Cornell Cooperative Extension | Cornell Vegetable Program

VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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Recognizing and Preventing Rhizoctonia in Transplants

Elizabeth Buck, Cornell Cooperative Extension, Cornell Vegetable Program

Rhizoctonia (Rye-zock-tone-yuh) is a common soil-borne fungal disease that likes wet and warm conditions. Rhizoctonia attacks the crown area of many broadleaf vegetables including cabbage and cole crops, lettuce, cucurbits, tomatoes, peppers, and eggplants. It typically starts in late transplant and early field production – around hardening off or within a few weeks of transplanting. Occasionally symptoms can start in the greenhouse.

How do Rhizoctonia infections get started?

Introducing rhizoctonia (and/or pythium, if the weather is cool) is a major concern during hardening off. This is why **you should ALWAYS keep your transplants up off the ground**. Aim for keeping them at least 1.5-2" off the soil. Clean flower flats flipped upside down can get the job done.

Rhizoctonia can also attack plants in the field, especially if there is a history of the disease and **the weather is favorable for disease development (warm and wet)**. Transplanting causes root damage and can scuff stems which creates opportunities for rhizoctonia to get started. Field-acquired cases are usually detected as struggling or low vigor plants within a couple weeks of planting. Late detections in crops near maturity are less common.

Whole transplant that is surviving rhizoctonia infection but is stunted. Note the mostly healthy looking root tissue that distinguishes rhizoctonia from root-destroying pythium. *Photo: E. Buck, CCE*

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About VegEdge

VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program team, and Cornell University.

We're interested in your comments. Contact us at:
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The next issue of VegEdge will be produced on May 28, 2025.

Video Series: Laser Scarecrows to Deter Birds in Sweet Corn

Laser scarecrows are a tool to aid in the management of birds in agricultural crops. If you are considering the use of a laser scarecrow on your farm, this 7-part series integrates a grower perspective with background and tips from research conducted by Cornell Cooperative Extension. See the videos on the Cornell Vegetable Program's YouTube channel: youtube.com/user/ccecvp

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Rhizoctonia Symptoms Common to Many Crops

1. The crown of the plant is the most impacted part.
2. Stems are narrower, girdled (wirestem), discolored, or slightly cracked/corky near the soil line.
3. Plants lose vigor and get floppy or break off.
4. Roots are decently healthy but may lack fine root hairs or have yellowish lesions.
5. The plant tries to grow replacement roots above the diseased stem (especially tomato and pepper).
6. Lower leaves may have lesions on main stem, wilt and collapse, or start dying back.
7. Older transplants are impacted after having few/no issues as seedlings. Field sown cucurbits may not show symptoms until closer to vine run.

Rhizoctonia infected transplant showing yellow-brown and corky, cracked girdling at the soil line. Note presence of adventitious "rescue" roots that grew from stem above the girdle at left. Lowest leaves are wilting and dying before getting secondary infections of fuzzy-sporulating botrytis gray mold (right of stem). *Photo: E. Buck, CCE*

Rhizoctonia can cause plants to rot and snap off near the soil line, like this lettuce transplant. It is still barely surviving thanks to an adventitious root but it will never yield well. *Photo: E. Buck, CCE*

Look-alikes

Even though rhizoctonia is a fungus, you'll rarely see any mold caused by the rhizoctonia. You may see **secondary, opportunistic infections of slimy bacteria or brown-gray, fuzzy botrytis mold**. These secondaries are taking advantage of the weak and dying tissue to get an easy meal. Because the secondary infections produce more obvious funk, it is easy to mis-diagnose a rhizoctonia problem as a botrytis or bacterial issue.

The other common misdiagnosis is damping off caused by pythium. **Pythium is much more of a root rot than rhizoctonia.** Pythium infected plants will have a weak, darkened root system. The roots will often fall apart and you can usually pull the outside off infected roots. Pythium damping off tends to hit young seedlings and acts fast. Pythium infected seedlings can completely collapse in a few days. Rhizoctonia is slower and takes a couple weeks from first onset to plant death. This is why it is usually detected in older transplants.

What increases risk?

The **top two risk factors are a field history +/- wet, warm soil and putting transplants on the ground**. For transplants, **rough handling, overly abrasive or rocky soils, rubbing against plastic, and top-packing** all elevate rhizoctonia risk. Always avoid rough handling. Top-packing plastic mulch holes is a good practice on windy farms and can save a lot of transplants from heat and friction deaths. **If you top-pack and have a rhizoctonia history, consider applying a rhizoctonia-effective fungicide around transplanting.** Azoxystrobin (Quadris and generics) is effective but not all crops, application methods (ie drench) or settings (ie cold frame, greenhouse) are labeled. Other options exist for certain crop-application method-application setting combinations. Reach out to your local Extension Specialist or check the Cornell Veg Guidelines for more info.

Prevention Steps

The beneficial fungus *Trichoderma* can help prevent rhizoctonia infections. **It must be applied before rhizoctonia infections begin** – there will be little benefit to plants that are already infected. *Trichoderma* colonizes roots and prevents rhizoctonia from easily gaining a foothold on your transplants. It is a **solid, well-tested tool for reducing risk in low-moderate disease pressure situations**. *Trichoderma* can't provide 100% protection and will need additional help in high-risk situations like wet, warm fields with histories of rhizoctonia, rhizoctonia infected cold frames, flats on the ground, or active outbreaks.

There are several organic and conventional products containing *Trichoderma harzianum*. Some products may also contain *Trichoderma virens*. Rootshield is one example product. **Importantly, these are often live fungal products!** Read the label carefully or talk to the dealer about compatibility with tank mixes, tank clean out steps before use, and which fungicides you shouldn't use in combination with *Trichoderma*.

Other prevention steps include:

- Use clean flats for transplant production and sanitize greenhouse spaces
- Don't use field soil in your potting mix. Keep potting mix off the ground.
- Don't overwater
- Keep transplants off the ground
- In greenhouse outbreaks, physically separate infected flats and their neighbors from healthy flats by a few feet. Greenhouse infections spread tray-to-tray.

CROP Insights

Observations from the Field and Research-Based Recommendations

ASPARAGUS

The crop has slowed down and we're enjoying better tip hold with the cooler conditions. Asparagus beetle adult activity has dropped with the cooler temps but don't be fooled into thinking that they've disappeared. Feeding and egg laying continues. If you suffered appreciable frost damage, drop any unmarketable spears at your next harvest. – EB

BEETS

Field grown beets have emerged well and put on new leaves this past week. Weed control with Dual and Nortron pre-emergence is excellent where activated by the rain (depending on the timing). Velvetleaf seedlings are present in some fields. Post-emergence herbicides in beets must be applied when weeds are tiny. – JK

COLE CROPS

Imported cabbageworm (ICW) has emerged, we are seeing the familiar white butterflies with one or two black spots have started fluttering during the day in early cole crop plantings. ICW eggs are yellow, bullet shaped, and stand upright on leaves (Fig. 1). Eggs can be seen with a naked eye, upon closer examination with a 10x hand lens, you can see lines running lengthwise. Some caterpillar feeding damage is present in warmer areas. – LK

NOTE: Cornell recommendations for cabbage maggot have not changed since last year – see 2024 cabbage maggot info and insecticide "Cheat Sheet" on CVP website: https://cvp.cce.cornell.edu/crop.php?id=8. – CH

Figure 1. Imported cabbageworm egg on underside of collards leaf. *Photo: L. Koenick, CCE*

GARLIC

A lot of garlic looks like it got off to a nice start this year. The last round of soggy, cool weather caused many plantings to develop yellow tips from the stress. This second round of moisture and cool may do the same. Yellow tips caused by temporary stress aren't overly concerning by themselves. They can be more concerning if they start to develop Stemphylium infections. Stemphylium will cause dark brown and blackening of the tips and can become aggressive enough to cause further dieback under favorable conditions. It is not as big a problem in garlic as it is in onion. Still, an infection in garlic nearby an onion planting is certainly an appreciable risk for the onion crop. – EB

LETTUCE AND GREENS

Seeing some very nice lettuce and greens coming out of tunnels. The earliest field produced heads of lettuce raised on early well drained soils are nearing maturity and have remained clean and beautiful. Slug risk is higher on wetter ground, so expect some damage over the coming week in fields with historic slug challenges. – EB

ONIONS

Rain and saturated soil conditions this past week caused some growers to not get all their direct seeded onion acreage planted. It is getting late to replant. A couple of years ago I had a research trial in a field of Safrane variety (105 days to maturity) that was replanted on May 22 which were undersized and stiff-necked (although I got some great research results from my thrips trial). Would a longer-days-to maturity variety have done better? Planting/re-planting late is a risk and a tough decision to make. Conditions are certainly wetter and colder than we have had this time of year in a while. Direct seeded onions range from not emerged to almost 2-leaf with a lot of the crop in various stages of flag leaf (first leaf just starting to grow, flag leaf same size as flag, first leaf fully extended with flag leaf intact, first leaf fully extended with flag leaf dying = 1-leaf). The improved plant vigor is undeniable in direct seeded fields that are being weeded with laser weeders in Elba where total rates of pre-emergent herbicides have been reduced. Earliest transplants are in 6-leaf stage. In some fields, there are lots of weed escapes, in some cases due to missed or poorly timed applications of preemergence herbicides (due to weather) and in other cases "just because". See Figures 2 and 3 (next page) for summary of research results for controlling weed escapes in small onions. Note, that both weeds and onions will be more sensitive to herbicide injury following this 3-4 day rain event, and herbicide rates may need to be reduced (e.g. Goal 2XL 0.25 fl oz/A down from 0.5 fl oz/A).

Mark your calendars:

June 3: Muck Donut Hour Begins, 8:30 AM every Tuesday morning, at the corner of Transit Rd. and Spoilbank Rd. in the Elba Muck. All are welcome to join this 25+ year tradition of onion discussion.

June 26: Annual Muck Onion Twilight Meeting in Oswego, hosted by John Dunsmoor Farm at Lake Elizabeth. Registration begins at 4 pm, dinner at 7 pm with a whole lot of education in between. This is the onion meeting of the year!

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Controlling Weed Escapes in Small Onions: It's About "Holding 'Em Back" so we can "Knock 'Em Down" Later

Figure 2. Onions have a flag leaf and the first leaf is starting to come. A volunteer potato is 2 inch and pigweed (PW) escapes are cotyledon to 0.5 inch in size. This field is ready for barley-kill herbicide. In research trials, addition of Goal 2XL 0.5 fl oz/A to Fusilade/Select EC (barley-kill herbicide) + crop oil/nonionic surfactant + Prowl EC +/- Outlook would burn back the volunteer potato and either severely injure or kill the PW escapes. The Goal 2XL could burn back some of the flag leaf, which is why it is important for the 1st leaf to be coming, to ensure the onion seedling recovers. When the Goal 2XL is left out, the volunteer potato would be 4-6 inch and the PW would be 1-2 inch when onions are at 1.5 leaf stage and the weeds would be much harder to control. Generally, the addition of Goal 2XL 0.5 fl oz to barley-kill application will kill or burn back most weed species. *Photo: C. Hoepting, CCE*

Figure 3. Onions in 1-leaf stage with flag leaf intact and second leaf just starting to come. Ragweed (RW) escapes are 1-2 inch, pigweed (PW) escapes are 0.5 to 1 inch, yellow nutsedge (YNS) escapes are 1 inch and bindweed (BW) escape is 1-2 inch. In research trials, Goaltender 2 fl oz/A would cause enough necrosis injury to all these and most other broadleaf weed escapes that would at least "hold" them to 2 inch or less until onions reached 2.5 leaf stage when higher rates of post emergent herbicides may be applied. Goaltender 1 fl oz/A + Chateau 1 oz/A would do a better job of burning up the YNS escapes and may kill some of the PW. Chateau 2 oz/A would severely injure or kill the PW and YNS and may cause some necrosis on the BW, but it would miss the RW and Lamb's quarters (if it was there). Chateau is also very effective on marsh yellowcress escapes up to 1 inch. *Photo: C. Hoepting, CCE*

PEAS

Several nodes of new growth were put on this week. Planting of the processing crop continues. Annual weed seedlings are popping up in some earlier planted fields and post-emergence herbicide applications have begun. The best opportunity for control is when the weeds are small. Scout fields for weeds and plan herbicide applications based on weed species present and crop growth stage. Basagran and Thistrol don't have any soil residual, so the best time to spray is when the majority of weeds have emerged. Ideally, the first flush of weeds would have one or two leaves and the next flush would be in the cotyledon stage. Keep in mind that rain will stimulate new flushes of weeds. If you have nightshades, pigweed or mustard in your field, a better choice may be Beyond Xtra or Pursuit. Basagran will only control hairy nightshade, whereas Beyond Xtra and Pursuit will control both hairy and eastern black nightshade. Poast, Assure II/Targa and Select Max all provide good to excellent control of the most prevalent annual grasses in NY. If you have Canada thistle in your fields, you may either hand-pull if there are small patches or apply a spray of Thistrol when the thistle is 4 to 10 inches tall. Use a rate of 3 to 4 pints/acre. This will prevent the thistle from forming flower buds that can contaminate the pea product but will not kill the thistle. Remember that Thistrol cannot be applied to peas that are later than 3 nodes before flowering. In early peas, those at nodes 9-11, the timing of this poste-mergence application is critical. Late applications in early peas cause nonuniform flowering, resulting in uneven maturity. Canada thistle management is best done in rotational crops or in the fall. – JK

SQUASH

Early field squash under plastic is looking good in their temporary mini greenhouses.

SWEET CORN

Several calls worried about the cool night temps. The growing point of sweet corn is below ground and protected from frost until the corn has 4-5 leaves. Corn at V4 and younger can look rough after a touch of frost (not killing frost) but will recover and produce on a delayed schedule. Corn at V5 and older should be inspected a day or two after frost damage by sampling a few plants. Split them open vertically and look for healthy or damaged tissue at the center of the plant near or just above the soil line. If you're finding damage, sample at least 20 plants across the field for small plantings or 50 for larger fields to get an idea of what percent have damaged meristems and won't produce for you.

Seed corn maggot continues to be the #1 problem for sweet corn. Not much to be done once they are in your field. Seed corn maggot problems can usually be avoided by not applying manure or incorporating weeds or cover crop residue for 3 weeks before planting. Adults are active in early spring and are highly attracted to decaying organic matter. No reports received yet of corn borer damage. – EB

Timing Matters: The Impacts of Early Postemergence Herbicide Applications on Snap Bean Injury and Yield

Lynn Sosnoskie, Cornell AgriTech, Mark VanGessel, University of Delaware, Dwight Lingenfelter, Penn State University, and Thierry Besançon, Rutgers University

Why Timing Matters

Growing snap beans successfully means keeping weeds under control. Weeds compete with your crop for water, nutrients, and sunlight, reducing yields. They can also:

- Make harvest operations more difficult
- Contaminate harvested beans with berries or stems
- Increase processing costs

Postemergence herbicides (those applied after weeds emerge from the soil) work best on small plants (ideally, no more than 1-3 inches in height), but timing is critical to avoid harming the snap bean crop. For our most used foliar products (i.e., Basagran, Reflex, Varisto), label guidelines state that applications should be made after the first trifoliate leaf is fully expanded.

The Challenge for Growers

However, under drought or other difficult weather conditions, snap bean emergence may be unequal. Or snap bean growth may be slow while weeds quickly become established. What is the injury potential (and subsequent yield loss) if some crop plants in the field are smaller than recommended when herbicide applications are made?

What Research Shows

Recent field studies in New York (Cornell), Pennsylvania (Penn State), and Delaware (University of Delaware) tested four common herbicide treatments applied at labeled rates at three different snap bean growth stages:

Herbicides tested:

- Bentazon (as Basagran at 1.5 pt/A)
- Fomesafen (as Reflex at 0.75 pt/A)
- Bentazon + Fomesafen
- Bentazon + Imazamox (as Raptor at 4 oz/A)

Growth stages:

1. **Cotyledon stage** (seed leaves)
2. **Unifoliate stage** (first true leaf)
3. **First trifoliate stage** (first compound leaf with three leaflets)

A weed-free (i.e., hand weeded) check was also included at each research site for comparison.

Postemergence herbicide timing trials in snap beans at Cornell's AgriTech campus in Geneva, NY. The more damaged spots represent applications that were made at the cotyledon or unifoliate stages of development. *Photo: L. Sosnoskie, Cornell*

Key Findings

All herbicides caused some injury to snap beans (i.e., leaf bronzing, chlorosis, or stunting), although the degree of injury was affected by the timing of the application, the chemical used, and the weather conditions at each trial site.

Crop Injury in Response to Timing

- When averaged across sites (i.e., PA, DE, NY) and herbicide active ingredients (i.e., bentazon, fomesafen, and bentazon plus fomesafen or imazamox):
  - Applications at the **trifoliate stage (label required timing)** caused the least amount of injury (14%).
  - Applications at cotyledon and unifoliate stages caused significantly more damage (approximately 24%).

Yield Results in Response to Timing

- When averaged across sites and herbicides:
  - Beans treated at the **trifoliate stage (label required timing)** saw only a 10% yield reduction compared to the weed-free control.
  - Beans treated at the cotyledon stage saw approximately 22% yield reduction compared to the weed-free control.

Averaged across locations and timings, bentazon applied by itself was the least injurious herbicide tested (0-12% damage). However, bentazon by itself has a limited spectrum of weed control. The use of bentazon plus fomesafen or imazamox can target more weed species, but more crop injury (up to 34%) was observed in our trials, especially when the applications were made

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to snap beans at the cotyledon and unifoliate growth stages. New York saw significant injury (up to 70% with some treatments) because heavy rains and wet soils severely impacted crop growth.

Recommendations for Growers

1. **The label is the law** – Snap bean postemergence herbicide labels require product application after the first trifoliate leaf expands; our data also demonstrates that the least amount of crop injury occurs when herbicides are applied according to label guidelines.
2. **Choose herbicides carefully** – Some options may cause less crop injury than others. Bentazon, applied alone, caused the least amount of injury.
3. **Consider your weed spectrum** – However, be sure to match your herbicide selection to the weeds present in your field; poor weed control could negate crop safety gains.
4. **Understand weather impacts on crop safety** – Weather conditions that negatively impact crop growth and development may enhance crop injury responses or prevent crop recovery. Plants that are set back because of drought or too much rainfall may have a more difficult time growing out of damage caused by herbicides.
5. **Promote uniform emergence** – Through good seedbed preparation and consistent planting depth; avoid the potential for crop injury by ensuring your stand is evenly developed and vigorously growing when herbicide applications are needed. ●

2025 Vegetable Pesticide Updates

Christy Hoepting, Cornell Cooperative Extension, Cornell Vegetable Program

Changes in pesticide registrations occur constantly and human errors are possible. Read the label before applying any pesticide. No endorsement of companies is made or implied. Information was last updated on May 21, 2025. Updates after this date may be posted in future issues of VegEdge.

NOTE: Only uses that pertain to vegetables are included in this update. Several labels also include uses in fruit and field crops.

Federally/NYS Restricted Use status means that the pesticide is only permitted to be purchased, possessed, used, or applied by a certified pesticide applicator.

OMRI-Listed: Product has been reviewed and determined by the Organic Materials Review Institute (OMRI) to be compliant with USDA National Organic Program (NOP) regulations or Canadian Organic Regime (COR) standards for use in certified organic production, handling, and processing.

FRAC: Fungicide Resistance Action Committee
IRAC: Insecticide Resistance Action Committee
WSSA: Weed Science Society of America
Fungicide, insecticide and herbicide products belonging to different FRAC, IRAC and WSSA groups, respectively, have different modes of action. Rotation among these groups is recommended for resistance management.

Vegetable crop groups:

Bulb vegetables: onions, garlic, shallots, leeks, etc.

Cucurbits: cucumbers, melons, summer and winter squashes, pumpkins, etc.

Leafy greens: lettuce, spinach, Swiss chard, etc.

Succulent and dried beans and peas: snap beans, lima beans, kidney beans, chickpeas, etc.

Root, tuber and corm: beets, carrots, potato, radish/turnips, sweet potato, etc.

Head & stem brassicas: broccoli, cabbage, Brussels sprouts, cauliflower, Napa cabbage, etc.

Leafy green brassicas: arugula, broccoli raab, Bok choy, collards, kale, mizuna, etc.

Fruiting vegetables: tomatoes, peppers, eggplant, etc.

New Registrations (i.e. new EPA No.)

AGRIPHAGE (No FRAC classification; EPA No. 67986-1; a.i. Bacteriophage active against *Xanthomonas campestris* pv. *vesicataria* and *Pseudomonas syringe* pv. tomato; Omnilytics). For control of tomato and pepper spot and bacterial speck in tomato and pepper.

AURA 360 Broad-Spectrum Activator of Disease Resistance (FRAC 12; EPA No. 92188-3-347-4; a.i. Flg22-Bt peptide; Loveland). Labeled for powdery mildew, bacterial diseases, and Alternaria diseases in brassicas, fruiting vegetables (tomato, etc.), leafy vegetables (lettuce, spinach, etc.), and root & tuber vegetables (beet, carrot, potato, radish, turnip, etc.).

BONAFIDE Fungicide (= generic Endura; FRAC 7; EPA No. 83529-124; a.i. boscalid; Sharda). For control of Botrytis, Alternaria and Sclerotinia (white mold) diseases in most vegetable crops.

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CALANTHA Bioinsecticide (IRAC 35; EPA No. 94614-2; a.i. ledprona; Greenlight BioSciences). For control of Colorado potato beetle in potato.

CYCLANILIPROLE 50 SL Insecticide (= generic Harvanta; IRAC 28: EPA No. 71512-26; a.i. cyclaniliprole; ISK BioSciences). For control of worms/caterpillar larvae, leaf miners, thrips, etc. in leafy vegetables, head and stem brassicas, fruiting vegetables (tomato, etc.), cucurbits and tuberous and corm vegetables (potato, etc.) as well as greenhouse lettuce, tomato, pepper and cucumber.

DELARO COMPLETE Fungicide (FRAC 3, 11, 7; EPA No. 264-1207; a.i.s prothioconazole + trifloxystrobin + fluopyram; Bayer). For control of several leaf diseases including Tar spot in sweet corn. **NYS-Restricted.**

EXCELIPROLE 400SC Insecticide (IRAC 28; EPA No. 83100-77; a.i. chlorantraniliprole; Albaugh). For control of worm/caterpillar pests in asparagus, sweet corn, cucurbits, legumes, fruiting vegetables, head, stem and leafy brassicas, leafy vegetables, onions, potatoes, and root and tuber vegetables.

FIREHAWK bioherbicide concentrate (WSSA 27; EPA No. 93740-5; a.i. nonanoic acid; BioSolutions). For vegetative burndown for site preparation prior to planting, directed and shielded sprays, harvest aid and desiccation. Labeled in most vegetables. **Signal word "Danger".** It is corrosive.

FONTELIS Fungicide (FRAC 7; EPA No. 352-834; a.i. penthiopyrad; Corteva). For control of Alternaria, Botrytis, Stemphylium, Septoria, etc. foliar diseases, and in-furrow application for Rhizoctonia in most vegetables. **NYS-Restricted.**

LEPIGEN Biological Insecticide (IRAC I; EPA No. 87978-7; a.i. autographa californica Multiple nucleopolyhedrovirus strain R3; AgBitech). For control of caterpillar larvae (e.g. worms) in sweet corn, root and tuber vegetables (carrot, sweet potato, potato, etc.), brassicas (cabbage, kale, broccoli, collards, etc.), leafy greens (lettuce, spinach, etc.), fruiting vegetables (tomato, etc.), cucurbits and asparagus.

OPTOGEN Herbicide (WSSA 27; EPA No. 100-1465; a.i. bicyclopyrone; Syngenta). For pre-emergence and post-emergence weed control in broccoli, garlic, horseradish, onion (dry bulb and green), sweet potato and watermelon.

ORONDIS GOLD DC Fungicide (FRAC 4 & 49; EPA No. 100-1737; a.i. mefenoxam + oxathiapiprolin; Syngenta). Labeled for Phythium/Damping off and Phytophthora diseases in asparagus, cucurbits, fruiting vegetables (tomatoes, peppers, etc.), leafy greens (lettuce, spinach, etc.) and potatoes.

PLAID SC Insecticide (IRAC 28; EPA No. 279-9684; a.i. chlorantraniliprole; FMC). For control of worms/caterpillar larvae in all vegetable groups, including cabbage maggot in brassicas. **NYS-Restricted.**

TROUBADOUR 2F Insecticide (IRAC 18; EPA No. 5905-653; a.i. methoxyfenozide; Helena). For control of worms/caterpillar larvae pests in most vegetables. **NYS-Restricted.**

TURAZI XTREME Insecticide (IRAC 3A & 28; EPA No. 34704-1187; a.i. bifenthrin + chlorantraniliprole; Loveland). For control of several insect pests in sweet corn, succulent peas, dry beans and peas, root and tuber vegetables and potatoes. **Federally-Restricted Use.**

TYPHOON Fungicide (Exempt from EPA registration, FIFRA Section 25b; a.i. potassium sorbate, Rovensa Next). For control of powdery mildews, downy mildews, Alternaria diseases and Phytophthora diseases in cucurbits, fruiting vegetables, potatoes, brassicas, leafy greens, onions, etc.

Label Expansions and Supplemental Labels (new pests and/or crops added to updated version of label)

FUSILADE DX Herbicide (WSSA 1A; EPA No. 100-1070; a.i. fluazifop-p-butyl; Syngenta). **Added head and stem brassicas** (broccoli, cabbage, cauliflower, Brussels sprouts, etc.) and **leafy brassicas** (broccoli raab, bok choy, turnip greens, etc.) for post-emergent grass control.

FIFRA 2(ee) Recommendations (unlisted pest for crop already on label)

M-PEDE Insecticide/Miticide/Fungicide (insecticidal soap – no IRAC classification; EPA No. 10163-324; a.i. potassium salts of fatty acids; Gowan). **To deter deer from feeding on all labeled crops** including asparagus, brassicas (head, stem, leafy), bulb (onions, garlic, etc.), cucurbit, fruiting vegetables (tomatoes, etc.), legumes (beans, peas, etc.), and root and tuber vegetables (carrots, beets, potatoes, etc.). **OMRI-Listed.**

VERIMARK Insecticide (IRAC 28; EPA No. 279-9616; a.i. cyantraniliprole; FMC). For suppression of **onion maggot and seed corn maggot in onion plug transplants as a tray drench**. See article on page 6 of the VegEdge March 12, 2025 issue.

Special Local Needs (SLN)

Nothing new in 2025.

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Products Being Phased Out/ Discontinued/Cancelled

CORAGEN Insecticide (IRAC 28; EPA No. 279-9606; a.i. chlorantraniliprole **18.4%**; FMC) is **being replaced by CORAGEN EVO Insecticide** (EPA No. 279-9661; a.i. Chlorantraniliprole **47.85%**), **~ 3-times more concentrated.** For control of caterpillar larvae (e.g. worms) and cabbage maggot in asparagus, onions/garlic/chives, etc., and head & stem (broccoli, cabbage, Brussels sprouts, kohlrabi, etc.) and leaf brassicas (e.g. collards, kale, etc.). Rates will change. For example, Coragen 7.5 fl oz = Coragen Evo 2.5 fl oz. **NYS-Restricted.**

RAPTOR Herbicide (WSSA 2; EPA No. 241-329; a.i. ammonium salt of imazamox; BASF) for post-emergence weed control in dry beans and peas, English peas, succulent lima beans and snap beans. It is **being replaced by BEYOND XTRA Herbicide** (WSSA 2; EPA No. 241-441; a.i. ammonium salt of imazamox; BASF). **Existing stocks of RAPTOR may be used up until 12/31/2026.**

RELY 280 Herbicide DISCONTINUED (WSSA 10; EPA No. 7969-448; a.i. glufosinate-ammonium; BASF). For burndown or post-emergent weed control in cucurbits and fruiting vegetables and vine desiccation in potatoes. **Existing stocks may be used up until 12/31/2027.**

SOVRAN Fungicide CANCELLED (FRAC 11; **EPA No. 7969-154**; a.i. kresoxim-methyl; BASF). For control of powdery mildew and gummy stem blight in cucurbits. **Existing stocks will be illegal after 6/30/2025. FMC has identical product** with EPA No. 7969-154-279 that **may be used at least until 3/31/2026**.

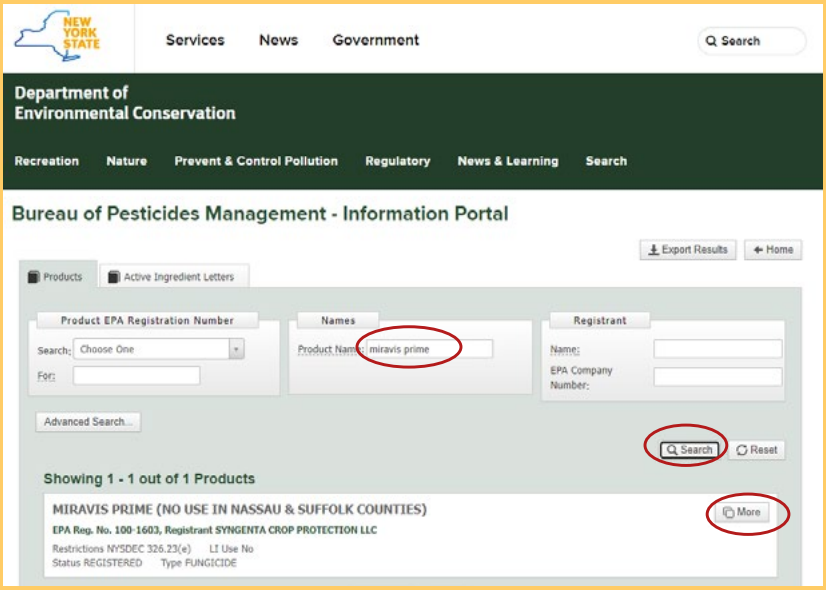
NOTE: Users must have a copy of both the approved SLN, 2(ee) or supplemental label, AND the primary label in their possession at the time of application. See section on how to look up pesticides labeled in New York.

How to Look Up Pesticides Labels Registered in New York

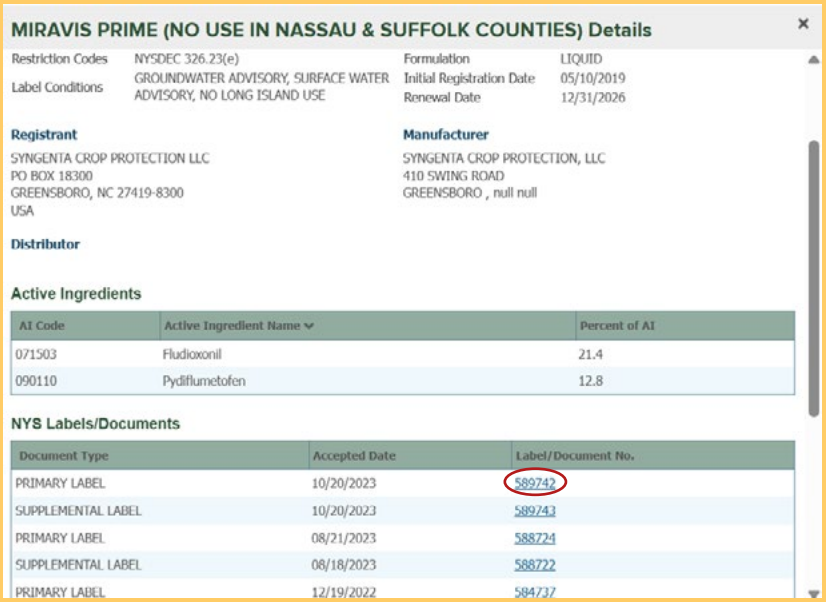
You can find all the labelling information you need at New York State Pesticide Administration Database (NYSPAD) portal. It is available at https://dec.ny.gov/nyspad/products.

On the top of your screen, you can search by EPA registration number, Product name, or Registrant. In the Advanced Search, there are also options to search by Pesticide Use/Type, Restriction, Formulation, Registration Status, etc.

Enter the information that you are looking for and click "Search". A list of products will come up with some basic information including full product name, EPA registration number, manufacturer, and restrictions. For the product that you are interested in, click the "More" button to access a list of the active ingredient(s) and labels.



All label types will be presented including primary, supplemental, 2(ee), and 24 (c) labels. The most recent label will be at the top of that list.



How to look up pesticides registered in New York. Screenshots of NYSPAD webpage. Top: Search by EPA No., product name or Registrant and a list of product(s) will pop up below the search screen. Once there (bottom), click on "more" to access the label(s).

2025 Cabbage, Dry Bean, Onion and Processing Vegetable Crops Grants Awarded

Julie Kikkert, Cornell Cooperative Extension, Cornell Vegetable Program

The following projects were awarded by the respective industry funding programs for applied research and extension in 2025. Sincere thanks to the growers and processors who contributed to these funds and to those who served on the advisory committees/boards to review the project proposals.

NY Cabbage Research and Development Fund:

Researcher	Project Title	Award
C. Hoepting	Effective Alternatives to Lorsban for Cabbage Maggot Control in Transplanted Cabbage	$12,142
	TOTAL AWARDS	**$12,142**

NYS Dry Bean Endowment:

Researcher	Project Title	Award
P. Griffiths	Breeding, Evaluation and Development of Dry Bean Varieties that are Highly Adapted to NYS Growing Environments and Markets	$17,183
S. Reiners, M. Rosato	2025 Cornell/NYS Dry Bean Cultivar Trial	$10,000
S. Pethybridge	Fungicide-Based White Mold Control in Dry Bean in New York	$10,000
M. Lund, M. Zuefle	Determine the Magnitude and Distribution of Western Bean Cutworm and the Risk to Dry Beans, in the Major Production Areas in New York	$3,348
A. Hamlin (Coalition for Healthy School Food)	Cool School Food: Encouraging the use of dry beans in school lunches, and promoting the health aspects of dry bean consumption, and promoting the use of NYS grown dry beans	$1,000
	TOTAL AWARDS	**$41,531**

NY Onion Research and Development Program:

Researcher	Project Title	Award
B. Nault, A. Taylor, E. Grundberg	Identifying Effective Management Tactics for Onion Maggot, Onion Thrips and IYSV in Onion	$32,760
C. Hoepting, F. Hay	Improving Management of Stemphylium Leaf Blight in Onion	$34,550
C. Hoepting	Late-Season Applicants of Pre-Emergent Herbicides for Extended Weed Control Through Harvest in Muck-Grown Onions	$30,515
E. Grundberg	Evaluating the Potential for Seed Treatments to Reduce the Incidence of Bacterial Bulb Rots in Muck Grown Onions	$22,462
	TOTAL AWARDS	**$120,287**

New York Vegetable Research Association and Council (processing vegetables):

Researcher	Project Title	Award
B. Nault, C. Duplais	Improving Management of Major Insect Pests of Sweet Corn and Snap Bean	$33,991
S. Reiners, M. Rosato	2025 Cornell/NYS Processing English Pea, Snap Bean and Sweet Corn Cultivar Trials	$56,300
L. Sosnoskie	Weed Control Research in Vegetables	$19,392
S. Pethybridge, J. Kikkert	Integrating the fungicide, Cevya, into management programs for foliar health of table beet in New York	$13,780
S. Pethybridge, J. Kikkert	Susceptibility of Sweet Corn Varieties to Foliar Diseases	$13,900
	TOTAL AWARDS	**$137,363**

Upcoming Events

Online Berry Office Hours

May 21 - July 9, 2025 (Wednesdays) | 8:00 AM - 8:30 AM
via Zoom

We hope you will join berry specialists Anya Stansell and Heather Kase over Zoom to discuss berry production.

Join Zoom Meeting: https://cornell.zoom.us/j/98945641042?pwd=qtLxLuYLE4uKJrkglzIzz0s8PoOnkL.1. Meeting ID: 989 4564 1042; Passcode: 12345

Fruit & Berry Twilight Meetings

May 29, 2025 (Thursday) | 7:00 PM - 8:30 PM
Hurd Orchards, 17260 W Ridge Rd, Holley, NY

Join specialists Anya Stansell and Janet Van Zoeren at this series of monthly meetings examining seasonal changes in tree fruit and berry crops, demonstrating scouting techniques, and discussing integrative pest management solutions to maximize the health and productivity of berry and fruit plantings. Meetings will be held on the last Thursday of every month, from April through July. Attendees are encouraged to bring pictures or descriptions of pests they are concerned about on their farm. 1.5 DEC credits will be offered in categories 1a, 10, and 22. Please arrive at 6:45PM to sign-in for DEC credits.

This event is free to attend, and no pre-registration is required. Pizza and refreshments provided by Valent. Questions? Please contact aco56@cornell.edu

Muck Donut Hour

starting June 3, 2025 (every Tuesday) | 8:30 AM
corner of Transit Rd and Spoilbank Rd in the Elba muck

All are welcome to join this 25+ year tradition of onion discussion. Contact Christy Hoepting for more info. 585-721-6953.

Webinar: Ag Co-ops for Small Farmers

June 11, 2025 (Wednesday) | 1:00 PM - 2:00 PM
via Zoom

Going it alone has pretty much been the mantra of farmers for many decades, though it wasn't always the case. The age of the Grange movement showcased what strong cooperatives could do for farmers when they worked together. NY FarmNet will be holding a webinar on farmer marketing cooperatives. The speaker is Nicole Tommell, Director of the Cooperative Enterprise Program at the Cornell Dyson School of Applied Economics and Management. She also serves as the Executive Secretary/ Treasurer of the Northeast Cooperative Council which services agricultural and financial cooperatives.

To register for this free webinar, go to https://cornell.zoom.us/webinar/register/WN_iEJ-IzvCRFaYvO67Ba1wXA

Muck Onion Growers Twilight Meeting

June 26, 2025 (Thursday) | 4:00 PM registration
John Dunsmoor Farm, Lake Elizabeth, Oswego, NY

Registration begins at 4 pm, dinner at 7 pm with a whole lot of education in between. This is the onion meeting of the year!

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VegEdge is the highly regarded newsletter produced by the Cornell Vegetable Program. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas, and research results from Cornell University and Cornell Cooperative Extension. VegEdge is produced every few weeks, with increased frequency leading up to and during the growing season.

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Cornell Cooperative Extension
Cornell Vegetable Program

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