

# VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service

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### DR. AMANDA DEERING APPOINTED TO FRESH PRODUCE SAFETY EXTENSION FACULTY POSITION

Amanda Deering started her Extension/Research appointment July 1, 2015 in a new role as a Clinical Assistant Professor in fresh produce food safety. Amanda grew up on a farm in a small farming community located in the "thumb" of Michigan and joined the Food Science department in the fall of 2013 as a Research Assistant Professor.



Amanda earned her bachelor's degree in biology and master's degree in plant biology from Central Michigan University. She completed her Ph.D. at Purdue University in food microbiology and food safety specializing in fresh produce food safety. Her research focuses on examining internalization of human pathogenic bacteria in plants, as well as routes of contamination that can contribute to plants harboring pathogenic bacteria. Amanda works closely with industry to develop and test novel sanitization treatments that can be used for fresh produce. She also has been involved in research and Extension activities related to preventing foodborne illness associated with fresh produce. Some specific Extension activities Amanda will be involved in are to deliver GAPs trainings for growers/producers, coordinate education and training for county and campus staff in GAPs and related food safety needs, and to develop resources that will address the real-time needs of growers. Amanda may be contacted at [adeering@purdue.edu](mailto:adeering@purdue.edu) or 765-494-0512.



**LIMING** - (Wenjing Guan, [guan40@purdue.edu](mailto:guan40@purdue.edu), 812-886-0198) - Crop production, decomposition of organic matter, using ammonium-producing nitrogen fertilizers, and rainfall all lower soil pH. To maintain soil pH in the optimal range (6.5 to 6.8) for vegetable production, periodic application of lime is needed.

The primary form of agricultural lime is calcium carbonate ( $\text{CaCO}_3$ ). It is the carbonate ( $\text{CO}_3^{2-}$ ) part that brings up soil pH. Whenever lime is applied, a large amount of calcium is also added to the soil. The good news is that calcium is an essential plant nutrient. Several vegetable problems that we are familiar with are caused by calcium deficiency for example, blossom end rot of tomatoes and peppers, and tip burn of cabbages. However, it should be noted that excess calcium might interfere with plant available magnesium and potassium. Therefore, it is always better to keep a balance of those nutrients.

Some lime products are specified as dolomitic lime. Dolomitic lime is common in Indiana. These products have a higher magnesium content, often a combination of 50% calcium carbonate and 40% magnesium carbonate. If a soil test shows magnesium is low, applying dolomitic lime is recommended as it provides soil with both calcium and magnesium. If magnesium is already excessive in soil, Hi-Cal Lime that is almost exclusively comprised of calcium carbonate is a better choice.

Most ag limes are in solid forms that are made up of crunched limestone. Products vary in particle size. The finer the materials, the faster they dissolve, and the quicker they are capable of correcting soil pH. As a general rule, it takes 6 to 12 months for lime to completely dissolve. Therefore, fall is always a good time for liming. Liquid lime and pelletized lime are also commonly used for vegetable production. Pelletized lime is made by coating finely ground lime with lignosulfonate, thus it is not as dusty as solid forms, making it easier to spread. However, pelletized lime is more expensive, and does not react with soil faster than finely ground ag limes with similar particle sizes. Liquid lime is finely ground lime suspended in water. It reacts faster with soil than the solid form. However, liquid lime typically consists of approximately 50% lime and 50% water. Considering the large volume, it might not be feasible to apply liquid lime on a large area. More information regarding liming can be found at <https://www.agry.purdue.edu/ext/forages/publications/ay267.htm>.



**HARVEST AND POST-HARVEST CARE FOR HIGH QUALITY PUMPKINS** - (Liz Maynard, [emaynard@purdue.edu](mailto:emaynard@purdue.edu), 219-531-4200) - Pumpkin season is here. Keeping up with best management practices through harvest and storage will help the year wrap up on a good note. The steps below are a reminder of actions that can make a difference.

- Handle fruit as little as possible.
- Harvest fully orange and healthy pumpkins. Half-orange pumpkins may turn orange but quality and storage life will be reduced.
- Use a sharp knife or loppers to cut pumpkins from the vine. Leave stems long enough for an attractive product.
- Carry the pumpkin like a ball, not by the stem, or 'handle.'
- Brush off soil that sticks to the pumpkin.
- If pumpkins are washed, include a labeled sanitizer in the wash water and dry pumpkins before storage.
- Place pumpkins carefully in crates, bins, or trucks, so that the stem of one pumpkin doesn't damage the rind of another.
- Watch for and avoid (or pad) sharp edges that could damage pumpkins rinds.
- Store pumpkins in a shaded location out of the rain if possible.
- Store pumpkins on pallets or other material to keep them off the ground or floor, if possible.
- Avoid stacking pumpkins to reduce damage to the fruit.
- Protect from frost and temperatures below 45°F by covering with tarp or moving to a protected area.
- Keep ideal storage conditions in mind and get as close as possible: 50-55°F and 50-70% relative humidity. Below 50°F chilling injury is possible.
- Keep away from sources of ethylene, such as apples, ripening tomatoes, and improperly operating heaters.
- Teach best practices to everyone who handles pumpkins on your farm.



Figure 1. Solid green stems on fully mature pumpkins make a quality jack-o-lantern. (Photo by Liz Maynard)



Figure 2. Storing pumpkins on a trailer keeps them away from moisture on the ground and makes it easy to move them into a shed to protect from rain, cold, and vandals. The pumpkins in this photo may not be top quality, being on the trailer will help them last a little longer. (Photo by Liz Maynard)



**BLACKLEG-LIKE SYMPTOMS OF POTATO** - (Dan Egel, [egel@purdue.edu](mailto:egel@purdue.edu), 812-886-0198) - In 2014 and 2015 blackleg-like symptoms were observed in some U.S. potato growing areas. The presence of a bacterium of the species *Dickeya* was confirmed by PCR testing. Symptoms caused from this pathogen may include leaf wilts and tuber soft rots which may extend internally up the vascular system of the stem. USDA APHIS PPQ would like to determine if *Dickeya* spp. are present in Indiana. If you are a potato grower and have observed the symptoms described here, contact Dan Egel.



**DO YOU GROW KALE?** - (Liz Maynard, [emaynard@purdue.edu](mailto:emaynard@purdue.edu), 219-531-4200) - If you grow kale you may be interested in the 'You ♥ Kale' effort promoted by Indiana's Farm to School program for this year's Food Day. The "Kale Toolkit" <http://www.doe.in.gov/sites/default/files/nutrition/kale-toolkit.pdf> provided by the Indiana Dept. of Education encourages schools to buy kale from local farmers, plant kale in the school garden, let students taste-test kale recipes, and serve kale in the school cafeteria to celebrate Food Day. Food Day is October 24, but schools can pick any day in October to have their official celebration. The toolkit also includes kale recipes that might be of interest to direct marketers. Learn more about Farm to School in Indiana at <http://www.doe.in.gov/nutrition/farm-school>.



**SARE FARMER RANCHER GRANTS AVAILABLE FOR 2016** - (Liz Maynard, [emaynard@purdue.edu](mailto:emaynard@purdue.edu), 219-531-4200 ext. 4206) - Do you have an idea that might help your farm stay in business for the long run? Be a better

place to work or contribute more to the community? Conserve or improve natural resources like soil and water? Reduce use of fossil fuels? The North Central Region Sustainable Agriculture Research and Education program (NCR SARE) of the USDA wants to fund ideas like these and others to make agriculture more sustainable – economically, socially, and environmentally.

The 2016 Farmer Rancher Grant Program of NCR SARE offers grants for farmer-initiated projects of up to \$7,500 for individuals, \$15,000 for partners, and \$22,500 for groups. Grant applications are due in the NCR SARE office on Thursday, December 3, 2015. To learn more about the grants and download a grant application, visit <http://www.northcentralsare.org/Grants/Apply-for-a-Grant>. To receive a hard copy of the application contact NCR SARE, at 612-626-3113.

NCR SARE also offers Partnership Grants to fund on-farm research, demonstration, or educational projects for up to 24 months. These grants are partnerships between three or more farmers and an Agricultural Professional who applies for the grant and is the principal investigator. Partnership Grants are due on October 29, 2015. See the web site above for additional information about this grant program. If you have an idea for a Partnership Grant but need assistance in finding an Ag Professional to work with, I'd be glad to help you identify someone.

Purdue Extension is offering a webinar about how to write a grant on October 7, 10 A.M. to 12:00 P.M. EDT. To participate, log in to the WebEx meeting room at <https://purdue.webex.com/join/rballard> on October 7<sup>th</sup>. For more information on how to take part in this webinar, or if you have additional questions about these grant programs, please contact Roy Ballard, Purdue Extension Educator for Hancock County and Indiana SARE State Coordinator at 317-462-1113 or by e-mail at [rballard@purdue.edu](mailto:rballard@purdue.edu).



**TELL US YOUR IDEAS FOR WINTER MEETINGS** - (Liz Maynard, [emaynard@purdue.edu](mailto:emaynard@purdue.edu), 219-531-4200) - We are planning programs for the Indiana Horticultural Congress and other winter meetings. The best ideas for topics and speakers come from you! Let us know what you want to hear and who you want to hear it from. Call or email with suggestions. Thanks!!



#### UPCOMING EVENTS

**Arthritis and Agriculture.** Thursday, September 24, 2015. 12:00 P.M. - 1:00 P.M. EDT. Presenter: Amber D.

Wolfe, M.S., from the National AgrAbility project. To participate, register at <https://goo.gl/R8Eq1I>. You will then receive a confirmation email with the link to participate in the webinar. You will also receive a reminder 24 hours before the webinar begins.

#### Funding Opportunities for Farmers and Others.

Wednesday, October 7, 2015. 10:00 A.M. - 12:00 P.M. EDT. Webinar. To participate go to this URL on Oct. 7: <https://purdue.webex.com/join/rballard>. This program will provide a basic introduction to some of the current grants, applicant eligibility, and how to apply for funding. Roy Ballard, Purdue Extension Educator, ANR, Hancock County/ Indiana SARE Coordinator will offer basic information about the available grants, insight on SARE priorities. Kris Parker, Purdue Community Development Regional Educator, will offer a few tips for grant writing success in 2016 and beyond. Questions? Contact Roy at 317-462-1113 or by e-mail at [rballard@purdue.edu](mailto:rballard@purdue.edu).

**Beginning Farmer Tours.** Free farm tours and networking events sponsored by Purdue Extension and Local Growers Guild. For more information and to register contact the Purdue Extension Education Store at [www.edustore.purdue.edu](http://www.edustore.purdue.edu) or 888-EXT-INFO.

- October 11: Wayne-Egenolf Farm, Spencer, IN. Lunch, networking session, tour. Grassfed beef, pastured pork, and eggs.
- November 7: Perkins Good Earth Farm, DeMotte, IN. Breakfast, networking session, lunch, tour. Soil health, cover crops, vegetable and high tunnel production.

**Illiana Vegetable Growers Symposium.** Tuesday, January 5, 2016. 8:00 A.M. - 4:00 P.M. CST. Teibel's Restaurant, Schererville, IN. Registration and program available in early December; watch for announcement at <https://ag.purdue.edu/hla/Extension/Pages/Events.aspx>. Contact Liz Maynard, 219-531-4200 or [veg crops@purdue.edu](mailto:veg crops@purdue.edu).

**Indiana Horticultural Congress.** January 19-21, 2016. Wyndham Indianapolis West, Indianapolis, IN. [www.inhortcongress.org](http://www.inhortcongress.org). Contact Lori Jolly-Brown, 765-494-1296 or [ljollybr@purdue.edu](mailto:ljollybr@purdue.edu).

**Indiana Small Farm Conference.** March 3-5, 2016. Hancock County Fairgrounds, Danville, IN. Registration will open in the Fall. For more information visit Purdue Small Farms at <https://ag.purdue.edu/extension/small-farms/Pages/default.aspx> or on Facebook <https://www.facebook.com/PurdueExtensionSmallFarms>.

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