

# Pest Alert

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**NOTE: BEGINNING JANUARY 2001, PEST ALERT WILL ONLY BE AVAILABLE ON THE WEB.**

**FOR ELECTRONIC NOTIFICATION, PLEASE EMAIL YOUR ADDRESS TO [bspm@lamar.colostate.edu](mailto:bspm@lamar.colostate.edu). (Check out our complete web site!)**

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## **EPA ISSUES FINAL GUIDANCE ON VOLUNTARY RESISTANCE MANAGEMENT LABELING FOR AGRICULTURAL PESTICIDES**

The Environmental Protection Agency (EPA) has issued a Pesticide Registration (PR) Notice providing voluntary labeling guidelines to help pesticide applicators prevent the onset of pest resistance. Canada and the US developed these guidelines under the North American Free Trade Agreement (NAFTA) to ensure that labels on pesticide products in both countries provide consistent information on preventing insect resistance. The Pesticide Registration Notice recommends that the industry voluntarily develop standard language on product labels for providing this information. In addition, the guidelines recommend that industry adopt a standard classification system. The classification system would identify the pesticide's "mode or target site of action," which would be indicated by a number on the front panel of a pesticide product label. Also, product labels should present resistance management statements in the "General" section of "Use Directions," preferably in a box. The EPA will update pesticide classification lists on a regular basis to include new information on products

Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating.  
Cooperative Extension programs are available to all without discrimination.

and "mode/target site of actions." For further information go to [http://www.epa.gov/opppmsd1/PR\\_Notices/pr2001-5.pdf](http://www.epa.gov/opppmsd1/PR_Notices/pr2001-5.pdf).  
(McDonald)

### **WEED SEEDLING ID GUIDE NOW IN SPANISH**

The bulletin, Common Weed Seedlings of the North Central States (NCR-607) has been translated into Spanish. With the translation, pesticide record keeping requirements and a record keeping form were added. Some of the weeds in the bulletin are of importance here in Colorado. The bulletin is available for \$0.50 per copy from Michigan State University Extension Bulletin Office at 517-353-0240. The following websites will provide ordering information:

[ceenet.msue.msu.edu/bulletin/ordininfo.html](http://ceenet.msue.msu.edu/bulletin/ordininfo.html) - How to order

[ceenet.msue.msu.edu/bulletin/shorform.html](http://ceenet.msue.msu.edu/bulletin/shorform.html) - Order form

(McDonald)

### **NEW ONION DISEASE in COLORADO**

In early September 2001, we found evidence of a new viral disease on onion on greenhouse-produced transplants of 'Colorado 6' grown in a field in northern Colorado. The disease is caused by Iris Yellow Spot Virus (tospovirus) and is transmitted by various species of thrips such as the onion thrips. Disease symptoms include straw-colored, dry, necrotic, spindle or diamond-shaped lesions on the leaves and scapes of onion plants. Some lesions have distinct green centers with chlorotic or necrotic borders and others appear as concentric rings of alternating green and chlorotic/necrotic tissue.

The disease has a host range, which includes onion, garlic, leek, and iris. It has been reported on onion in Israel, Brazil, Idaho, and Utah. Serological tests of Colorado samples were positive for the virus. Colorado State University personnel will monitor onion fields in 2002 for evidence of the virus, and urge growers to implement sound IPM practices. These include, sanitation and destruction of onion debris, onion culls and volunteers. Also, it includes crop rotation, planting clean seed and transplants, weed management in and around onion fields, and thrips control. (H. Schwartz, W. Brown, T. Blunt, D. Gent.

### **ELIMINATE VOLUNTEER WHEAT NOW FOR VIRUS CONTROL**

**Elimination of volunteer wheat critical now.** The most prevalent wheat disease on the Colorado High Plains, Wheat Streak Mosaic (WSMV), principal means of survival is through volunteer wheat, which forms a "green bridge" between harvest and fall planted wheat emergence. This is also true for the two other important virus diseases of wheat, barley yellow dwarf virus (BYDV) and high plains virus (HPV).

Volunteer wheat should be destroyed at least two weeks prior to new wheat emergence. It takes this long for the wheat curl mite vectors that transmit WSMV and HPV to die. The mites cannot survive without a living host. While they do survive to a limited extent on grass hosts associated with conservation reserve and other non-crop land, volunteer wheat is by far the source of most wheat curl mite survival. Volunteer wheat, within a quarter to half mile, must

also be destroyed because the mites can float on the wind for considerable distances. Dry land corn is also a prime source of both viruses and vectors.

To accomplish adequate volunteer wheat elimination in area must be a cooperative program among several adjoining farms. One neighbor that decides volunteer wheat and or early planting are going to be used for grazing can provide the base for vector and virus carry over. Fallowing and volunteer wheat destruction in turn greatly decreases the amount of fall infection by these viruses and is the first step to insuring a healthy crop in the spring. (Brown)

### **WHEAT SEED TREATMENT VALUABLE IN MANY INSTANCES**

Seed treatments for soil borne diseases of wheat in Colorado can be important under certain conditions. Many growers do not use seed treatments and generally if using certified or one year out of certification seed they will be fine. In 2001, there were several instance of severe common bunt because some growers used bin run seed that was not treated. It is especially important in instances where loose smut, bunts and seedling diseases have been problems in the past to use seed treatments.

Damping off and seedling blight diseases caused by *Fusarium* spp., *Cochliobolus sativus* and in some instances, *Pythium* spp., effect emergence and seedling survival. Generally these fungi are associated with wet cold soil conditions that prolong germination. Several seed treatment materials that contain captan, thiram, maneb and or mancozeb materials are usually used in combination with a vitavax material. The vitavax is specific to the smut fungi, especially loose and common smut. In areas where dwarf bunt is known to occur, the only effective seed treatment is Dividend.

In instances where it is, or is predicted to be, wet, the *Pythium* specific fungicide, Apron, should be considered. Or, if replanting in the spring, it is necessary during periods of high rainfall.

Black chaff and associated bacterial diseases are difficult to control and effective seed treatment materials have not been available due to the loss of mercury-based fungicides. Presently only the copper based fungicides such as Kocide SD have suppressive potential against black chaff and other surface carried bacteria.

Review your crop history, source and quality of seed before planting to determine the potential for soil borne disease problems and then discuss with your county agent and seed supplier before making the decision to treat or not to treat. (Brown)

### **WHEAT SEEDLING PROBLEM DIAGNOSIS**

With the fall planting well underway there will soon be wheat in various growth stages with various symptoms. These may be seen on developing seedlings in some places. Fall scouting of wheat should begin as soon as a good stand is visible. When first coming to Colorado, I was lucky to become associated with Bill Willis, the extension wheat pathologist in Kansas. One of the diagnostic aids that Bill had developed was a key to seedling problems. While the following key targets, wheat seedlings in the pre-jointing stages, it can be helpful in some instances for other growth stages. I have modified it to include some other problems that might be encountered in Colorado.

## Diagnostic Symptoms on Wheat Seedlings (Pre-jointed Stages)

- A. Seedlings do not emerge (see B)
  - B. Seed not germinated.....Drought  
Chemical injury  
Black point  
Storage molds  
Storage conditions
  - B. Seed or germlings chewed, damaged  
hypocotyl missing.....Insects  
Birds  
Rodents
  - B. Germlings distorted, deformed.....Chemical injury  
Russian Wheat Aphid
  - B. Germlings rotted or with lesions.....Seedling blights  
Root/foot rot  
Nematodes
  
- A. Seedlings emerge with symptoms on roots or leaves (see C)
  - C. Diseased plants in definite patches or areas (see D)
    - D. Damaged areas related to snow cover.....Winter injury  
Snow molds  
Desiccation
    - D. Damaged areas in wet soil (i.e., low spots).....Water  
Downy mildew\*  
Root/foot rot  
Soil-borne mosaic
    - D. Roots with swellings, deformed.....Chemical injury  
Nematodes
  - C. Diseased plants scattered or uniform through field (see E)
    - E. Symptoms on leaves (see F)
      - F. Leaves twisted, rolled, deformed or  
thickened.....Seed gall nema\*  
Flag smut \*  
Wheat curl mite  
Chemical injury  
Russian wheat aphid
      - F. Leaves or crowns chewed or tattered.....Insects  
Mammals  
Hail  
Wind
      - F. First seedling leaf with distinct  
horizontal band .....Low temperature color  
banding (see below)
      - F. Leaves chlorotic, plants stunted or wilted.....Root/foot rot  
Nutrient deficiency  
Chemical injury  
Water logging  
Nematodes\*  
Barley yellow dwarf  
Wire worms

F. Leaves with mosaics, dashes, streaks.....	Viruses Cephalosporium stripe Bacterial mosaic*
F. Leaves with flecks, superficial mycelium or pustules.....	Rusts Powdery mildew
E. Symptoms on roots and/or crowns (see G)	
G. Roots or crown with darkened lesions .....	Common root rot Foot rot
G. Roots deformed, knotted, stubby.....	Cereal cyst nematode* other nematodes* Chemical injury
G. Roots with white or brown cysts.....	Cereal cyst nematode*

\* NOTE-not reported in Colorado. (Brown).

### SNOW MOLD SEASON IS HERE

Even though it is sunny out there and golfers are still swinging, baseball is in its home run glory and sun shine freaks still "freaking", snow mold season is here. On the golf courses many managers are putting down their first applications of snow mold fungicides. Others are still thinking about it and Brent Swan and our team is heading for the mountains to put out trials for yet another year.

It is especially important for those golf courses where pink snow mold (Microdochium nivale syn. Fusarium nivale) is a problem to get their material down early. Although some of the new fungicides are showing promise, the preferred fungicides are still the systemic fungicides such as triadimefon, propiconazole and the thiophanates. These systemic fungicides must go on while the turf is still active. In some of the high mountain courses, managers will put down a low rate now and then go back in two to three weeks with the high rate.

In our trials over the years at Vail, propiconazole (Banner) especially has been good for pink snow mold. At Vail, iprodione (Chipco 26019) has also done well. In years where there is a heavy pink snow mold infection they will do well, however, some of these materials will not do well in years where predominantly a gray snow mold situation develops. In the high mountains it is necessary to consider both pink and gray snow molds.

While the standard material over the years for gray snow mold (caused by Typhula spp.) had been mercury-containing fungicides, they were discontinued due to environmental concerns. In my fifteen years of snow mold plot work at Vail, the best gray snow mold control (after or equal to mercury) has been with chloroneb (Termac SP) and PCNB (Terrachlor) fungicides. It is critical to apply these fungicides as close to permanent snow cover as possible. They are contact fungicides and will provide a protective coating, but do not act systemically. With both diseases, a mid winter thaw requires reapplication.

**Home lawn snow mold preventative fungicide treatments are not recommended in Colorado except in very special situations.**

(Brown)

**ANTHRAX INFORMATION**

While anthrax is not a plant health problem, there is considerable concern. I thought it important to forward an excellent summary sent to us by Dell Rae Mollenberg (CSU Extension Communications) that was prepared by Karen Wheeler with University Relations, and dated on Friday, 12 Oct 2001.

**FACT SHEET: ANTHRAX (*Bacillus anthracis*)**

**What is anthrax?**

Anthrax is an acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis*. Anthrax most commonly occurs in wild and domestic lower vertebrates (sheep, cattle, goats and other herbivores). Until the middle of the 20th century when an effective veterinary vaccine was developed, and the subsequent advent of antibiotics, anthrax was one of the foremost causes of uncontrolled mortality in cattle, sheep, goats, horses and pigs worldwide.

**How common is Anthrax and how is it spread?**

Anthrax is most common in agricultural regions where it occurs in animals. Most areas of the world are still affected by anthrax including South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean and the Middle East. It is also still reported sporadically in North America. Humans usually contract Anthrax either directly or indirectly through contact with infected animals or their products. The anthrax bacteria can also live in the soil for many years. Humans may become infected with anthrax by inhaling contaminated soil particles or by handling hides, wool or hair from diseased animals.

Infection in the intestinal tract can occur from eating undercooked meat from a diseased animal. Anthrax is a seasonal disease; incidence in any one place is usually related to temperature, rains or drought; however, the conditions that predispose to outbreaks differ from location to location. Climate probably acts directly or indirectly by influencing the way in which an animal comes into contact with the spores (for example, grazing closer to the soil in dry periods when grass is short or sparse, or movement of herds to restricted sites when water becomes scarce).

**What are the forms of Anthrax and what are the symptoms?**

Anthrax infection can occur in three forms: cutaneous (skin), inhalation, and gastrointestinal.

***Cutaneous:*** About 95% of anthrax infections occur when the bacterium enters a cut or abrasion on the skin, such as when handling contaminated animal products (wool, hides, leather or hair). Skin infection begins as a raised itchy bump that resembles an insect bite but within 1-2 days develops into a vesicle and then a painless ulcer, usually 1-3 cm in diameter,

with a characteristic black necrotic (dying) area in the center. Lymph glands in the adjacent area may swell. About 20% of untreated cases of cutaneous anthrax will result in death. Deaths are rare with appropriate antimicrobial therapy.

***Inhalation:*** Initial symptoms may resemble a common cold. After several days, the symptoms may progress to severe breathing problems and shock. Inhalation anthrax is usually fatal.

***Intestinal:*** The intestinal disease form of anthrax may follow the consumption of contaminated meat and is characterized by an acute inflammation of the intestinal tract. Initial signs are nausea, loss of appetite, vomiting and fever. They are followed by abdominal pain, vomiting of blood, and severe diarrhea. Intestinal anthrax results in death in 25% to 60% of cases.

### **How soon after infection do symptoms appear?**

Incubation is usually seven days.

### **Can anthrax be spread from person-to-person?**

Spreading infection from person-to-person is highly unlikely. So in visiting or managing a patient with inhalational anthrax, contagion should not be a concern.

### **How is anthrax diagnosed?**

Anthrax is diagnosed by isolating the bacteria from the blood, skin lesions or respiratory secretions or by measuring specific antibodies in the blood of persons with suspected cases.

### **Does past infection with anthrax make a person immune?**

A second infection with this disease is highly unlikely.

### **What is the treatment?**

Doctors can prescribe effective antibiotics. To be effective, treatment should be initiated early. If left untreated, the disease can be fatal.

### **Is there a way to prevent infection?**

In countries where anthrax is common and vaccination levels of animal herds are low, humans should avoid contact with livestock and animal products and avoid eating meat that has not been properly slaughtered and thoroughly cooked. Also, an anthrax vaccine has been licensed for use in humans, and is reported to be 93% effective in protecting against anthrax. Self-dosing with antibiotics is not recommended. This could have enormous health consequences.

### **What is the anthrax vaccine?**

The anthrax vaccine is manufactured and distributed by BioPort Corporation, Lansing, Michigan. The vaccine is a cell-free filtrate vaccine, which means it contains no dead or live bacteria in the preparation. The final product contains no more than 2.4 mg of aluminum hydroxide as adjuvant. Anthrax vaccines intended for animals should not be used in humans.

### **Who should get vaccinated?**

The Advisory Committee on Immunization Practices has recommend anthrax vaccination for the following groups:

- Persons who work with imported animal hides or furs in areas where standards are insufficient to prevent exposure to anthrax spores.
- Persons who handle potentially infected animal products in high-incidence areas. (Incidence is low in the United States, but veterinarians who travel to work in other countries where incidence is higher should consider being vaccinated.)
- Military personnel deployed to areas with high risk for exposure to the organism (as when it is used as a biological warfare weapon).
- Persons who work directly with the organism in the laboratory.

The anthrax Vaccine Immunization Program in the U.S. Army Surgeon General's Office can be reached at

**1-877-GETVACC (1-877-438-8222).**

**<http://www.anthrax.osd.mil>**

Pregnant women should be vaccinated only if absolutely necessary.

### **Are there adverse reactions to the vaccine?**

Mild local reactions occur in 30% of recipients and consist of slight tenderness and redness at the injection site. Severe local reactions are infrequent and consist of extensive swelling of the forearm in addition to the local reaction. Systemic reactions occur in less than 0.2% of recipients.



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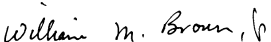
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Sincerely,

  
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