# VEGETABLE CROPS HOTLINE

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vegcropshotline.org

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#### WHITE MOLD OF TOMATOES OBSERVED IN GREEN-

**HOUSE** - (*Dan Egel, egel@purdue.edu, 812-886-0198*) In early March, I observed white mold of recently transplanted tomato plants in a greenhouse situation. I have described the symptoms, biology and management of white mold at https://ag.purdue.edu/arp/swpap/VeggieDiseasesBlog/Lists/Posts/Post.aspx?ID=18.

I have never observed white mold (a.k.a, timber rot) in February before. I have observed white mold of tomato transplants in April. However, the very small mushroom (smaller than a dime) that is part of the life cycle usually emerges in the spring after a cold period.

The appearance of white mold in February may be as a result of the presence of the mushroom in the greenhouse that produced the transplants.

To reduce severity of white mold of tomato, I recommend that tomato growers:

• Inspect transplants for stem lesions which may be a symptom of white mold. Bring questionable symptoms to my attention or send them to the Purdue Plant and Pest Diagnostic Laboratory (http://www.ppdl.purdue.edu/ppdl/index.html).

• Clean and sanitize greenhouses in-between tomato transplant generations.

• Use a floor covering to reduce the chance of crop residue getting in the soil. A floor covering should also

reduce weeds and the white mold mushrooms.

Contans<sup>®</sup> is a product labeled for greenhouse use. It must be worked into the soil months before the tomato crop is planted. See *the Midwest Vegetable Production Guide for Commercial Growers, 2015 (ID-56)* or see the Contans<sup>®</sup> label for more information.

This article was originally published at VeggieDiseases blog https://ag.purdue.edu/arp/swpap/VeggieDiseasesBlog/Lists/Posts/Post.aspx?ID=35 on March 8, 2015.



Figure 1. White mold, also known as timber rot, on a tomato transplant. The stem of the seedling has broken at the point of the white mold lesion. Note the white fungus present on the lesion. (*Photo by Dan Egel*)



**PHEROMONES AND PHEROMONE TRAPS -** (*Rick Foster, fosterre@purdue.edu, 765-494-9572*) - One way insects communicate with individuals of the same species is with pheromones. Pheromones are volatile chemicals released by an insect that usually can be detected only by individuals of the same species. There are a number of different types of pheromones, but the most common type is the sex pheromone. Usually the females will emit a tiny amount of a chemical that attracts the male to her and increases the likelihood of mating. Because the chemical is volatile, air currents carry it. The male

detects the pheromone in the air with receptors on his antennae. He then flies upwind to find the source of the pheromone, a prospective mate. The chemical compositions of pheromones for a number of pest species have been identified and synthetic copies can be produced in the laboratory. Synthetic pheromones can be used in conjunction with traps to catch male insects.

Listed below are some, but certainly not all, of the suppliers of pheromones and traps.

Alpha Scents, Inc.; 1089 Willamette Falls Drive, West Linn, OR 97068; 503-342-8611; www.alphascents.com Gempler's; P. O. Box 270, 100 Countryside Dr., Belleville, WI 53508; 800-382-8473; www.gemplers.com Great Lakes IPM; 10220 Church Rd. NE, Vestaburg, MI 48891; 517-268-5693; www.greatlakesipm.com Insects Limited Inc.; 16950 Westfield Park Rd., Westfield IN 46074-9374; 317-896-9300; www.insectslimited. com

Pacific Biocontrol Corporation; 620 E. Bird Lane, Litchfield Park, AZ 85340; 623-935-0512 or 800-999-8805;

#### www.pacificbiocontrol.com

Scentry Biologicals Inc.; 610 Central Ave., Billings MT 59102; 800-735-5323; www.scentry.com

**Trece Incorporated**; P. O. Box 129, Adair, OK 74330; 866-785-1313; **www.trece.com** 

You can buy most pheromone traps from these suppliers, but for corn earworm/tomato fruitworm, I recommend that you use the wire mesh trap which is available from:

**Bob Poppe's Service**; 25738 N. 3200 Road, Lexington, IL 61753; 309-723-3201.

The wire traps catch more moths and last longer than the nylon traps.

To get the most from your pheromone traps, they must be used properly:

• Place the traps and the pheromones out before you would normally expect the insect pest to be active. That way you can monitor the adult activity, which will warn you that damage from the larvae may be coming soon. Corn earworm pheromone traps should go out about June 1.

• Be careful how you store pheromones. Ideally, they should be frozen until ready for use. At the very least, they should be refrigerated. If you keep them on the dashboard of your truck, they won't work well when you place them in the trap.

• When handling pheromone lures, do not touch them with your hands. Use a pair of forceps or wear latex gloves. This is especially important when you are using pheromones for more than one pest. Contamination of a lure with another pheromone will likely reduce the effectiveness.

• Lures usually should be changed every 3-4 weeks, although this will vary for individual lures.

• Check traps regularly, at least weekly. Daily would be better.

**SEED AND ROOT MAGGOTS** - (*Rick Foster, fosterre@ purdue.edu*, 765-494-9572) - Three species of seed and root maggots attack vegetables in Indiana. The seedcorn maggot feeds on seeds and seedlings of sweet corn, cucurbits, lima and snap beans, peas, and other crops. Cabbage maggots can cause serious damage to transplants of cabbage, broccoli, cauliflower, and Brussels sprouts and make the fleshy roots of radishes, turnips, and rutabagas unmarketable. Onion maggots are pests of seedling onions, developing bulbs and onions intended for storage.

Seedcorn maggot flies emerge in April and May and lay eggs preferentially in areas with decaying organic matter. Fields that are heavily manured or planted to a cover crop are more likely to have seedcorn maggot injury. Maggots burrow into the seed and feed within, often destroying the germ. The seeds fail to germinate and plants do not emerge from the soil, leaving gaps in the stand. When infested seeds germinate, the seedlings are weak and may die. Maggots also will feed within the stems of transplants.

Any condition that delays germination may increase damage from this pest. Damage can be reduced by planting into a well-prepared seedbed, sufficiently late to get rapid germination. The slower the rate of growth, the greater the likelihood of seedcorn maggot injury. For any type of early season transplant, soil temperatures should reach at least 70° F or more for 4-5 days in a row to avoid maggot injury. Anything that raises soil temperature (black or clear plastic mulch) will increase soil warming and decrease the possibility of seedcorn maggot injury. Once damage is observed, the only management strategy available is the decision to replant or not. If you decide to replant, be sure to use treated seed. When resetting transplants be sure to wait 5 days from the first evidence of wilted plants before you reset. Unfortunately, we don't have any insecticides that can be applied at planting time that will provide good control of seedcorn maggots. Admire Pro® and Platinum®, which both provide several weeks of excellent systemic control of striped cucumber beetles when applied at planting, are not labeled for seedcorn maggots and the control is marginal at best. Capture LFR® is labeled for control of wireworms, grubs, and other soil insects on cucurbits but not for seedcorn maggots. I have one year of data with Capture<sup>®</sup> that showed fairly promising results, but more data are needed.

Cabbage maggot injury is also favored by cool, wet conditions. The flies, slightly smaller than a housefly, emerge in late April or early May and lay white eggs at the base of newly set plants. Larvae from this first generation tunnel in the roots of small plants, causing the plants to appear sickly, off color or stunted, and may cause them to die. Early cabbage and turnips are particularly vulnerable to damage. Control of first generation maggots can be achieved using soil insecticides such as Capture LFR<sup>®</sup>, Lorsban<sup>®</sup> or diazinon at planting or transplanting. For short season crops such as radishes and turnips, long-residual insecticides cannot be used.



Cabbage maggots usually do not affect later planted crucifers.

Onion maggot flies emerge throughout May and lay eggs at the base of onion plants. The maggots attack the underground portions of the onion plants and cause plants to wilt and die. Seeded onions are more susceptible than transplanted onions. Do not overseed to compensate for losses to onion maggots. The flies do not space their eggs evenly, so you may end up with smaller bulbs because the plant spacing is too close. The secondgeneration flies emerge during July and the third generation emerges during late August and early September. Each generation will damage onions.

Removing cull onions after harvest and planting as far as possible from fields planted to onion the previous year can reduce damage. Soil drenches of Lorsban<sup>®</sup> (dry bulb only) or diazinon at planting will effectively control first generation maggots and provide some control of the second generation. As the onions begin to mature, they become physically resistant to attack from onion maggots, unless they have been injured in some way. Be careful during field operations not to damage the growing plants in any way. A nick in an onion bulb allows the maggots to enter and begin feeding. Also, the flies are attracted to damaged onions to lay eggs. Reducing the amount of physical damage to the onions at harvest as much as possible will also reduce the amount of injury from the third generation. Do not apply foliar sprays to kill flies before they lay eggs.



**FOLLOW ME ON TWITTER -** (*Rick Foster, fosterre@purdue. edu,* 765-494-9572) - I'm trying something new this year. I plan to tweet out what I am seeing as far as insects in fruit and vegetables as I see it, rather than waiting for the next edition of the newsletters to come out. My twitter address is "Rick Foster **@PurdueFVInsect**". If you currently have a twitter account, please consider following me. If you don't, it's not hard to set one up. I was able to do it with only a little help from someone younger than myself.



AN UPDATE ON THE USE OF COPPER PRODUCTS FOR MANAGING BACTERIAL SPOT OF TOMATO - (Dan Egel, egel@purdue.edu, 812-886-0198) - Bacterial spot of tomato is one of the most serious diseases facing tomato growers in Indiana. As described at https://ag.purdue.edu/arp/ swpap/Documents/VEGETABLE%20DISEASES%20 IN%20GREENHOUSES.pdf, bacterial spot is more of a problem for field tomatoes than for greenhouse tomatoes. Symptoms and management of bacterial spot are described briefly at https://ag.purdue.edu/arp/swpap/ Documents/Bacterial%20Spot%20of%20Tomato%20 and%20Pepper.pdf. A more detailed version of this article is found at https://ag.purdue.edu/arp/swpap/ VeggieDiseasesBlog/Lists/Posts/Post.aspx?ID=31. This article will discuss why copper products have become less useful in the control of this important disease and options for managing bacterial spot of tomato.

Copper products have been used for many years to help control bacterial spot of tomato. However, some strains of the bacteria that cause this important disease are resistant to copper—that is, the bacteria have mutated to a form that is no longer sensitive to copper. Some of the techniques used to increase control with copper have included increasing the application frequency of copper products, increasing the amount of copper applied and mixing copper with the product mancozeb (e.g., Dithane<sup>®</sup>, Manzate<sup>®</sup>, Penncozeb<sup>®</sup>) to increase the amount of copper available on the leaf surface.

The fact that many strains of the bacterial spot pathogen had become resistant to copper products was bad news. Recently, however, even worse news was reported. The new evidence shows that, in at least some cases, the use of copper actually makes bacterial spot worse than not using any copper at all.

While copper may not be as effective against bacterial spot as it once was, the lack of alternatives to copper makes this extension worker hesitant to change recommendations to exclude copper. Indiana tomato growers will find that copper products are still one of the options listed in *the Midwest Vegetable Production Guide for Commercial Growers*, 2015.

Since copper products alone will not control bacterial spot of tomato, what other options do we have?

**Chemical control.** It is impossible to control bacterial spot of tomato without cultural controls such as crop rotation, sanitation etc. However, this article will concentrate on chemical control.

Products with streptomycin (e.g., Agri-mycin 17<sup>®</sup>, Firewall<sup>®</sup>, Harbour<sup>®</sup>) can be used in the transplant greenhouse (streptomycin products cannot be used on field tomatoes). The use of streptomycin products will help to lower the populations of strains that cause bacterial spot, including those strains that are resistant to copper.

Products with the active ingredient hydrogen dioxide (e.g., Oxidate<sup>®</sup>) are also labeled for bacterial spot in the greenhouse. Hydrogen dioxide can kill bacteria on contact, however, it has very little to no residual. In general, I do not recommend the application of hydrogen dioxide products in the field for control of bacterial spot. Do not substitute hydrogen dioxide for copper or streptomycin or Actigard<sup>®</sup>. But do not mix copper and hydrogen dioxide.

Another product that has been used for management of bacterial spot of tomato is acibenzolar-S-methyl (trade name Actigard<sup>®</sup>). Acibenzolar (ASM) does not have any activity against bacteria or fungi. ASM is known as a systemic acquired resistance product. That is, it 'tells' the plant to turn on biochemical pathways that defend the plant from infection. ASM has been used with copper products to lessen the severity of bacterial spot of tomato. However, ASM can cause yield loss if used on tomatoes that are stressed due to drought or other environmental factors.

Serenade Max<sup>®</sup> has shown activity against bacterial spot of tomato. The action of Serenade Max<sup>®</sup> is reported to be due to a protein component of the bacterial ingredient and to a systemic acquired resistance activity similar to that described for ASM.

The fungicide Tanos<sup>®</sup> (common name of active ingredients, famoxadone, cymoxanil) has been trialed for activity against bacterial spot of tomato. While the results have not always been positive, it might make sense to use Tanos<sup>®</sup> when one is trying to manage one of the fungal diseases on the Tanos<sup>®</sup> label (for example anthracnose, early blight, late blight, Septoria leaf blight) and hope for some activity against bacterial spot as well.

I welcome any comments or questions about bacterial spot of tomato.



**Too Much Fertilizer for Transplants?** - (Liz Maynard, emaynard@purdue.edu, 219-531-4200) - Sometimes newly transplanted crops don't take off like we'd expect. Consider the newly transplanted tomato seedlings in these images. In Figure 2, lower leaves are chlorotic (yellow) and leaflet edges and leaves curl downward. In Figure 3, lower leaves are chlorotic or bleached and some had necrotic (dead) spots. In Figure 4, some leaves have died and others have 'scorched' margins or tips. Figures 2 and 3 are from a high tunnel; Figure 4 is from the field. What they have in common is that the tomato plants are not thriving after transplanting. It may be hard to say exactly what is going on with each of these, but it would not be surprising if they were cases of over application of a fertilizer or soil amendment, leading to toxicities for the plant.



Figure 2. Young tomato transplant in a high tunnel with chlorotic lower leaves. (*Photo by E. Maynard*)



Figure 3. Young tomato transplant in a high tunnel with chlorotic, bleached, and necrotic lower leaves. (*Photo by E. Maynard*)



Figure 4. Young tomato transplant in the field with scorched leaf margins and dead leaves. (*Photo by E. Maynard*)

Ammonium toxicity is common when soil is cool and wet, soil pH is low, and there is a large amount of ammonium in the soil. Typical symptoms show up on leaves and can include interveinal chlorosis (yellowing between the veins) that eventually may turn brown and die, and leaf edges that curl up or down. A look at roots may show death of root tips. High levels of ammonium in the soil can occur when fertilizers that release ammonium are applied at high rates, and the soil conditions mentioned above limit bacterial conversion of ammonium to nitrate. Examples of fertilizers that release ammonium include urea, ammonium nitrate, and organic fertilizers. At low levels, ammonium is not toxic to plants, but when a plant takes up too much, the plant cells can be injured. To avoid ammonium toxicity, avoid concentrated applications of ammonium-producing fertilizers near the plant when soil is cool and wet, especially if pH is low.

Salt injury occurs when fertilizer and other salts in the soil become high enough to injure plant tissues. Symptoms typically include scorching at margins of leaves and death of roots. High soil salts are usually a result of applying too much fertilizer, or applying in too concentrated an area. It is likely that this is the cause of symptoms in Figure 4. Avoid salt injury by applying fertilizers at recommended rates, mixing them evenly into the soil, or if not mixed, applying in a narrow band away from seedling roots or seeds, .e.g. 2 inches to the side and 2 inches below seeds. Transplant starter solutions can also cause salt injury if they are too concentrated, or if the soil dries out shortly after they are applied, concentrating salts in the root zone. If fertilizer does not dissolve completely or is not well mixed in the solution, salt injury may result because solution at the bottom of the tank is too concentrated.

In high tunnels that remain covered year round, salt problems can build up over time. Yearly applications of more nutrients than the plants use builds up nutrients and salts in the soil. Without rain or extra irrigation to leach salts out of the root zone, levels can be high enough to injure plants. If a drip or other micro irrigation system is used, salts will tend to build up at the margin of the area of soil normally wet by irrigation. Measurements taken across a bed may show differences in salt levels in the soil. To avoid problems from fertilizer buildup over time, routinely sample soils and send to a lab for testing to monitor trends in nutrient and salt levels. Adjust fertilizer applications accordingly: reduce applications of nutrients that are building up to excessive levels. Work soil between crops to disperse bands of salt built up. If you suspect drip irrigation has led to bands of higher salt areas in a bed, take multiple samples across the width of the bed, and send to lab for a test of the salt level at the different locations. If salt levels become too high, applying water to leach salts below the root zone will reduce the problem.

Ammonium toxicity and high salts are just two reasons plants might not establish well after transplanting. Others include an air gap between root ball and soil, injury to the seedling stem, cold soil or air temperature, dry soil, a transplant that is not suitably hardened off, and soil applied herbicides with a narrow margin of safety for the crop. Care taken to avoid these problems pays off with a crop that takes off after transplanting, ready to achieve its full potential. **GRANT PROGRAMS: RURAL ENERGY FOR AMERICA AND SPECIALTY CROP BLOCK GRANT** - (*Liz Maynard*, *emaynard@purdue.edu*, 219-531-4200) - Two USDA grant programs may be of interest to vegetable growers or grower organizations.

The Rural Energy for America Program helps growers and small rural business improve energy efficiency, or purchase or install renewable energy systems. The program includes guaranteed loan financing and grant funding. For more information see the USDA website at http://www.rd.usda.gov/ programs-services/rural-energy-america-programrenewable-energy-systems-energy-efficiency or contact Indiana's rural energy coordinator Jerry Hay at 812-346-3411 Ext.126.

The Specialty Crop Block Grant provides funding to promote specialty crop competitiveness in Indiana. Grants are made to non-profit organizations, producer organizations, government agencies, universities and other organizations related to Indiana's specialty crops industry. Past funding from this program has supported projects by grower groups, Purdue, and others in the areas of marketing, food safety education (e.g. GAPs A to Z programs), production education (e.g. Indiana Horticultural Congress), research on production practices, and more. Proposals are due to the Indiana State Department of Agriculture (ISDA) on May 1, 2015. For more information, see the ISDA announcement at https://secure.in.gov/isda/2474.htm.



#### HAVE YOU RENEWED YOUR HARD COPY

**SUBSCRIPTION YET**? - For those who receive hard copies of the Vegetable Crops Hotline by US Mail, this will be the last issue mailed unless you have renewed your subscription for 2015. You may renew by 1) mailing subscription form included in this issue with payment, or 2) joining or renewing membership in the Indiana Vegetable Growers Association for 2015. If you attended a winter vegetable meeting, there may have been an opportunity to renew when you registered for the event. If you aren't sure whether you have renewed or not, contact Barb Joyner at **joynerb@purdue.edu** or 812-886-0198.





Purdue Vegetable Connections on Social Media and Online

#### Websites

Botany and Plant Path Extension – Vegetables https://ag.purdue.edu/btny/Extension/Pages/VegetablePathology.aspx Hort Extension – https://ag.purdue.edu/hla/Extension/ Entomology Extension – Vegetables – http://extension.entm.purdue.edu/veg/commercial/ Food Safety for Fresh Fruits and Vegetables – https://ag.purdue.edu/hla/foodsafety Plant and Pest Diagnostic Lab – www.ppdl.purdue.edu Purdue Extension – https://extension.purdue.edu Purdue Small Farms – https://ag.purdue.edu/extension/smallfarms/

#### Twitter

Rick Foster – @purduefvinsect NW Commercial Hort (Liz Maynard) – @nwch Hort Extension – @PurdueHortExt Plant and Pest Diagnostic Lab – @PurduePPDL SW Purdue Ag Center (Dan Egel) – @SWPurdueAg

#### Facebook

SW Purdue Ag Center – www.facebook.com/SWPurdueAgCenter Hort Extension – www.facebook.com/PurdueHortExt Small Farms – www.facebook.com/PurdueExtensionSmallFarms

Blogs Vegetable Diseases (Dan Egel) – veggiediseaseblog.org

Key Publications Midwest Vegetable Production Guide – mwveguide.org Vegetable Crops Hotline – vegcropshotline.org

Email Lists Commerical Fruit and Vegetable Email List – https://lists.purdue.edu/mailman/listinfo/fruitveg

#### **Upcoming Events**

**Good Agricultural Practices A to Z Workshops.** Funded by Purdue, as part of AgSEED Crossroads funding to support Indiana's Agriculture and Rural Development, or by USDA/ISDA Specialty Crops Block Grant to Purdue. Programs focused on cantaloupe are also relevant to other fresh fruits and vegetables; all growers are welcome to attend. Register online at **tinyurl.com**/ **RegisterGAPsAtoZ**.

Tuesday, March 24, 2015. 12:30 P.M. – 4:00 P.M. Focus on Cantaloupe. Ag Hall, Elkhart County 4-H Fairgrounds, 17746 County Road 34, Goshen, IN. contact: Jeff Burbrink, 574-533-0554, Ext 106, **jburbrink@purdue.edu**.

Friday, March 27, 2015. Parke County Fairgrounds, 1472 U.S. 41, Rockville, IN. Contact: Jim Luzar, 812-462-3371, **luzar@purdue.edu**.

Monday, March 30, 2015. Purdue Extension Hancock County Office, 802 North Apple Street Greenfield, IN. Contact: Roy Ballard, 317-462-1113, **rballard@purdue. edu**.

Wednesday, April 8, 2015. 9:00 A.M. – 4:00 P.M. Washington County Extension Office, Washington County Government Building, Suite 104, 806 Martinsburg Road, Salem, IN. Contact: Richard Beckort, 812-358-6101, **rbeckort@purdue.edu**.

**PrimusGFS v. 2.1 Update Training.** Monday, April 6, 2015. 8:00 A.M. – 5:00 P.M. Southwest Purdue Agricultural Center, 4369 N. Purdue Rd., Vincennes, IN. This one-day workshop is for fruit and vegetable growers who have used the PrimusGFS v. 1.6 audit protocol and are needing to update to the new version 2.1. There is no charge for the class. Growers may sign up to receive a certificate of participation for a \$30 fee. To register, contact the Southwest Purdue Ag Center (Scott Monroe) at 812-886-0198.

University of Kentucky 2015 High Tunnel Webinar Series. Tuesdays, 6:30 – 7:45 р.м. To attend remotely from your home computer: contact Miranda Hileman Combs, 859-218-4384, miranda.hileman@uky.edu. To attend in person at the Purdue Extension office in Hancock County, contact Roy Ballard at 317-642-6566 or rballard@purdue.edu.

March 24 (webinar) or March 31 (in person at Hancock County). Producer Views & Series Wrap-up

It is the policy of the Purdue University Cooperative Extension Service that all persons have equal opportunity and access to its educational programs, services, activities, and facilities without regard to race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability or status as a veteran. Purdue is an Affirmative Action Institution. This material may be available in alternative formats. 1-888-EXT-INFO <http://the-educationstore.com> Disclaimer: Reference to products in this publication is not intended to be an endorsement to the exclusion of others which may have similar uses. Any person using products listed in this publication assumes full responsibility for their use in accordance with current directions of the manufacturer.

## 2015 Vegetable Crops Hotline Subscription Form

The *Vegetable Crops Hotline* newsletter provides the commercial vegetable grower with timely information about disease, insect and weed pests, fertility practices, post-harvest problems, pesticide label changes, meetings and much more. Each year, the Hotline is published 12 times during the growing season (April - September) with off-season issues in February, March and November.

Again this year, in addition to receiving the regularly scheduled *Hotline* issues, subscribers may also receive the <u>Vegetable Crops Hotline - Bulletin</u> either by email or FAX. This will require that subscribers to the 2015 *Hotline* indicate how they want to receive the bulletins. The *Bulletin* articles will also appear in the next regularly scheduled *Hotline* issue along with other pertinent articles written by the Purdue staff.

To subscribe, please fill in your name and address below, and send this form and a check for \$15.00 made payable to <u>**Purdue University**</u> to:

Vegetable Crops Hotline Subscription Southwest Purdue Agricultural Program 4369 N. Purdue Rd. Vincennes, IN 47591

## Indiana Vegetable Growers Association members are automatically signed up for the *Vegetable Crops Hotline* at no additional charge.

\_\_\_\_\_Yes, I would like to subscribe to the 2015 *Vegetable Crops Hotline*. Enclosed is a \$15 check made payable to **Purdue University**.

<u>Mail to</u>: Vegetable Crops Hotline Subscription, SWPAP, 4369 North Purdue Road Vincennes, IN 47591

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| home) and/or  |   | (work)   |  |
| If you would like to receive email notification when <u>Vegetable Crops Hotline Issues and Bulletins</u> are published, please give us your email address or visit <b>lists.purdue.edu/mailman/listinfo/vch</b> to sign up: |   |  |  |
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code): \_\_\_\_

#### Indiana Vegetable Growers Association

Membership Renewal/Application

Benefits of IVGA Membership:

- Midwest Vegetable Production Guide for Commercial Growers, (ID-56) (new edition usually available in Jan.)
- Vegetable Crops Hotline subscription
- Listing in IVGA Directory of Wholesale Vegetable Producers (optional)
- Your web site linked on www.ivga.org
- Corporate members: logo included on corporate members page at www.ivga.org
- Network with other vegetable growers
- Support education and research to improve vegetable production and marketing in Indiana

To renew or join, correct or fill out the form below and send in with your check payable to IVGA. Memberships run January - December. If you have already renewed for the current year, but haven't provided the information requested below, please check here \_\_\_\_, and complete and return this form so we have your current information.

| Your contact information below will be printed in the membership directory that is sent to members only. It will also be used to mail you the Vegetable Crops Hotline, to fax or e-mail the Hotline Bulletin, and for IVGA correspondence.  | The IVGA Directory of Wholesale Vegetable<br>Producers will be updated periodically.<br>Check here to be included in the directory.<br>Check here if information has not changed since<br>previous year.OR provide information below.<br>Contact information for Wholesale Directory, if<br>different from elsewhere on this form:  |
|---|---|
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| Address:  | Company:  |
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| Membership Type:<br>Regular, \$40.00/year<br>Industry/Corporate, \$80.00/year   | dayliliesspinach or chard<br>greens (collards,squash, summer<br>mustard, turnip)  |
| Make check payable to:<br>Indiana Vegetable Growers Association (IVGA).<br>Return to:<br>Indiana Vegetable Growers Association c/o Maynard<br>PO Box 1321<br>Valparaiso, IN 46384-1321  | corn, stalks squash, winter   corn, ornamental strawberries   cucumber sweet corn, bicolor   eggplant sweet corn, white   gourds, ornamental sweet corn, yellow   herbs tomatillo   kale tomato   lettuce turnips   watermelon watermelon   |
| Office Use Only: Check no Check Date  | Date Rec'd Rec'd. by  |