

Vol. 18 No. 05

Pest Alert

June 8, 2001

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. (Check out our complete web site!)

**ONION PEST ALERT (P 1)
STRIPE RUST ON WHEAT MOVES IN FROM KANSAS (P 2)
THE RETURN OF KARNAL BUNT (P 3)
SPRING PLANTINGS OF MILLETS CAN FAIL (P 4)
WHITE-HEAD DIAGNOSTIC KEY (P 5)
POTENTIAL FOR CORN DAMPING OFF AND SEED ROT EXISTS (P 6)
SECTION 18'S FOR 2001 GROWING SEASON AS OF 5/15/01 (P 6)
WET WEATHER CAN BRING ON ALFALFA DISEASES (P 7)**

ONION PEST ALERT

The recent moisture and relatively cool conditions could be favorable for early-season outbreaks of diseases like Downy Mildew in northern and southern Colorado. There are NO reports of the disease on onion transplants yet, but a fungicide program may be beneficial if the threat and weather conditions persist during early June.

Effective fungicides include Bravo, EBDC (maneb, mancozeb, ManKocide, penncozeb, Dithane), and Ridomil package mixes (with EBDC, copper, Bravo). Bravo, ManKocide and EBDCs are protectants that may have to be applied every 7 - 10 days, while the Ridomil provides protection against Downy Mildew for 14 days or longer in the threat persists.

If there is a history of bacterial soft rot in your fields or area, you may want to include a copper-based bactericide (Champ, NuCop, Kocide, ManKocide, etc) as older transplants near bulbing.

For more information on onions, potatoes, beans and other crops, check out our enhanced web site at www.csuag.com. This site includes pest reports, weather data, disease forecasts, and links to a wide range of resources that support crop production and pest management strategies.

(Schwartz)

STRIPE RUST ON WHEAT MOVES IN FROM KANSAS

Bob Bowden (Kansas Extension Plant Pathologist) reports that the "stripe rust epidemic is still raging in Kansas". We have been following the movement of stripe rust (also called yellow rust) in Kansas, Oklahoma and Texas. The record high temperatures around May 14-15 suppressed the fungus. But recent cool humid weather caused it to resurge and further develop in South Dakota, Nebraska and now, eastern Colorado. Ron Meyer (Golden Plains Extension) and Scott Haley (CSU Wheat Breeder) found it near Burlington on Friday and other reports from the eastern plains are coming in. We also looked at fields in the Akron area yesterday and confirmed it.

Stripe rust is rare in Colorado and generally not a problem with our hot and dry climate. It can be distinguished from leaf and stem rust with close examination. Below is a table that I found and adapted for field use.

Characteristic	Leaf rust	Stem rust	Stripe rust
pustule color	light red	dark red	yellow
pustule arrangement	single	single	close in rows
pustule shape	round/oval	oblong	round
pustule size	medium (1.5 mm)	large (3x10 mm)	small (.3-.5 mm)
temperature	60-75 F	65-80 F	55-70 F
prevalence	yearly	trace	rare
first appearance-fall	4-5 leaf	4-5 leaf	never
-spring	3/15-5/1	4/15-5/30	erratic
pustules develop on	leaf blades	leaves, stems & heads	leaves & heads

Bob reports that varieties 2137 and Hondo have been severely damaged. He also pointed out that Jagger, Heyne, Betty, Scout 66, and several minor wheat varieties remain very resistant while 2174, Karl 92, Dominator, and some others are intermediate. In Colorado, Ron reports that it is on some white wheat under irrigation (i.e., Platte) and some irrigated barley in southern Washington County. It is as far west as Wiggins. While in a couple of instances in the irrigated white wheats it is severe, 70 S, it is still at the trace level in the dryland wheats such as Akron.

Tilt fungicide has given excellent control of stripe rust in trials and on barley in my trials in South America. Normally under Colorado conditions I have not recommended fungicide applications. The crop is too far along to use any of the label materials and at \$3 wheat a \$15-18/acre application would probably not pencil out. Also the current warm up will slow and probably stop the development of the fungus.

Two weeks ago we did our joint Nebraska, Wyoming, Northeastern Colorado survey. The wheat from Burlington up looks great. There are places where growth is not good, but they are mostly associated with poor environmental conditions last fall or stressed areas this spring. We observed an occasional wheat streak mosaic plant (confirmed in the lab) but little else. There is a lot of yellow wheat, but this may be because of reduced nitrogen fertilization associated with low grain prices and cold early season temperatures that inhibits nutrient uptake. Poor stands were pretty common and appear to be associated with loose seedbeds. Loose seedbeds probably resulted from planting into loose, dry soils last fall. "Blow-outs" from wind are often visible at high spots in the field and are fairly common in this area.

While there are no apparent disease problems in Northeastern Colorado wheat other than the small amount of stripe rust, there is a need to scout fields while the stripe rust problem continues. If the forecast for warmer weather holds the stripe rust will decrease and do little damage. Also this is the time to be looking for white heads (see table below). These can be caused by several factors and sometimes will be diagnostic and help to alert growers to potential problems. (Brown)

THE RETURN OF KARNAL BUNT

Sounds like the title of a horror movie! But the panic and actions of the first arrival of Karnal bunt (KB) in the U.S. was something right out of a horror movie if you were a grower in Arizona. The potential market ramifications of this pathogen are not something we can take lightly.

Evidently the recent discovery of Karnal bunt in two Texas counties outside a USDA-imposed quarantine area has Kansas Department (news release from Topeka, KS) of Agriculture officials concerned about custom harvest equipment coming into the state as Kansas wheat growers prepare for harvest.

"Karnal bunt is a plant disease that could severely restrict our ability to export wheat and wheat products," said Secretary of Agriculture Jamie Clover Adams. "Growers need to be very careful about the equipment they let into their fields so the disease isn't accidentally spread to Kansas."

Currently, approximately 80 countries restrict the import of U.S. wheat grown where the disease has been found. The disease was first described in India in 1931. In 1996 it was found in Arizona and California, the following year it was found in Texas. USDA quarantined areas where the fungus was found and no new outbreaks were reported until May 31, when the current cases were found in north Texas.

I have repeatedly stated that KB could not become a problem in Colorado wheat because the fungus has to sporulate under high humidity at the same time wheat is flowering. Well guess what people, I said that stripe rust could not be a problem as well. The kind of weather we have had over the last few weeks turns all that around. These cool, foggy mornings and high dew loads could be conducive to KB development if the fungus is here. Our cooperative surveys with the Colorado Department of Agriculture and APHIS have shown the pathogen to "**NOT BE PRESENT**" in Colorado. The important message here is to make sure that custom

harvesters coming into your areas are not coming from know quarantine areas or if they are that they are certified to have had an APHIS approved clean up. Hopefully we will avoid the kind of panic that the discovery of this pathogen led to in 1996. (Brown)

SPRING PLANTINGS OF MILLETS CAN FAIL

A couple of years ago we had a lot of rain in late May and early June much as we are experiencing now, and many properly planted millet fields suffered severe seedling rot and damping off. With prolonged wet weather we could see severe seedling diseases. Many millet fields are planted with seed that has not been treated with a fungicide and as a result damping off caused by *Pythium* species has caused planting failures in the past.

This problem is readily controlled through rotation, appropriate seed treatment and planting time. Metalaxyl (Apron XL LS, Syngentia) is labeled for millet as a seed treatment and should be considered if the present wet weather continues into June, or for any late replanting that may take place after turning under a poor wheat stand if wet weather is present.

Under normal (there's that word again) Colorado high plains conditions the use of Apron would probably not be justified. If problems getting the millet crop going this spring develop I would like to know about it. (Brown)

WHITE-HEAD DIAGNOSTIC KEY

1. Awn tips white and sometimes bent Frost or Freeze
2. Part of the head dead: neck still green -
 - a. Dead parts white to gray Frost or Freeze
 - b. Dead parts (sometimes whole head) pink Scab*
3. Head and neck dead down to the top node with the rest of plant green. Pull head out and examine for chewing or maggots above the top node Stem Maggot
4. Single tillers with white heads -
 - a. Lodging Not Common.
 - 1)vascular discoloration evident in stripe in leaves and/or nodes Cephalosporium*
 - 2)lens shaped lesions on the lower internode Sharp Eyespot*
 - b. Lodging Common.
 - 1)small pupa under leaf sheath above node Hessian Fly
 - 2)grayish lesion on lower internode with the stem collapsed, bent or broken in the middle of the lesion Strawbreaker*
5. All tillers dye at same time-no lodging.
 - a. Stem pulls out easily. Roots, crown are black, subcrown internode sometimes shiny black also Take-all
 - b. Does not pull out easily. Crown and lower internode medium brown Common Root Rot
6. Plant dying, leaves rolling and/or purpling but none of above. Poor Roots, Drought, Drowning, Hot Winds or Russian Wheat Aphid

*not common in Colorado.
(Brown)

POTENTIAL FOR CORN DAMPING OFF AND SEED ROT EXISTS

Cold wet soil is very favorable for seed rot and damping off. Some corn plantings in the northeast of the state have been delayed. Continued rain resulting in damp soil raises the risk of damping off and seed rot as a problem for awhile. While seed treatments will help, if the current weather continues the effectiveness of the seed treatments will wear out. The thiram, captan and other materials used for corn seed treatments are surface protectants and not absorbed into the seed. Therefore they are eventually diluted away from the seed and protection decreased.

While there is very little that can be done now, it will be helpful where corn is already up, or as soon as growers can see their rows and if it is not too wet, cultivate and loosen the soil to increase aeration and get some drying. (Brown)

SECTION 18'S FOR 2001 GROWING SEASON AS OF 5/15/01

Crop	Pest	Pesticide	Active Ingredient	Status
2000/01 Bees coumaphos	Varroa Mites/Small Hive Beetle OK- 9/1/00	CHECKMITE +		
2001/02 Bees coumaphos	Varroa Mites/Small Hive Beetle OK- 2/8/01	CHECKMITE +		
Barley cyhalothrin	Russian Wheat Aphid OK-3/28/01	WARRIOR T		lamda-
Dry Beans 5/17/01	Rust	TILT	propiconazole	Sub-
Dry Beans 3/30/01	Nightshades and Velvetleaf	RAPTOR	imazamox	OK-
Dry Bulb Onions fluoxypr	Volunteer potato Request for 2002		STARANE	
Rangeland 5/17/01	Leafy Spurge/Dalmation Toadflax	PLATEAU	imazapic	Submitted
Spinach metolachlor	Pigweed OK-3/6/01		DUAL MAGNUM	s-
Sugar Beet dimeta	ALS Resistant Kochia - lay by OK-4/30/01	FRONTIER		
Sugar Beet tetraconazole	Cercospora Leaf Spot OK-3/28/01		EMINANT	
Sunflowers	Rust		FOLICUR	
Sunflowers sulfentrazone	Broadleaf Weeds-CT OK-3/20/01	SPARTAN		
Sweet Corn 12/11/00	Fungal Seed Protectant	DIVIDEND	difenconazole	OK-
Sweet Corn	Seed Treatment for Stewart's Wilt	GAUCHO	imidacloprid	OK-

1/31/01

Wheat Jointed Goatgrass
propoxycarbazone Inquiry-4/10/01

OLYMPUS

WET WEATHER CAN BRING ON ALFALFA DISEASES

Growers are beginning to cut alfalfa and it is a great looking crop this year. The moisture has really helped. While we seldom have leaf disease problems on alfalfa, they are present and in an extended wet season like we have had can become a problem. In addition to spring black stem which is showing now, it is possible that downy mildew and angular leaf spot will also develop. These are cool and damp climate favored diseases and pretty much disappear as soon as the temperature gets up in the 70s and above.

Spring black stem- The fungus first shows as small black spots on leaves, petioles and the stems of new alfalfa shoots. The leaf spots are irregular and enlarge and merge until much of the leaflet is covered. The infected leaves turn yellow and defoliation results. Stem lesions also develop and enlarge, sometimes girdling the stem. The fungus survives on the stem and fallen leaves.

Downy mildew- This fungus is dependent on extended wet and cool weather for development. It is seldom a problem but can usually be found on the first cutting growth. The fungus shows as yellowish blotches on the tops of the leaves. If the underside of leaf is examined in the early to mid morning a grayish downy fungus can be seen associated with the blotches. Such downy mildew fungi are host specific, only develop the fungus structures at night and must be examined before the foliage dries. The fungus survives systemically in alfalfa crown buds and stems.

Bacterial leaf spot- This leaf spot is caused by a bacteria that first appear as small, chlorotic spots with angular irregular water-soaked spots develop. Under favorable conditions (hot and rainy weather) then the leaf spots can enlarge but continue to have a chlorotic margin. Centers of the leaf spots can dry up but retain an often shiny, dried exudate. The spots eventually become tan and clear. The bacteria can survive for long periods in the soil or associated with alfalfa debris and hay.

Management- There are resistant varieties for each of these diseases but the diseases are not important enough to justify variety selection for their control as a high priority. Fields should be scouted and if any of these problems develop early cutting should be initiated. This will allow:

- getting the leaves in the bale instead of on the ground and
- help to reduce potential inoculum from the field.

Fungicides are not recommended. (Brown)

CONTRIBUTORS

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

K. George Beck, Extension Weed Specialist, Perennial and Range (970) 491-7568;
gbeck@lamar.colostate.edu

William M. Brown, Extension Plant Pathologist, IPM and General (970) 491-6470;
wbrown@lamar.colostate.edu

Whitney S. Cranshaw, Extension Entomologist, Urban and Horticulture (970) 491-6781;
wcransha@ceres.agsci.colostate.edu

Sandra McDonald, Extension Specialist, Environmental and Pesticide Education (970) 491-6027;
smcdonal@lamar.colostate.edu

Scott J. Nissen, Extension Weed Specialist, Row Crops (970) 491-3489;
snissen@lamar.colostate.edu

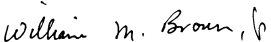
Frank B. Peairs, Extension Entomologist, Field Crops (970) 491-5945;
fbpeairs@lamar.colostate.edu

Howard F. Schwartz, Extension Plant Pathologist, Row and Vegetable Crops (970) 491-6987;
hfspp@lamar.colostate.edu

Philip H. Westra, Extension Weed Specialist, Row Crops (970) 491-5219;
pwestra@ceres.agsci.colostate.edu

Where trade names are used, no discrimination is intended, and no endorsement by the Cooperative Extension Service is implied.

Sincerely,


William M. Brown, Jr.
Extension Plant Pathologist