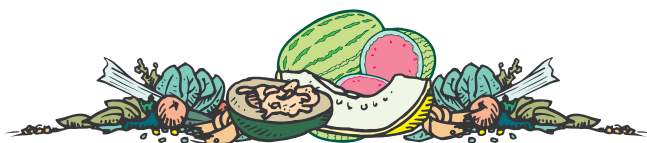


# VEGETABLE CROPS HOTLINE

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

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**WELCOME DR. LAM** -(Dan Egel) - This spring we welcome Dr. Wai-Ki Frankie Lam. Dr. Lam has joined the Purdue Extension team as part of the staff at the Southwest Purdue Agriculture Program in Vincennes. In his responsibilities as IPM Specialist, Dr. Lam will answer questions and conduct research on insect pests.

Frankie comes to us by way of Iowa State. He received his graduate training in the Department of Entomology and worked as a postdoctoral research associate in the department after his graduation. His Ph.D. research concentrated on the effects of environmental factors, including biotic and abiotic, on the winter survival and population dynamics of bean leaf beetle on soybean. Based on the predictive models derived from his research, currently the Iowa farmers can use simple environmental data to estimate the overwintered bean leaf beetle density in spring and the beetle population dynamics in summer.

As a postdoctoral research associate, he has collaborated with the USDA-ARS in Ames, Iowa to manage the populations of European corn borer. In the study, the combined effect of landscape and augmentative biological control is used to suppress the European corn borer populations in sustainable low-input systems. Furthermore, he has joint projects with the colleagues at Iowa State to investigate the fluctuation of monarch larvae populations and their relative use of milkweed in agricultural and non-agricultural habitats, and to study the non-target effect of transgenic Bt corn on the biodiversity and community structure of springtails.

Frankie came to the United States from Hong Kong with his family in 1991. His wife, Grace, is a microbiologist working at Bioproducts, and his daughter, Jacqueline, is a sophomore in high school.

If you have questions for Dr. Lam, you may contact him at (812) 886-0198.

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**MINOR EMPLOYMENT** -(Dan Egel) - All vegetable growers know that it takes a lot of work to raise a crop of vegetables. In some cases, growers may want to employ minors to do the work. This article will discuss some federal restrictions on minor employment.

1. Youths 16 years and older may perform any job, whether hazardous or not, for unlimited hours.
2. Youths 14 and 15 years old may perform any nonhazardous farm job outside of school hours.
3. Youths 12 and 13 years old may work outside of school hours in nonhazardous jobs, either with a parents written consent or on the same farm as the parent(s).
4. Youths under 12 years old may perform jobs on farms owned or operated by parent(s), or with a parent's written consent, outside of school hours in nonhazardous jobs on farms not covered by wage requirements.
5. Minors of any age may be employed by their parents at any time in any occupation on a farm owned and operated by their parents.

Anyone employing a minor under 16 years of age must keep the following records of each minor employed: 1) Name in full, 2) Place where minor lives, 3) Date of Birth, and 4) evidence in writing of consent of parent (see above).

I have gleaned this information from the Child Labor Bulletin No. 102 and the U.S. Labor's "Handy Reference Guide to the Fair Labor Act." One place to get a copy of the Child Labor Bulletin No. 102 is: <http://www.ae.iastate.edu/safety/clb102.htm>. For the U.S.

Department of Labor in Indianapolis and the U.S. Labor's "Handy Reference Guide to the Fair Labor Act" call (317) 226-6801. For Indiana labor laws, call (317) 232-2655.

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**ROW COVERS** -(Liz Maynard) - Row covers can do a great job of speeding crop development, but if temperatures get too high under the covers, especially as flowers develop and set fruit, yield may actually be delayed. It will be worthwhile to monitor temperatures under row covers on warm sunny days, and ventilate or remove covers if it gets too hot. For more information, see last year's VCH 375, available online at

<http://www.entm.purdue.edu/entomology/ext/targets/vegcrop/VCH2000/VCH375.pdf>.

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**FROSTED SWEET CORN** -(Liz Maynard) - A few weeks ago some early plantings of sweet corn were injured by frost. By the time of this writing the plants should have new growth that doesn't show injury. The growing point of sweet corn remains below ground until plants reach the 6-leaf stage (6 leaf collars visible). While underground, the growing point is protected from light frosts. A frost on small sweet corn will injure or kill leaves that are above ground, but the growing point will typically survive and continue to produce new leaves. What affect will frost have on maturity and yield of sweet corn? Sweet corn maturity depends on the cultivar and growing temperatures. While the growing point is below ground, the soil temperature plays a bigger role in determining the developmental rate than air temperature. Cool soil temperatures will slow development whether or not a frost occurs. The damage that frost causes to leaves above ground robs those leaves of the capacity to make sugars, the primary source of energy and building materials for plant growth. Frost that occurs before the 3-leaf stage usually does not reduce yield. Sometimes frosted corn leaves will stick together and temporarily prevent younger leaves from emerging. Usually this will resolve itself in a few days.

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**ASPARAGUS GROWTH** - (*Liz Maynard*) - High temperatures this week have pushed asparagus growth and harvest is proceeding rapidly. The warmer the temperatures, the faster the spear growth. The table below shows how much asparagus will grow in one day, based on maximum and minimum temperatures. You can use this to help plan whether to pick every day or skip a day. For example, with a high of 85 and a low of 54, the average temperature would be,  $85+54=139/2=69.5^{\circ}\text{F}$ . At an average temperature of  $70^{\circ}\text{F}$ , a 2" spear would grow 2.8 inches in one day, a 4" spear 3.4 inches, and a 6-inch spear 4.1 inches.

The increase in supply may mean that asparagus is picked faster than it can be sold. If asparagus must be stored, remember that the key to quality is storage at 32 to 36 °F and 95% relative humidity. Asparagus stored at high temperatures will become fibrous and lose water, and tips will open. Quality will be improved if asparagus is cooled to below 40 °F immediately after harvest. This can be done by dipping in or sprinkling with ice water for 5 to 10 minutes. Use of chlorine in cooling water at a concentration of 125-ppm chlorine will reduce losses due to decay.

If the rapid growth continues, asparagus season may end earlier than normal. Once asparagus spears get below the diameter of a pencil, it is time to stop picking and allow the fern to grow.

Table 1. Spear Growth of Asparagus

Avg. Temp. °F (High + Low) divided by	Size of Spear		
	2" spear growth (inches per day)	4"	6"
50	–	0.6	1.3
55	0.7	1.3	2.0
60	1.4	2.0	2.7
65	2.1	2.7	3.4
70	2.8	3.4	4.1

Adapted from: Table 1. Estimating Spear Growth of Asparagus. In Carl J. Cantaluppi Jr. and Robert J. Precheur. 1993. Asparagus Production, Management and Marketing. Bull. 826. The Ohio State University, Columbus. p. 22.

For more information: Asparagus Production, Management and Marketing. Bull. 826. The Ohio State University. Available on-line <<http://www.ag.ohio-state.edu/~ohioline/b826/index.html>>.

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**BENLATE** - (*Dan Egel*) - DuPont Crop Protection has announced that it will "discontinue the manufacture of the fungicide Benomyl" (Benlate). Sales of Benlate will be phased out by December 31, 2001. The company expects that Benlate will "clear the channels of trade by the end of the 2002."

DuPont suggests this action is a simple business decision, not a product recall. However, DuPont acknowledges that a large part of the decision stems from DuPont's unwillingness to "bear the high and continuing costs of defending the product in the U.S. legal system."

Benlate is a systemic fungicide currently labeled for use on powdery mildew on certain cucurbits, white mold on snap beans and sclerotinia stem rot on tomatoes.

For specific information on the use of Benlate refer to the *Midwest Vegetable Production Guide for Commercial Growers 2001* (ID-56) <<http://www.entm.purdue.edu/entomology/ext/targets/ID/index.htm>> and, as always, read and follow directions on the label.

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**CHLOROTHALONIL REI'S** - (*Dan Egel*) - Growers who use chlorothalonil fungicide products such as Bravo and Echo will remember that the Re-entry Intervals for those products has been 48 hours. At least two companies involved in the production of chlorothalonil products are in the process of making new labels with 12 hour REI's. Those companies are Sipcam Agro USA, maker of Echo, and Syngenta Crop Protection, maker of Bravo. Chlorothalonil users should check the labels under "Agricultural Use Requirements" to determine the REI for the product purchased.

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**WELCOME TO THE WEB CORNER** - (*Chris Gunter*) - With all the information on the Internet these days, it's almost impossible to separate the useful from the useless. In this feature, we'll be poking around in the corners of the World Wide Web uncovering and reviewing web sites that may be of interest to you. Let us know what you think.

<<http://www.noaa.gov>> is the website for the National Oceanographic and Atmospheric Administration from the US Department of Commerce. This is a really useful site for those of us interested in the weather around us. From this page you can link to Current Watches and Warnings, Real-time Satellite Images, Climate Predictions and Weather Archives.

In addition, there are other topics that you may find interesting. Try linking to the Oceans site to learn more about Tides and Currents or Coral Reefs. The Fisheries section details information of Fisheries Statistics. And the Research section gives some great details about Atmospheric Processes like the infamous El Niño.

This is a big website, so you may want to tackle it a little at a time. Also, it is frequently updated, so the information is very current and relevant (check out the area on the recent flooding in the Midwest). I recommend bookmarking areas that contain information that you may want to come back to (like Indiana weather for example), so that you don't get lost once you start exploring the site.

It is the policy of the Purdue University Cooperative Extension Service, David C. Petritz, Director, that all persons shall have equal opportunity and access to the programs and facilities without regard to race, color, sex, religion, national origin, age, marital status, parental status, sexual orientation, or disability. Purdue University is an Affirmative Action employer. 1-888-EXT-INFO <http://www.agcom.purdue.edu/AgCom/Pubs/menu.htm> 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.

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