Cooperative Extension: Colorado State University, Fort Collins, Colorado 80523

Pest Alert

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JUNE 1 VEGNET REPORT

During the last week, temperatures averaged low to mid 70s at most sites in the region. During the last week, rainfall exceeded 0.25 inches on the average in western Colorado and the Front Range, while northeastern Colorado received 0.65 to more than 2 inches. Sites in Nebraska, Kansas and Wyoming received 0.24 to 1.79 inches of rain. The upcoming week is forecasted at average to above average temperature and moisture for this time of the year.

The May temperature and moisture patterns throughout the region have been favorable for survival of many plant pests, and will contribute to pest development on previous crop debris and volunteer plants of dry bean (rust), onion (purple blotch, downy mildew, botrytis, bacteria) and potato (early blight, late blight) that emerge in or near last year's crop fields. Fungal spores or bacterial cells of these pathogens are then moved by wind, water, and implements to this year's developing crops, especially those located near fields which experienced pest problems in 1998 or downwind from cull piles and other sources of infested debris.

One of the most effective pest management tools available to growers is aggressive sanitation of these diseased volunteers by cultural practices which rely upon mechanical cultivation, destruction and burial of diseased debris and volunteers, or application of pesticides which eliminate volunteer plants. After working in any field, be sure and clean plant debris and soil from all implements and yourself to reduce cross contamination of the next field.

DRY BEAN Pests:

As of June 1, the dry bean crop is still being planted in most of the region so there are no reports of problems on emerged plants. Be on the lookout for seedling problems related to cool, wet post-planting conditions which may aggravate damage from herbicides, root rots, or soil-borne insects like maggots or wireworms. Beans prefer soil temperatures above 60 F at planting to favor rapid germination and emergence, thereby avoiding many of these stress-related problems.

ONION Pests:

As of June 1, some transplants are still showing the effects of soil-line Botrytis infection, especially for those plants that were stressed by planting (small and poor quality plants, shallow placement, bruising of plant tissue) and post-planting (cold and wet) conditions. If Botrytis is a threat, consider a directed spray of a specific fungicide like Rovral or Botran in more than 25 gallons of water per acre to drench the soil-plant interface where the Botrytis is active and before the fungus penetrates too deeply into the bulb (more than 3 scales deep). However, the majority of transplanted fields in northern Colorado are in excellent condition considering the challenges of this spring.

Seeded onion fields are still struggling with the post-planting stresses of wind, cold, and wet conditions which reduced plant stands in many fields. Warm, dry weather combined with cultivation to help aerate the developing roots will stimulate surviving plants. At this point, there is no need for fungicide or bactericide applications to the seeded onions.

POTATO Pests:

The potato crop in northeastern Colorado has struggled with the cool, wet spring conditions, and many fields show evidence of poor plant development or stand loss due to problems including cold and tight soil, Rhizoctonia and seed piece decay. At this point, there is no evidence of any foliar disease threat that would require fungicide applications in this region.

The Late Blight disease model ranges from 5 to 12 for northeastern Colorado, even assuming a May 1 emergence date with hours greater than 80 % relative humidity. Check with your local consultants and other experts on crop status and the initiation of disease protection strategies when a threat does exist.

Fungicide Application Tip:

A recent article in Plant Disease (1999, Vol. 83 – Pages 512 to 515) by Washington State University researchers compared late blight disease efficacy with a protectant fungicide (Bravo) applied through a center-pivot irrigation system (2881 gal/A) versus a boom (74 gal/A) attached to the pivot system. Two days after application there was no difference in disease development, however, after 6 days disease severity was significantly less on leaves where Bravo was applied by the attached boom. Fungicide residues were three times higher on leaves treated by the attached boom. (Schwartz)

WHEAT UPDATE

The wheat crop is coming on like gangbusters now that the weather is warmer. There is almost no leaf rust, just traces in a few places (Ron Meyer, Burlington) and with the exception of some wheat streak mosaic and barley yellow dwarf viruses there should be no real disease problems.

Wheat field days begin next week with Petersen/Westfall programs and then others in the following weeks at other locations on the eastern plains. Check with your local county agent for the one nearest you. (Brown)

RED-ORANGE BLISTERS ON HAWTHORNS

Juniper-hawthorn rust symptoms are now visible on hawthorns and much more severe than in previous years. The disease on hawthorn initially appears as small red to orange blisters on the upper surface of the leaf. On close examination with a hand lens, small blisters (spermatia) can be observed in the blisters. Over the next couple of weeks the cup-like aecia will form on the

underside of the leaves. This is the stage that will then be carried back to the juniper (see life cycle below).

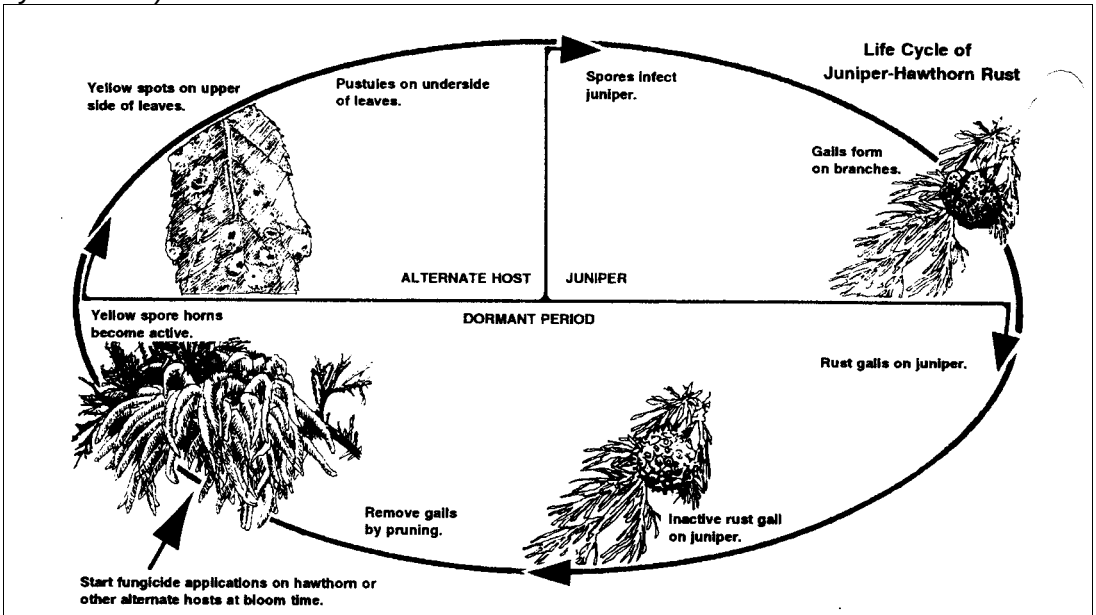

Figure 1: Gymnosporangium life cycle.

Chemical control usually is not necessary on juniper and it is too late to do anything for hawthorn. Sprays at this time would be wasted. In a year like this where we have an abundance of the fungus on the hawthorn alternate host, sprays to the juniper could be considered for later.

If you have both junipers and hawthorns (or apples) in your yard and a high level of the rust on them, a fungicide to juniper might help. If you decide to use a fungicide, applications should take place on juniper from July through September as long as the aecial cups are giving off spores. Bayleton can be used on both apple (the 50WP formulation) and juniper (the 25DF formulation). Daconil 2787 can also be used on non-edible plants only.

In general, most years this disease is not a problem. This spring with the rain and cooler temperatures, conditions have been ideal for the development of the disease on hawthorns (and maybe apples as well but I have not see it yet). In most years it is not significant enough for most people to even see on the hawthorn and special efforts to manage it are not necessary.

For more information see SA no.2.904, Juniper-hawthorn rust by Laura Pottorff and me. (Brown)

NEW BOOK ON ORCHIDS

Orchids are a very popular hobby with many people. There are comparative few sources of information on pests and diseases of orchids available to those interested in the subject. A new book out of Hawaii discusses production and pest management on Dendrobium orchids. Titled ***Growing Dendrobium Orchids in Hawaii***, the manual recommends management practices that are consistent with integrated pest management (IPM).

While targeted more to the commercial producer it would be of value to the dedicated hobbyist. Along with a heavy IPM emphasis it discusses varieties, nursery practices, growing media and post-harvest handling of dendrobiums. The book is very well illustrated and will have considerable value in helping the grower, whether commercial or hobbyist.

At $19 plus $3 for shipping, the book is a good bargain. ***Growing Dendrobium Orchids in Hawaii*** can be purchased from the College of Tropical Agriculture & Human Resources (CTAHR) Publications and Information Office at:

3050 Maile Way, Gilmore Hall 119
Honolulu, HI 96822

To learn more about this book and other publications, go to the CTAHR web site www.ctahr.hawaii.edu (Brown).

INTERESTING WEB SITES

Doug Jardine, Kansas Extension Plant Pathologist, has been featuring a "WEB SITE OF THE WEEK" in the Kansas Pest Alert over the last few weeks. Some are more relevant to Colorado than others but his recent note was on the American Phytopathologcial Society's web page. I thought that this was worth passing on, so thanks to Doug.

"APSnet" URL: http://www.scisoc.org/

The host of this site is the American Phytopathological Society. APSnet offers a number of interesting things. Each month there is a feature article. For May, it was on Fusarium head blight of small grains. Other recent feature stories that are available include stories on gray leaf spot of corn and ergot of sorghum.

Click on the Visitor's Center button and you can get information on short courses the society offers. Those available in the next several months include pest management in evergreen trees, shade tree wilt diseases, and the ecology of urban soils. The Visitor's Center also includes links to the plant pathology departments of most of the land grant universities, a list of certified plant pathologists, a directory of Extension Plant Pathology and Nematology Specialists, and information for home gardeners.

There is a Resource Center with a collection of images and selected articles from the society's journals. You can also download a new illustrated story book for children titled, **[Plant Pathology, Past to Present]** that describes the origin, relevance and science of plant pathology at an elementary school age level.

Finally you have access to the APS Press BookStore, which among other items, contains the Compendia of crop diseases (corn, sorghum, wheat, soybeans, etc.) that are so useful for diagnosis. (D. Jardine, Kansas State University)

SAPSUCKER DAMAGE

While visiting a few garden centers around Eagle County, some questions came up regarding "shot holes" on trunks of cottonwoods. The damage is caused by a type of woodpecker called the yellow-bellied sapsucker. I have also seen this damage on Russian olive in Wolcott; however, the list of susceptible plants is quite extensive. They pick their favorites and may return year after year. Near-by trees of the same species as the favorite may go untouched. Favorite trees include white birch, red maple, Austrian pine, Scots pine, Canada hemlock, apple, ornamental crabapple, mountain ash and linden trees.
The "shot holes" are in parallel rows and are about 1/4 to 3/8 inches in diameter. The holes are closely spaced and not very deep (about 1/4"). It almost looks as if the holes were drilled by a machine. The sapsucker uses its tongue to take up the sap.

Don't confuse sapsucker holes with holes created by insect borers. Borer holes are rarely as numerous as sapsucker holes and are randomly spaced. Sapsuckers are migratory birds. They are most visible and do most of their drilling on tree trunks during the migration seasons, in spring and fall.

In most cases, sapsuckers do not seriously harm trees. The holes are shallow and the wounds do not cause significant or permanent damage. But sometimes a particular tree becomes a favorite feeding place for an individual sapsucker. In this case, large areas on the trunk may be dotted with many holes.

When this happens, the tree may be weakened and become more sensitive to other problems, such as disease or drought. The wounds themselves may attract harmful insects.

To control sapsucker damage, wrap the area of the trunk where the bird is drilling with burlap or hardware cloth. Scare the bird away as often as possible when you discover it drilling. Sometimes placing an artificial owl or snake in the tree will temporarily frighten it away.

Similar damage on fruit trees (particularly *Prunus* sp., like plum and cherry), mountain ash and hawthorn may be caused by shot hole borer (*Scolytus rugulosus*). The shot holes are exit holes of the adult beetle; they do not occur in a row, as do the holes caused by the sapsuckers. Shothole borer can be almost entirely avoided by growing trees under favorable growing conditions. (Megan Korzep, Cooperative Extension, Eagle County).

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Sincerely,

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