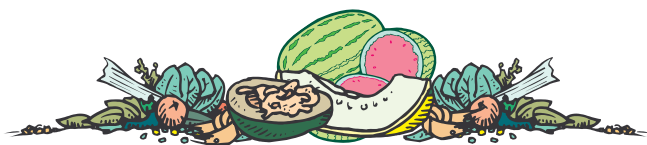


VEGETABLE CROPS HOTLINE

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

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SW INDIANA INSECT REPORT – (*Jerry Brust*) – I have seen more **spittle bug** in strawberries this year than in years past. No action is required in most strawberry patches, but the situation should be watched. **Flea beetles** have been very high in some sweet corn fields, while in others they have been rather mild. **Cucumber beetles** hit a few fields very early (3rd week in April). Beetle numbers have been sufficient enough to cause damage if fields are not treated. Depending upon when beetles hit your fields, expect another 2-3 weeks (in southern Indiana) of moderate populations.



RHIZOCTONIA ROOT ROT ON SNAP BEANS - (*Rick Latin*) - Rhizoctonia root rot is a disease of snap beans that can result in severely reduced stands. It is caused by a soilborne fungus that takes advantage of less-than-favorable growing conditions. The disease is more pronounced in fields that are not well drained and in years where soils remain cold during the first 6 weeks of spring. Symptoms on individual plants occur on the roots. Infections result in dark red-brown lesions on roots that can enlarge and eventually kill the entire root. Early infections result in reduced stands. Plants affected after seedlings have emerged may survive, but usually wilt under moisture stress and produce few marketable beans.

Several dry bean varieties have adequate genetic resistance to Rhizoctonia infection. Snap bean varieties are generally quite susceptible. Control options include preparing the soil at least 5 days

prior to planting to aerate and dry the seedbed, shallow planting if soils are very heavy. Of course, it helps to avoid fields with a history of the disease. Chemical options include seed treatment (most snap beans for commercial use are sold with fungicide seed treatment already applied), and soil treatment with granular fungicides. One such fungicide, Ridomil Gold PC, has been effective against a range of bean root pathogens.



FUNGICIDE APPLICATIONS - (*Dan Egel*) - For most vegetable crops it will soon be time to think about disease control. Some of the disease management decisions have already been made: crop rotation, tillage, and resistant varieties. In spite of our best efforts, however, some vegetable crops will become diseased. Most commercial vegetable growers find it necessary to apply fungicides to maintain acceptable yields. This article will address some fungicide application questions.

When to start: Muskmelon and watermelon plants should begin to receive fungicide applications when the plants begin to touch within a row. Tomatoes should be sprayed for bacterial disease early. Tomato fungicide sprays can wait until the plants begin to touch within the row. Another factor in when to start fungicide applications is the size and shape of the plant itself. Growers should try to apply the first fungicide application as the plant becomes large enough to create a humid environment within its own canopy. Do not wait until disease shows up in your fields before applying fungicides. By then, it may be too late.

How often to spray: Once fungicide applications have started, fungicides should be applied regularly. In some areas of the state, muskmelon and watermelon growers can use the MELCAST system to apply fungicides to cucurbit crops (VCH Issue 357). Tomato growers in some areas may be able to use the TOMCAST system to schedule fungicides (See www.ag.ohio-state.edu/~vegnet/tomcats/tomfrm.htm or contact Dan Egel). Most growers should maintain a 7 to 14 day schedule of fungicide applications. Apply fungicides less often if the weather has been dry. Apply fungicides more often if the weather has been humid and wet. (Most diseases need leaf wetness in order to cause infections.)

Exceptions: Some situations call for extra disease control measures and vigilance. Early and frequent fungicide applications are called for in the following circumstances: transplants were diseased in the greenhouse, seeds were confirmed with seed-borne disease, vegetables will be in field with shorter than normal crop rotation or in a field with a history of disease.

What to spray: Before applying any fungicide (or any pesticide) be sure to check the label to see if such an application is legal. The label also has application and calibration information as well as incompatibility information. Watch the VCH or check with extension personnel about specific crops.

Fungicides can be divided into either **protectant** or **systemic** based how each behaves in the plant. Protectant fungicides act by killing the fungal spores, which land on fungicide residue. If the coverage is poor, there will be little fungicide residue and protection will suffer. Protectant fungicides will have no effect on existing infections.

Systemic fungicides will move in the plant although systemic fungicides differ in how much they move. Since some movement is possible, systemic fungicides may have some affect against existing fungicides. **Both protectant and systemic types fungicides are more effective if applied before infection occurs.**



The fungi that cause plant disease can sometimes become resistant to systemic fungicides. Read the label carefully to determine how to avoid such problems.

Quadris is a relatively new systemic fungicide labeled on tomatoes and cucurbit crops. Since this fungicide is systemic, it is possible that fungi which cause disease may become resistant to the active ingredient. To avoid these problems, growers should 1) apply only the labeled amounts. Note that the label calls for more fungicide per acre on cucurbits than on tomatoes. 2) Quadris applications should be rotated with a protectant fungicide.

Check the label for restrictions on how many times a season Quadris can be applied. Muskmelon and watermelon growers should remember that the cucurbit rate is higher than the tomato rate. Tomato growers should note that Quadris is not labeled for bacterial diseases such as bacterial spot and bacterial speck.



ASPARAGUS - (Liz Maynard) - • Harvesting and Post-harvest • Temperature and Spear Growth • Purple and White Asparagus •

Asparagus pickers are snapping spears in record numbers according to one grower in Northern Indiana. Follow these recommendations to deliver top quality asparagus to the market and maximize crop production. Harvest in the morning when cooler temperatures prevail. Pick all spears, even unmarketable ones, to promote continued spear development. When more than 3/4 of the spears are less than a pencil width in diameter, discontinue harvest for the year.

Place harvested spears in harvest box all pointing the same direction. Cool harvested asparagus and maintain temperature below 40 F during transport. Hydrocooling works well for asparagus. Store between 32 F and 36 F with high humidity. Asparagus becomes fibrous and heads open up if not kept cool after harvest.

Spear growth depends largely on temperature, and so the interval between harvests depends on temperature also. The table below shows how much a 4-inch spear would grow in 24 hours at different average temperatures. The average temperature is determined by adding the high and low air temperatures and

dividing by 2. For a 2-inch spear subtract 2/3 inch, and for a 6-inch spear add 2/3 inch, to the numbers in the table.

Ave. Temp.	24-hour Growth of a 4 inch Spear
50	0.6
55	1.3
60	2.0
65	2.7
70	3.4

For example, if average temperature is 60, a spear that is 4" long on Friday morning would be 6" on Saturday, 8" on Sunday, and 10" on Monday.

Green asparagus is the norm in Indiana, but purple and white spears are possible. Purple asparagus is the easier novelty: all it takes is a purple cultivar, such as Purple Passion. We don't yet know how the purple varieties will perform in Indiana, but newly established plots at SWPAP include 'Purple Passion' so we will have more information on their adaptability over the next few years. White, or blanched, asparagus has higher labor costs. It is grown without light to prevent formation of chlorophyll. Traditionally, blanching has been achieved by mounding soil over spears and harvesting from beneath the mound. Another way to exclude light is to cover the asparagus rows with black plastic supported on small metal hoops, similar to the technique used for a clear plastic row cover. Harvesters raise the black plastic to pick emerged spears, and then lower it down to provide darkness for the next cohort of spears. As with any vegetable enterprise, to achieve success with these specialty asparagus types would require planning, dedication, and investment to develop production methods and markets.



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