statewide-herbicide-resistance-screening-to-start-in-2020-help-us-to-help-you/> to find out more.



Horseweed rosette, from:

Cornell Weed Identification, Agricultural Weed ID for New York State  
<https://blogs.cornell.edu/weedid/field-crops/horseweed/>

## Burndown herbicide options in no till soybeans

*Mike Hunter, North Country Regional Ag Team, Cornell Cooperative Extension*

Glyphosate resistant and multiple resistant (Group 9 and Group 2) marestail is spreading across New York State and may already be on your farm. If you don't have it on your farm today the chances are you will at some point in the future. The presence of herbicide resistant marestail, tall waterhemp and palmer amaranth in New York is changing the way we manage weeds. We need to use burndown herbicide programs with more than one effective site of action to delay the development of resistant weeds and provide the best control. The use of glyphosate alone should no longer be considered a viable burndown herbicide program.

In no-till, strip-till and very minimum till (i.e. one pass with a vertical tillage tool) situations burndown herbicides will be necessary to control emerged weeds prior to planting. Marestail can be either a summer annual or winter annual. The winter annual marestail rosettes are present right now and as it warms up these will begin to bolt and grow tall quickly. Once resistant marestail gets any taller than 6 inches it becomes very difficult to control.

Xtend, Enlist and Liberty Link traited soybeans are the choices that allow for effective postemergence control of multiple resistant marestail. In Roundup Ready or conventional soybean fields we have no effective herbicides for the postemergent control of multiple resistant marestail.

Burndown herbicide programs for no till soybeans will include either glyphosate, glufosinate or paraquat tank mixed with 2,4-D and/or Sharpen (saflufenacil). The addition of metribuzin or Valor SX (flumioxazin) or both to the burndown program will provide residual control of marestail.

If dandelions are also a problem in the field, consider using one of the listed programs that include 2,4-D ester. Don't substitute 2,4-D amine formulations for the ester formulation. Apply 1 pint per acre of 2,4-D ester (4 lb gal formulations) to keep the preplant interval to 7 days, rates higher than that will lengthen the planting interval.

If using a burndown option that includes Sharpen, apply 1 oz/acre for no preplant restrictions (except for coarse soils with 2% or less organic matter where the preplant restriction is 30 days). If Sharpen (used at 1 oz/ac) is included in the burndown program and tank mixed with a flumioxazin product the preplant restrictions will be a minimum of 14 days in no till (except for coarse soils with 2% or less organic matter where the preplant restriction is 30 days) and 30 days in conventional till regardless of the soil texture and organic matter.

Here are choices that include more than one effective site of action for the control of resistant marestail in soybeans:

- Sharpen (1 oz) + glyphosate + metribuzin
- 2,4-D ester (1 pint) + glyphosate + metribuzin (7 days prior to planting)
- Can include a flumioxazin product (Valor SX, Valor XLT, Envive, Surveil)
- Or a premix containing metribuzin + flumioxazin (Trivence WDG or Panther Pro)
- 2,4-D ester (1 pint) + Sharpen (1 oz) + glyphosate + metribuzin (7 days prior to planting)
- Sharpen (1 oz) + glufosinate (Liberty)
- Sharpen (1 oz) + glufosinate + metribuzin
- 2,4-D ester (1 pint) + Sharpen (1 oz) + glufosinate + metribuzin (7 days prior to planting)
- paraquat (Gramoxone) + metribuzin
- 2,4-D ester (1 pint) + paraquat (Gramoxone) + metribuzin (7 days prior to planting)
- Sharpen (1 oz) + glyphosate + dicamba (must use one of these: XtendiMax, Engenia, FeXapan, Tavium (dicamba + s-metolachlor)) In Roundup Ready 2 Xtend (dicamba tolerant) soybeans only
- Sharpen (1oz) + Enlist One + glyphosate (or Enlist Duo (2,4-D choline + glyphosate)) In Enlist soybeans only

Here are choices that include only one effective site of action for the control of resistant marestail in soybean:

- 2,4-D ester (1 pint) + glyphosate (7 days prior to planting)
- Sharpen (1 oz) + glyphosate
- glyphosate + dicamba (must use one of these: XtendiMax, Engenia, FeXapan, Tavium (dicamba + s-metolachlor)). In Roundup Ready 2 Xtend (dicamba tolerant) soybeans only.
- Enlist One + glyphosate or Enlist Duo. In Enlist soybeans only.

Resistant tall waterhemp has been found in 12 counties in NYS. If resistant tall waterhemp is present on your farm the herbicide program will be slightly different from a multiple resistant marestail program. It is highly unlikely that a one pass, preemergence herbicide application will provide adequate control of resistant tall waterhemp in soybeans. It will require a two pass (Pre and Post) herbicide program to provide season long control to minimize the spread of seed.

If Roundup Ready or conventional soybeans are planted, make a preemergence application of a Group 15 herbicide (Dual II Magnum, Warrant, Outlook, EverpreX) + metribuzin and consider including flumioxazin in this tank mix as well. The postemergence herbicide choices will be limited to Reflex, Flexstar, Flexstar GT (if RR soybeans), Prefix (Dual Magnum + Reflex) or Warrant Ultra (Warrant + Reflex). If necessary, a late postemergence rescue treatment of Cobra can be used.

If Xtend, Enlist or Liberty Link traited soybeans are planted, make a preemergence application of a Group 15 herbicide (Dual II Magnum, Warrant, Outlook, EverpreX) + metribuzin and consider including flumioxazin in this tank mix as well. In Roundup Ready 2 Xtend (dicamba tolerant) soybeans apply a postemergence application of XtendiMax, Engenia, FeXapan, Tavium.

If Enlist soybeans are planted, apply Enlist or Enlist Duo.

If Liberty Link soybeans are planted apply Liberty.

Always read and follow label directions prior to using any herbicide.