

Annual ryegrass is an excellent cover crop but growers have found it hard to kill ahead of

zone tillage. Here are recommendations for success!

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How can you tell if your soil is too wet to till? Use the soil ball test. Learn how to do this simple test.

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These cool, wet conditions are preferred by fava beans. Learn more about these beans and

the market for them.

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VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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 **Cornell University**
Cooperative Extension
Cornell Vegetable Program

Photo: Judson Reid

Kill Rye Promptly; Kill Ryegrass Completely!

Recent research by Thomas Bjorkman, Cornell, has shown that the best time to kill a rye cover crop, ahead of vegetable planting, is when the rye is just 6" tall. At that point nitrogen (N) should not be tied up and scavenged N from last fall should be released. It is important, however, to allow the rye residues to decompose 2-3 weeks if they're tilled into the soil since the fresh organic matter can attract seed maggots. Wheat and triticale cover crops can be managed in a similar way.

Annual ryegrass is an excellent cover crop which produces a sod with very fine roots, excellent for improving the percentage of water-stable soil aggregates. Growers have found it difficult to kill with glyphosate ahead of zone tillage, however, and have often needed to spray it twice. Information from PA and the Midwest, university research and grower experience, have explained much of the difficulty and there are recommendations which should result in much better success.



Cover crops: ryegrass (left) and rye (right).
Photo: Carol MacNeil, Cornell Vegetable Program



VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serving 11 counties in Western New York.

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 May 14, 2014.

Is Your Soil Dry Enough to Till?

The wet weather has growers very anxious for warmer, drier weather so they can get out into their fields. Working the soil when it's too wet, however, can cause more problems than waiting an extra day or two. Tilling soil that's too wet causes compaction at the plow bottom but also on the sidewalls of the plow cut or chisel/ripper shank. The smearing of the soil which occurs eventually dries to a hard crust, which is impenetrable by roots, air or water. The area in which the crop roots can mine for nutrients and water is thus significantly limited.

How can you tell for sure whether the soil's too wet? The soil ball test is an easy one to do. Take a handful of soil from as deep as you intend to till and roll it between your hands into a ball. (If it's too sticky to make a ball it's too wet to till.) Press your thumb into the soil ball. If an imprint of your thumb remains in the intact ball then it's too wet to till. If pressing your thumb into the ball causes it to break and crumble then it's dry enough to till. Be sure that at least 80-90% of the field is ready before starting field work. Practices which improve soil health (use of reduced tillage, consistent use of cover crops, rotations including small grains or sod crops, etc.) improve soil structure and speed drainage of excess water. If the field needs tile there's no substitute for it! ●

Annual ryegrass probably requires the most planning to ensure adequate control in a reduced till system. Here are some recommendations adapted from M. Plumer et al., 2013, and the Oregon Ryegrass Growers Seed Commission.

Glyphosate is the preferred herbicide for control of annual ryegrass. The ryegrass must be actively growing. Plan to apply glyphosate when day time high temperatures are at least 55 to 60° F. Application during sunny, warm days, after the dew has dried, and at least 4 hours prior to sunset, is best. Under cool conditions it may take 2 - 3 weeks to kill the ryegrass, and a second application may be necessary. Previous research suggests that small ryegrass is easier to control, but warm temperatures 1 - 2 days before, during, and 1 - 2 days after application are likely more important.*

Reduce water volume to 10 gal/acre if possible. Use flat fan nozzles selected to deliver small droplets. Do not tank-mix glyphosate with triazine herbicides (atrazine or metribuzin) or any other standard clay-based (DF, DG, WDG, F, etc.) residual herbicide. Atrazine is a component of soil-applied corn herbicides such as Bicep, Cinch, Degree Xtra, Guardsman, Keystone, Lumax, Lexar, etc. Do not use water containing soil or organic particles that might inactivate glyphosate (e.g. pond water).

Apply glyphosate at 48 to 64 fl oz/acre (for a 41% or 3 lb active ingredient/gal glyphosate product). Include an appropriate nonionic surfactant at 0.25% v/v if not using a fully loaded glyphosate formulation. Add spray grade ammonium sulfate (AMS) at 8 to 17 lb/100 gal or 2.5% (2.5 gal/100 gal) liquid AMS.

Do not add other N fertilizers to the spray tank (e.g. 28 to 32% UAN) as possible ryegrass burning will slow uptake of the glyphosate. If the water source has a high pH (8 or greater), add an acidifying agent (e.g. citric acid) according to directions.

It's been found that ryegrass varieties begin to grow in the spring at different times. Only plant a specified ryegrass variety as a cover crop if you hope to kill it with herbicides in the spring. Do not plant ryegrass seed where the variety is not specified (VNS). If some of the varieties in the VNS mix haven't begun active growth they will not be killed by a glyphosate application. Killing the ryegrass 10 - 14 days before planting is preferred. ●

What's the Difference Between Metolachlor Formulations?

I have been asked by a few people about the differences in metolachlor (the active ingredient in Dual) products. The "old" Dual in the early 1990s was two isomers of metolachlor, R and S isomers. The Dual II included a safener to improve crop safety (improves safety to corn, not to broadleaf crops; hence Dual for broadleaf crops and Dual II for corn).

In mid-1990s Syngenta came out with a version of "Dual" that contain only the s-isomer (the herbicidal active isomer) and called it Dual Magnum; and the version with the safener was called Dual II Magnum. Because the Magnum formulation only contained the active isomer, the rates changed between the Dual and Dual Magnum formulations.

Now that there are a lot of generic versions out there it has become confusing. Some contain both isomers, others contain only the s-isomer and are usually designated as s-metolachlor. Some may contain the safener and others do not. It is not

always apparent what formulation is used or if a product has a safener. Often you may have to dig deep into the label or the company's technical material to find this information. With the cool spring we have been having, early planted corn should be treated with a formulation that contains the safener.

Finally, Syngenta has worked with a number of states to obtain labels for specialty crops and additional uses. Most generic products do not have all the uses that the "Dual" labels have. Be sure to read the labels and be sure the formulations are labeled for the intended use. Do not take it at face value that all the generic metolachlor products are "the same as Dual". ●

Dual Magnum Label Updates in NY

Dual Magnum national label: corn, beans, peas, potatoes, pumpkins, tomatoes

Dual Magnum II national label was expanded in 2012 to include: beans, peas, corn, potatoes, pumpkins, tomatoes

NY State 24C (special local need) label: multiple vegetable crops not on either of the national labels: asparagus, carrots, red beets, spinach, melons, cucumbers, onions/garlic, leafy brassicas greens, pumpkins. These uses require grower Indemnification. ●

Organic Vegetable Production Weed Control Strategies

Organic farmers list weeds as the main limiting factor in production of vegetable crops. The educational resources on a new website were developed to address simple to use, easy to acquire tools to enhance organic weed control in small-scale vegetable crop production. Based on input from organic growers, the NJ Ag Experiment Station has launched a new website: <http://www.mworks.com/SARE/index.html> Be sure to check with your organic certifier about mulches, "organic" herbicides, etc. suggested on the website before you adopt them on your organic fields. ●

More Eligible Equipment Added to USDA Farm Storage Facility Program

The USDA has expanded the Farm Storage and Facility Loan Program. The program provides low interest loans to farms. The new program has added over twenty new categories of equipment which includes vegetable operations.

Small and mid-sized fruit and vegetable farms can apply to the program for funding that will enhance various aspects of their operations. Some of the equipment included in the loan program are washing, packing, and cooling. A driving force for this action comes from the increased awareness of food safety. Loan amounts can be up to \$100,000 with low interest. Loan security requirements have been lowered for amounts between \$50,000 and \$100,000. For more information go your local FSA office or check online at www.fsa.usda.gov ●

UPCOMING EVENTS

Beating Back the Bugs - May Walk & Talk Discussion Group

May 14, 2014 | 5:00 PM

Canticle Farm, 3835 S Nine Mile Rd, Allegany 14706



Learn how to develop a proactive, integrated pest management approach and bring all your questions about spray effectiveness, beneficials, scouting, and more. FREE! For more details, contact Elizabeth Buck at 607-425-3494 or emb273@cornell.edu.

Fertility from the Ground Up - May Rolling Hills Discussion Group

May 20, 2014 | 6:00 PM

Fellenz Family Farm, 1919 Lester Rd, Phelps 14532



Prof. Steve Reiners will lead a discussion on how fundamental characteristics of the soil influence a field's inherent fertility. We'll build upon that understanding to discuss ways to optimize your nutrition programs. Bring a copy of your most recent soil test, and be prepared to ask Steve all your nutrient management questions. FREE! For more details, contact Elizabeth Buck at 607-425-3494 or emb273@cornell.edu or Robert Hadad at 585-739-4065 or rgh26@cornell.edu.

Muck Donut Hour BEGINS

May 27, 2014 | 8:30 - 9:30 AM

Elba muck, corner of Transit and Spoilbank, Elba 14058



Meet with Cornell Vegetable Program Specialist Christy Hoepting every Tuesday morning to ask questions and share your observations.

Weed Control - June Walk & Talk Discussion Group

June 11, 2014 | 6:30 PM

On the River Farm, 7579 St Rt 19, Belfast 14711



1.5 DEC credits in categories 1a, 21, and 23 are requested. A crop walk focused on how cultural practices can help reduce weed pressure, and discussion on enhancing in-season control of difficult weeds. FREE! For more details, contact Elizabeth Buck at 607-425-3494 or emb273@cornell.edu.

Beneficial Insects and Habitats - June Rolling Hills Discussion Group

June 17, 2014 | 6:00 - 7:30 PM

Honeyhill Farm, 6241 Price Rd, Livonia 14487



1.5 DEC credits in categories 1a and 23 are requested. Abby Seaman and Marion Zuefle, of the NYS IPM Program, will teach which beneficial insects are used to control certain pests. Come learn about their lifecycles, predation strategies, and potential to be used on your farm! Kira White, Vegetable Manager at Honeyhill Farm, will share the farm's use of beneficial insect promoting habitat. FREE! For more details, contact Elizabeth Buck at 607-425-3494 or emb273@cornell.edu or Robert Hadad at 585-739-4065 or rgh26@cornell.edu.

Potato Diseases, Seed Quality and Cutting

In fields where pink rot, scab, etc. were a problem last year be sure to plant varieties that have some resistance. For an updated list of varietal resistance go to: http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Potato_Cultivars_NE_Production.pdf or contact Angela Parr at 585-394-3977 x426 for a mailed hard copy. Late blight (LB) doesn't carry over in the soil but does carry over on volunteers. Potato seed treatments should contain the active ingredient mancozeb to reduce the potential spread of LB from tuber to tuber during cutting and handling. Even certified seed is allowed to contain a very low percentage of LB, but a very low percentage of LB is enough to cause severe problems in some situations. Steve Johnson, plant pathologist, ME Cooperative Extension, advises growers to only plant seed with no known LB, less than 1% soft rot, and less than 5% total defects. Always clean and sanitize seed cutters and conveyors between seed lots. For an updated list of potato seed and in-furrow treatments, and the diseases they control or suppress, go to: <http://vegetablemdonline.ppath.cornell.edu/NewsArticles/Potato-Seed-Piece-fungicide-chemicalgroup.pdf>

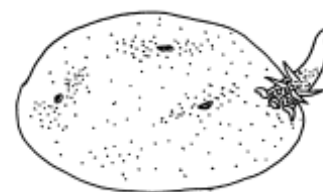
: The physiological age of potato seed can affect stand, yield and quality. Previous growing season stress, warmer storage temperatures, and time, all age seed. Pre-cutting (or de-sprouting) also ages seed. To determine the physiological age of seed potatoes, collect a random sample of about 20 unsprouted tubers from each seed lot, place at room temperature, and wait for them to sprout. If sprouts only appear at the apical end, away from the stem end, then seed is physiologically young. Such seed tends to produce plants with few stems, a lower tuber set, and larger tubers. If normal sprouts appear all over the tuber then seed is moderate in age and stem number and tuber set are likely to be higher. Moderate aged seed can be pre-cut but only if it hasn't yet sprouted in storage. If highly branched, possibly hairy sprouts appear all over the tuber then the seed is physiologically old and will produce a relatively weak plant. Old seed should be cut immediately before planting. Pre-cutting and holding could result in poor emergence, producing tiny tubers instead of sprouts.

Be sure to pre-warm seed to 50+ degrees F before cutting or handling. Ideal seedpiece size is 1.5 – 2 oz. The more cut surface area on the seed piece, the greater the seed decay potential. Pre-cutting young to moderate aged seed, followed by a suberization period, can improve emergence of varieties with thin skin or a long dormancy period, such as Allegheny, Eva, Genesee, Redsen, or Yukon Gold. Hold in half full boxes at 55 degrees F and high humidity for a week or two, or until sprouts just begin to poke out. Hold moderately aged seed at a lower temperature. Once sprouts appear drop temperatures down to 40 degrees F if seed needs to be held before planting. Especially if weather has been cold and/or wet do not plant as deep as usual and cover with only 2" of soil to ensure warming of soil/seed and more rapid emergence.

Limit fertilizer rates to those recommended from recent soil tests and/or from the Cornell Guidelines! Varieties differ in their nitrogen (N) requirements. For total season N rates recommended for different varieties (mineral or muck soil) go to the 2014 Cornell Veg Guidelines at: <http://veg-guidelines.cce.cornell.edu/24frameset.html> High levels of phosphorus (P) and N in streams flowing into Lake Ontario are causing excess weed growth and poor fish habitat in places, and this is attracting the attention of regulators. Only if heavy rain (2-4 in.) occurs in a short period is leaching likely in sandy soils, or water logging likely in heavier soils, either of which could cause the loss of N and the need for sidedressing. ●

Sprouting patterns in potato seed of different physiological ages.

(Diagram from Steve Johnson, University of Maine Extension, <http://www.umext.maine.edu/onlinepubs/pdfpubs/2412.pdf>)



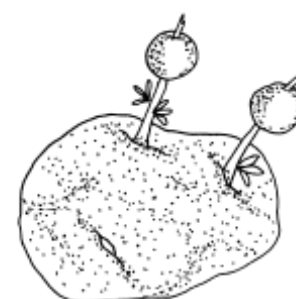
Young seed piece



Middle-aged seed piece



Old seed piece



"No top"

Do You Favor Fava?

If the season remains on the cool side, one crop to try is an old world crop, the fava bean (). Also known as Horse bean, Broad bean, Windsor, English Dwarf Bean, Tick bean, Pigeon bean, Bell bean, Haba, Feve, Faba, and Silkworm beans. Size similar to lima bean and is native to Mediterranean region. One of the oldest cultivated crops, beans have been found in archeological digs dating over 5,000 years old. Even back then kids didn't like eating their beans.



Favas in field trial, 2013.
Photo: Robert Hadad, Cornell Vegetable Program

DESCRIPTION

Favas are actually a relative of vetch with tall fibrous stalks. They have white to purple flowers and have large-seeded varieties with 1 or 2 pods at each node or small-seeded types produce from 2-5 pods. Pods can be from 3-18" long.



Fava pods.
Photo: Robert Hadad, Cornell Vegetable Program

PLANTING

Favas are planted same time as peas (spring) and can take 75 days to set pods. Optimum soil temps 55 - 65°F. Sow 1" deep 4-6" apart, in rows 18-36". Seeding rate: 1lb/90', 11 lb./1,000', 160 lb./acre at 3' row spacing (approx 30,000 plants/A). Fertilize rates based on average soils: Average: N = 80-110lbs/A P = 80-100lbs/A K = 60-100lbs/A S = 20-30lbs/A.

HARVEST

Depending on variety, expect 3-12 large bean/pod with about 15 pods per stalk on the large types and 60 pods on plants of the small-seeded varieties. Can produce 1900-2400 lbs/acre. Harvest pods when they are glossy green and thick with plump beans.

VARIETIES

Windsor is the most common variety found in the Northeast. Imported seed is starting to show up in the specialty catalogs. On the West Coast, Oregon is leading the way with more research and field trials through some breeding work being done out there. Some varieties available in our region are:

- Extra Precoce White
- Extra Precoce Violetto
- Cascine
- Morocco (Aguadulce S. Simonia Sel. Marocco)
- Supersimonia

Windsor is widely available from many companies. Some varieties are imported and treated seed only. Sources of seed include:

- [Seeds From Italy](#)
- [Gourmet Seed International](#)
- [Johnny's Seeds](#)
- [High Mowing Seeds](#) has organic Windsor
- [Osborne Seed Co.](#) has organic seed and cover crop
- [Territorial/Abundant Life Seeds](#) has organic seed

Last season, I conducted a small trial with the above listed varieties. Conditions were generally cool and wet which fava do prefer. The plants will not grow tall or produce many pods if the weather is hot and dry.

Variety	Bean size	Average # pods/plant	Average # beans/pod
Windsor	Larger bean	13 pods	6 beans
Extra Precoce White	Small	29 pods	7 beans
Extra Precoce Violetto	Small	27 pods	6 beans
Cascine	Small	34 pods	8 beans
Morocco	Small	35 pods	6 beans
Supersimonia	Small	37 pods	8 beans

INSECTS AND DISEASES

The 3 biggest problems are soybean aphids, black aphids, and slugs. In the trial last season, black aphids were found heavily on the variety Morocco but other growers have found them on Windsor when planted in early April.

For diseases, the most common found in the trial and from other growers' experiences is Chocolate spot – botrytis. Leaves and pods have brown spotting under favorable moist conditions. Severe attacks can cause leaf and pod loss.



Black aphids.
Photo: Robert Hadad, Cornell Vegetable Program

MARKETING

Customers want firm pods that smooth on the side and beans a bit soft. Fuller, more mature pods will have larger, starchier beans which can be tasty and even preferable for stews or soups. Favas are used as shelling bean like shell beans, limas or soup pea. Pricing: Sell in pint \$3 or quart box size \$5 as a guide.

Not only are the pods useable, other parts of the plant are too. Fava shoots, fava leaves when picked young, and fava blossoms. Shoots with leaves (4-6oz) can sell for \$4/bunch.

COVER CROP

Favas can be a good cover crop. Cool season cover crop is related to vetch. This can fix N (Pea/vetch inoculant). The top growth can be turned under right at flowering adding more than 100lbs N/acre.

You also can have your N and eat it too! Harvest the pods then turn under residue which can provide approx 60-75lbs N/acre. This might be a good crop for wintering over in a high tunnel that could provide some N and offer a harvestable crop providing some added income. 🍅

Lorsban In-Furrow for Onion Maggot Control

In the muck lands where onions are grown annually, onion maggot populations have built up and could cause serious economic losses due to seedling mortality if left uncontrolled. Historically, onion growers have applied Lorsban or other labeled formulation of the active ingredient, chlorpyrifos in the seed furrow in addition to seed treatments for protection against onion maggot. The combination of Trigard seed treatment plus Lorsban in-furrow consistently provides one of the best control options of onion maggot in Cornell research trials with the combination often performing significantly better than when Trigard or Lorsban are used alone. When new seed treatments, FarMore FI500 and Sepresto were trialed with and without Lorsban, the addition of Lorsban did not improve control of onion maggot significantly, although sometimes there were numerical reductions. Whether the addition of Lorsban to these seed treatments improved control or not depended on how effective Lorsban was by itself. In situations where the onion maggot population had seemingly developed some degree of resistance to Lorsban (i.e. Lorsban alone did not work well), using Lorsban in combination with seed treatment did not improve control. When onion maggot pressure was low to moderate, addition of Lorsban to Farmore FI500 was not necessary. **Thus, Lorsban in combination with Farmore FI500 is only recommended when onion maggot pressure is very high.** During the last couple of years, Sepresto failed to provide adequate control of onion maggot in Cornell trials, while Farmore FI500 provided very good control of onion maggot when used alone or with Lorsban. Thus, **caution is advised when using Sepresto and should be used in combination with Lorsban.**

Interestingly, Lorsban has been shown to provide 40 to 73% control of onion smut (Hoepting 2001, M.S. Thesis). So, when growers originally switched from Lorsban to Trigard, the observed increased level of onion smut was a consequence of taking away the control that they were getting with Lorsban. In a field trial in 2012 in El-



Onion seedling infested with onion maggot.
Photo: Christy Hoepting, Cornell Vegetable Program

ba, no significant differences in smut occurred between the treatments with and without Lorsban, although numerically, the addition of Lorsban provided better control of onion smut by 7 to 13% in 2 out of 3 comparisons. Therefore, **it may be worthwhile to include Lorsban ONLY in fields where onion smut pressure is known to be very high.**

Onion maggot can develop resistance to an insecticide class within 4-5 years of continuous exposure. Once resistance to a chemical class has developed in an onion maggot population, the population may become controllable again after eliminating exposure for a few years. Since the genes for resistance are already in the population, resistance will resume quickly with continued exposure. To our knowledge, there is no other insecticide in the pipeline that will control onion maggot. Consequently, it is imperative to preserve the usefulness of Sepresto and Farmore FI500. The best way to ensure this happens is to follow a resistance management strategy. **Growers should strive to annually rotate Trigard + Lorsban with Farmore FI500 in any given field.** With three generations of onion maggot per year, this strategy will expose only one generation out of six to an insecticide class in 2 years. 🍅

2014 Vegetable Pesticide Updates

Changes in pesticide registrations occur constantly and human errors are possible. Read the label before applying any pesticide. No endorsement of products or companies is made or implied. Other pesticide updates that we missed are welcome. Information was last updated on April 29, 2014. Updates after this date will be posted in future issues of VegEdge.

Note: We only included the uses that pertain to vegetables. Several labels include uses in fruit and field crops as well.

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

- **CONTEGO SL plant growth regulator:** (EPA No. 73049-493, a.i. s-abscisicacid, Valent). To control plant growth and to reduce transpiration and water stress in cucurbit, Brassica, fruiting and leafy vegetables and herbs.
- **CRUISERMAXX POTATO EXTREME seed treatment:** (EPA No. 100-1444, a.i. fludioxonil + difenoconazole + thiamethoxam, Syngenta). For control of soil- and seed-borne diseases including Fusarium, Rhizoctonia and Silver Scurf, and for control of aphids, flea beetles, Colorado potato beetles and potato leafhoppers when applied as a seed treatment to potatoes.
- **MILTREX 10SC fungicide:** (EPA No. 8033-103, a.i. cyflufenamid, Nippon Soda Co.). For control of powdery mildew in cucurbit vegetables.
- **MOVENTO Insecticide:** (EPA No. 264-1050, a.i. spirotetramat, Bayer CropScience). For control of aphids, white flies, psyllids and suppression of other insects in artichokes, Brassica (including swede midge), and fruiting, leafy and legume vegetables, potatoes and other tuberous/corm vegetables and for control of onion thrips in bulb vegetables.
- **OSO fungicide:** (EPA No. 68173-4-70051, a.i. polyoxin D zinc salt, Certis). For control of Alternaria, Anthracnose, Botrytis, Rhizoctonia and other fungal diseases in Brassicas, bulb, fruiting, leafy and legume vegetables, carrots and parsnips, cucurbits and potatoes.
- **SERENADE OPTIMUM biofungicide (OMRI):** (EPA No. 264-1160, a.i. QST 713 strain of *Bacillus subtilis*, Bayer CropScience). For control of diseases on artichoke, asparagus, Brassica, fruiting, herbs, leafy, legume and root/tuber/corm vegetables.
- **SMARTBLOCK sprout stop for potatoes:** (EPA No. 5481-571, a.i. 3-decen-2-one, AMVAC Chemical Corporation). For use as a potato sprout inhibition (for indoor use only).
- **TAEGROECO biofungicide/bactericide (OMRI):** (EPA No. 70127-5-100, a.i. *Bacillus subtilis* strain FZB24, Syngenta). For soil applications for suppression of Rhizoctonia, Fusarium, Phytophthora, Phythium and Sclerotinia diseases, and for foliar applications for suppression of powdery mildew, early and late blight and bacterial specks and spots in fruiting, leafy and cucurbit vegetables.
- **TORINO fungicide:** (EPA No. 8033-103-10163, a.i. cyflufenamid, Gowan). For control of powdery mildew in cucurbit vegetables.
- **WARFOX herbicide:** (EPA No. 66222-252, a.i. flumioxazin, MANA). Generic version of Chateau for control of certain weeds in asparagus, dry beans, garlic, onion, sweet potato and transplanted melons.



Supplemental Labels

- **INTREPID 2F insecticide:** (EPA No. 62719-442, a.i. methoxyfenozide, Dow AgroSciences). For control of Lepidoptera larvae infesting root vegetables (i.e. carrots, celeriac, garden beet, parsnip, radish, etc.)
- **QUINTEC fungicide:** (EPA No. 62719-375, a.i. quinoxifen, Dow AgroSciences). For control of powdery mildew on peppers and eggplant (expires 9/30/2016).
- **REFLEX herbicide:** (EPA No. 100-993, a.i. sodium salt of fomesafen, Syngenta). For control of certain weeds in transplanted tomatoes and peppers (Expires 12/31/2019), summer squash, winter squash, pumpkin and succulent peas (expires 12/31/2018).

Special Local Needs (24C)

- **APPROACH fungicide:** (EPA No. 352-840, a.i. picoxystrobin, Dupont). For control of leaf and soil-borne diseases including white mold in dried and shelled beans and peas, and sweet corn.
- **PRIAXOR XEMIIUM BRAND fungicide:** (EPA No. 7969-311, a.i. fluxapyroxad + pyraclostobin, BASF). For disease control and plant health in sweet corn, dried shelled peas and beans, edible-podded legume vegetables, fruiting vegetables, succulent shelled peas and beans, and potato and other tuberous/corm vegetables.
- **RIMON 0.83EC insecticide:** (EPA No. 66222-35-400, a.i. novaluron, Chemtura). To control Colorado potato beetles and European corn borer and other foliage feeding caterpillars in potatoes.

Discontinued Products

- **DI-SYSTON 8 Insecticide:** (EPA No. 264-734, a.i. Disulfoton, Bayer CropScience). Registered crops (except lettuce): Distributors, retailers and growers could sell and use Di-Syston 8 on registered crops (except lettuce) until **December 31, 2013**, after which time Di-Syston 8 tolerances on registered crops (except lettuce) were cancelled. Distributors, retailers and growers can sell and use Di-Syston 8 on lettuce until December 31, 2014, after which time Di-Syston 8 tolerances on lettuce will be cancelled. Any uses of Di-Syston 8 after the listed dates are illegal.
- **MONITOR insecticide:** (EPA No. 264-729, a.i. methamidophos, Bayer CropScience). Distributors, retailers and growers could sell and use Monitor on registered crops until **December 31, 2013**, after which time, Monitor tolerances were cancelled. Any uses of Monitor after December 31, 2013 are illegal.
- **MONSANTO herbicide brands LASSO** (EPA No. 524-314), **BULLET** (EPA no. 524-418), **MICROTECH** (EPA No. 524-344), **INTRO** and **LAR-IAT** (EPA No. 524-329), a.i. acetochlor-containing herbicides were no longer available for sale, distribution, or use in NYS since **December 31, 2013**.
- **RELY 280 potato desiccant:** (EPA No. 264-829, a.i. glufosinate-ammonium, Bayer CropScience). **Will not be available in 2013.** Bayer is planning to have Rely 280 **available for sale in 2016**.
- **SYNAPSE WG insecticide:** (EPA No. 264-1026, a.i. flubendiamide, Bayer CropScience). Has been replaced by BELT for all vegetable uses. Product may be used until it is gone.
- **THIONEX 3EC & 50W Insecticide** (EPA No. 66222-63(EC), 66222-62(W), a.i. endosulfan, MANA Crop Protection). For broad-spectrum insect control. It is unlawful to use endosulfan on broccoli, Brussels sprouts, cabbage, carrots, cauliflowers, celery, collard greens, cucumbers, dry beans, dry peas, eggplant, kale, kohlrabi, lettuce, mustard greens, summer melons, summer squash, greenhouse tomatoes, sweet potato and turnip. **Crops/Uses with a stop use date of July 31, 2015:** peppers, potatoes, pumpkins, sweet corn, tomato, and winter squash. **Crop Uses with a stop date of July 31, 2016:** Brassica vegetable crops grown for seed. ●

Got Stink Bugs?

Are you a grower? Got stink bugs? We need your help! We're surveying growers to assess the impact of Brown Marmorated Stink Bugs (BMSB) on crops and gathering information that will help us defeat this pest. Receive a free Guide to Stink Bugs if you complete the 10-minute BMSB survey:

https://cornell.qualtrics.com/SE/?SID=SV_5ssnjXLNhvp6v1H

Your participation will help us to help you Stop BMSB! The survey will be available until June 30.

StopBMSB is a project focused on the biology, ecology, and management of the brown marmorated stink bug. For more info, visit the StopBMSB website: <http://stopbmsb.org/> ●

How to **LOOK UP LABELS**

for
Pesticides Labeled
in New York



Go to the website of the NYS Pesticide Product, Ingredient, and Manufacturer System (PIMS):
<http://pims.psur.cornell.edu/>

To look up primary and supplemental labels that are **currently registered**, you may search by product name, active ingredient or EPA number. From the product search results, click the "NYS" label under the "label" column of the pesticide that you are interested in and from the next page, click "view" of the most recent (by date) primary or supplemental label. Often, but not always, **Section 24C Special Local Needs** and **2(ee)** labels will be available via this search.

If you want to check and see if a **pesticide has been deregistered**, when searching by product name or EPA number, under "search options", select "archive".

To look up **Section 18 Emergency** labels, from the main search menu, click on "Special registrations". From this screen, scroll down to the "NYS 2 (ee), FIFRA Section 18" section and click on "NYS Emergency Exemptions (FIFRA Section 18s). A list will come up and you can click on the label directly from this screen to view the label as a pdf. **Special Local Needs 24 (c)** labels can be looked up under "Special registrations" as well.



Photo: G. Dively, University of Maryland

CROP INSIGHTS

GARLIC

Well this winter has really taken its toll on our garlic crop. Extreme cold, frost heaving, and winds with minimal snow cover has caused losses across the region. Some fields have seen upwards of 30% loss or more. The cold wet spring hasn't helped much either.

The snow cover had helped protect the cloves over the winter but in areas where the snow melted off about a month ago then followed by frigid winds, the garlic really suffered. Many cloves were pushed up and exposed to winds. Desiccation shriveled them up. Injured cloves rotted in the cold wet weather of April.

Having mulched the cloves might have made the difference. With this protection is the added cost of material and mostly the labor of application. Then what confounds the situation is having to get out into the field in early spring and pull the mulch off. With the wet cold weather, not getting the mulch off in time would have caused issues with rotting. Most of the past few winters have been mild enough not to need mulch and who could have predicted this winter? So not a great scenario for us.

For most, the March application of fertilizer has had to wait till late April if at all. From the presentations made at our garlic schools, late applications of fertilizers don't have a huge effect when it comes to bulb sizing. A fall application for a small part of the total N followed by a mid – late March application, then maybe a little more in mid-April.

CVP teammate, Christy Hoepting, has conducted a garlic herbicide study last year. Using elephant garlic, she tried many products. She notes that our best spring pre-emergence herbicide was Outlook 21 fl oz when garlic has a minimum of 2 leaves. This is predominantly for grasses except quackgrass and a few broadleaves. It has a 30 day PHI. Butril 2 pts was our best POST app, which needs to be applied when garlic is less than 12 inches, it has a 112 PHI.

For organic weed management, cultivation as soon as soil conditions allow. If weeds are small, a burn-down control through flaming is possible as well as using a 20% acetic acid spray (can cause spotting on young garlic leaves so shielding might be useful).

PROCESSING CROPS

Wet ground has made it difficult to get plantings of peas, carrots and beet in. Pea planting did begin April 13th. A reminder that planting on wet, compacted soil can limit root growth and encourage root rot disease if the pathogens are in the soil.



Root rot in peas on wet, compacted soil (above).
Photo: Julie Kikkert, Cornell Vegetable Program

Yellowing and poor growth in peas on wet, compacted soil (below).
Photo: Julie Kikkert, Cornell Vegetable Program



High Tunnel Profitability Update

As noted in the last issue of VegEdge the Cornell Vegetable Program is working with the New York Farm Viability Institute on a new project "Increasing High Tunnel Profitability with Improved Soil Management". One of the first steps of this process is soil testing at high tunnel sites throughout the state to assess where nutrients levels are before applying amendments such as compost and fertilizer. Going into the project we hypothesized that many growers could save money by applying less material, particularly those high in phosphorus and potassium. Based on the first batch of soil tests it looks like we were right.

Tunnel soils that have been in tomato production for years are coming in with sky-high levels of phosphorus, calcium and potassium. Another interesting observation is that pH is also too high in many tunnels. The combination of high soil nutrient levels and high pH can be responsible for nutritional problems in the crops, including ironically, potassium deficiency which causes fruit disorders such as white-core and yellow shoulders.

This brings us to another action step: reducing pH to maximize plant-availability of what is already in the soil. Information from Purdue has us applying 20 lbs. elemental sulfur per 1000 sq. ft. to reduce a soil pH of 7.5 to 6.5. (<http://bit.ly/1hVb7jn>). Our goal here is to prevent the nutrient deficiencies that steal our yields and plummet profitability. A slightly acid soil supplies more nutrients, in a balanced fashion, to tomatoes than an alkaline soil.

This is a learning process for both us and the cooperating growers. Action steps are individualized for every farm, based on their crops, soil, water and analyses. Foliar nutrient testing is the next step in the project and we look forward to measuring how our soil amendments play out inside the plant. Contact Judson Reid at jer11@cornell.edu or 585-313-8912, or Elizabeth Buck at emb273@cornell.edu or 607-425-3494 for more details. ●

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VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program in Western New York. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas and research results from Cornell and Cornell Cooperative Extension. VegEdge is produced every few weeks, with frequency increasing leading up to and during the growing season.

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