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

Pest Alert

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AUGUST 28 VEGNET REPORT

During the fourth week of August - 2000, rainfall totals (inches) varied from 0 to nearly 1 inch throughout Colorado, western Nebraska, western Kansas and eastern Wyoming. Temperatures continued to average in the upper 80s to low 90s throughout the region. The regional weather forecast predicts average to below average rainfall and above average temperatures for the last of August and early September.

There were no further reports of bean rust from the region last week. In addition, very few disease reports from other crops and areas have filtered in to VegNet; however, last week's rains could contribute to more disease development throughout the region on late-maturing fields.

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Please share sightings of pest problems by calling the CSU VegNet Team at 970-491-6987 (Howard Schwartz), 491-7846 (Mark McMillan), or 491-0256 (Kris Otto).

POTATO

Continue to scout later planted fields for early blight and late blight. Disease pressure has generally been light, as heat stress has been the dominant problem for the potatoes in recent weeks. However, the recent rains may stimulate a flush of early blight and possibly other problems.

For late fields, maintain the Early Blight Protection Program throughout the Front Range and northeastern areas of Colorado with protectant fungicides such as the EBDCs (e.g., maneb, mancozeb, penncozeb, dithane, polyram, Quadris) and, super tin.

Disease Model: with a May 15 emergence (regrowth) date, the early blight model is averaging 675 - 728 throughout eastern Colorado as of August 27.

The late blight model (threshold of 18, with disease possible in 7 to 14 days) has increased a few points again during the last week, and is averaging 12 to 24 in the Front Range, 23 at Fort Morgan, and 19 to 33 at northeastern sites (Wray, Yuma), with a May 15 emergence date. There are still no reports of Late Blight in the state as of August 27.

In the San Luis Valley (May 15 emergence date), the early blight model is at 623; and the late blight model is still less than 3.

DRY BEAN

Continue to scout late maturing fields for early signs of rust, white mold or bacterial diseases such as common bacterial blight, bacterial brown spot, and/or halo blight. However, most fields are near harvest.

Rust has been confirmed on Bill Z a few miles northwest of Brush, and near Vernon, CO; as well as in southwestern and northwestern Nebraska more than 2 weeks ago and could provide inoculum to infect late-maturing fields of susceptible varieties.

If rust is detected in susceptible varieties, protectant fungicides such as Bravo at a 14 day phi could still provide protection against secondary infection if the plants have 3 weeks or longer until knifing. [Note: There is no Section 18 label for Tilt available for bean producers to use in Colorado or Nebraska during 2000.]

A late-season copper-based bactericide program (with products such as Kocide, Champ, NuCop, etc) continued during pod fill to early bump periods can reduce common blight (bacterial brown spot, halo blight) severity later during late bump to striping. Maintain the protection until late pod bump if disease threatens; until 2 - 3 weeks preknifing.

White mold is managed late in the season by careful management of irrigation water to dry out plant canopies and soil surfaces between waterings.

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ONION

Most seeded fields are near harvest. Those that still have 1 to 2 weeks until cropping and harvest may benefit from a continued protectant bactericide/fungicide application (copper + EBDC product such as maneb, mancozeb, dithane, penncozeb) for the bacterial disease complex. There are still no reports of serious bacterial (or foliar fungal) problems in the state. Botrytis blast may appear at this stage of the season as small, whitish, sunken lesions usually beginning near leaf tips and progressing downwards.

Maintain the copper-based bactericide program, tank-mixed with an EBDC product on a 7 to 10 day interval to reduce problems with bacterial diseases and any fungal diseases (Purple Blotch, Downy Mildew, Botrytis Blast) that could develop as the plants continue to develop and mature in the next few weeks. Rovral could be added for enhanced protection against Purple Botch and/or Botrytis if detected. Ridomil/Copper can be added for enhanced protection against Downy Mildew if detected.

If one uses an April 1 emergence date for seeded onions, the Purple Blotch disease model (threshold value of 300) is averaging 520 to 630 in the Front Range and Fort Morgan areas, 495 to 530 in the Arkansas Valley and West Slope areas. Therefore, our onion areas have exceeded the threshold with minimal outbreaks from Purple Blotch; apparently due to inhibition of the fungus by the high temperatures requiring additional modification of the disease forecast model for future years.

CORN DISEASE UPDATE

It has been a pretty uneventful year for corn diseases. A couple of occurrences of High Plains Disease have been noted and some early season establishment problems and Goss's wilt were observed. Now is the time when stalk rot problems will start to be noted if they are there.

Doug Jardine, Kansas Extension Corn Pathologist, noted that in the eastern half of Kansas they have identified significant levels of stalk rot in corn. Some lodging has been observed. He reports that both Fusarium stalk rot (figure 1) and charcoal rot (figure 2) were identified. Charcoal rot is not normally a problem in Colorado. It is occasionally found in dryland corn and/or the Arkansas Valley. The Fusarium stalk rot complex, including Gibberella stalk rot (figure 3), can have a severe impact. In some instances the diseases can be present and growers are unaware until they run the harvester around the field and the bin comes up almost empty.

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Figure 1. Fusarium stalk rot.

Figure 2. Charcoal stalk rot.

Stalk rot symptoms frequently are difficult to detect, because lodging is not always present. Most varieties used in Colorado have excellent stalk strength and will not lodge even if the whole inside is rotted. Fields need to be scouted for stalk rot problems and identified where present. Look for early maturing areas, cut some of the stalk near the ground level to the first internode. Look for decayed or discolored areas in the stalk pith. If Gibberella stalk rot is present the area will be bright red (figure 3). In fields that have already matured, look for stalks that have turned brown near the soil line. A healthy plant will retain a green stalk at the base right up until harvest.

Figure 3. Symptoms of Gibberella stalk rot.

Any fields with high levels of stalk rot should be harvested as early as possible. Management of stalk rot is difficult and depends on resistant variety selection, rotation and cultural practices. Any practice that optimizes early root development (i.e., sub-soiling), stress reduction (plant populations, balanced fertility, careful water management, etc.) will help lessen the impact of stalk rot.

We have been very interested in a different stalk rot in the last couple of years. **Red root rot** appears like a stalk rot. Plants dry prematurely and there is some internal stalk breakdown, but the key symptom is that the prop and crown roots are pink and red internally. In

advanced stages, small black fungal fruiting bodies can be observed on the roots and the internode between the prop roots and the soil level (figures 4 & 5).

Figure 4. Red root rot symptoms on crown and in roots of corn.

Figure 5. Fungus fruiting bodies on internode above the soil level and prop roots of corn.

This disease is caused by the fungus, ***Phoma terrestris***. A “strain” of this same fungus causes pink root in onions. We are very interested in getting samples of this sent in for culturing. It is unknown how wide spread or serious the disease is.
(Brown).

BIOTECHNOLOGY SUPPORTED BY THE NATIONAL ACADEMY OF SCIENCES

In an article in the New York Times, July 11, 2000, biotechnology was supported by the U.S. National Academy of Sciences, who joined 6 foreign academies to urge the increased development and use of biotechnology crops to solve problems of hunger and poverty in developing nations.

In the article by Carol Kaesuk Yoon, genetic engineering was described as an important tool that can provide more nutritious crops and disease-resistant plants. All 7 academies called for increased support from governments as well as industry, increased research financing for scientists and the freer use of patented gene technologies by farmers in developing nations.

Ms Yoon cites Dr. Bruce Alberts as stating that "this was an attempt to give world science a voice.” Dr. Alberts is the president of the National Academy of Sciences in the United States. He said he believes the backlash against genetically modified foods in many developed nations was threatening the use of biotechnology elsewhere.

"It's easy for the United Kingdom and the United States to say we don't need more food, but this is the voice of the developing world which has faced a great deal of starvation in the past," Dr. Alberts said.

The report calls for regulatory systems to be put in place in every country that would monitor health risks from genetically modified plants and for research into environmental risks, acknowledging the potential for threats to both food and environmental safety.

The National Academy joined the Royal Society of London, the Brazilian Academy of Sciences, the Chinese Academy of Sciences, the Indian National Academy of Sciences, the

Mexican Academy of Sciences and the Third World Academy of Sciences in issuing the report.

Biotechnology critics, Ms Yoon went on to say, “viewed the report as an attempt by scientists to gain public support for a technology that is becoming increasingly unpopular. "I suspect that many scientists are quite worried that this technology, which is the star to which they have hitched their wagon, will lose support," said Dr. Jane Rissler, senior scientist at the Union of Concerned Scientists, an anti genetic-engineering watchdog group in Washington. "In fact, it coincides with the industry's own $50 million a year campaign to rally public opinion in this country." I doubt that Dr. Rissler has missed very few meals, as so many in the third world countries that I have worked in have.

There was also concern that the biotechnology industry should take more responsibility for development of crops in the developing world. But as one industry representative said, "Biotechnology companies are not in the business of giving away anything."

The report goes on to note that efforts in genetic engineering, have to date, Concentrated on the most important buyers of seed -- farmers in developed nations rather than consumers or subsistence farmers in developing countries. There are some bright spots though, such as the “Golden Rice” developed by IRRI (International Rice Research Institute) and attempts being made to improve the nutritional value of crops of critical importance to the third world.

We will certainly hear more of this controversy. Kansas State University has an excellent web page that is following the biotech controversy and is well worth checking into to keep up on the debate from the science point of view.

It is h**ttp://www.oznet.ksu.edu/pr_biotech/BTNewsLe.htm**

Give it a look. (Brown)

BROWN RECOGNIZED FOR LIFETIME ACHIEVEMENT

Bill Brown, CSU Extension Pathologist and IPM Coordinator, was recognized by the Pacific Division of the American Phytopathological Society (APS) for its Lifetime Achievement Award at their annual meeting in Vancouver B.C. in June. Bill was recognized for his service in extension, APS and the Pacific Division and his long and extensive international service.

Dr. Tom Holtzer, Head of the Department of Bioagricultural Sciences and Pest Management congratulates Bill Brown on his Lifetime Achievement recognition.

Howard Schwartz, in his nomination letter, cited Bill for "his sustained contributions and unflagging devotion to plant pathology and its appreciation and utilization by students, growers, crop consultants, consumers, bureaucrats and other entities in Colorado, the United States and the entire world during the last 40 years. Bill is the epitome of an Extension Plant Pathologist who blends solid scientific training and a wide range of practical experiences with phenomenal people skills."

UPDATE ON REGISTRATIONS IN COLORADO FOR 2000

Four Section 24(c) Special Local Needs (SLN) registrations have been issued recently by the Colorado Department of Agriculture Pesticide Section (CDA). This brings the total 24(c) registrations to nine for 2000. An applicator must have the 24(c) Supplemental Label in their possession to apply SLN products.

> CO_000005 _ KNACK as an insect growth regulator to control white fly, shore flies, and fungus gnats in greenhouse tomatoes

CO_000006 _ ORTHENE TURF, TREE & ORNAMENTAL SPRAY 97 this SLN allows soil injection

CO_000007 _ SEVIN BRAND XLR PLUS CARBARYL INSECTICIDE for grasshopper control on rangeland

CO_000008 _ DIVIDEND XL as a barley seed treatment

CO_000009 _ DIVIDEND XL RTA as a barley seed treatment

Three Section 18 Emergency Exemptions have been approved for Colorado by the EPA through regional submission. Section 18 of FIFRA authorizes EPA to allow States to use a pesticide for a limited time if EPA determines that emergency conditions exist. The uses are requested for a limited period of time (no longer than 1 year), to address the emergency situation only. Section 18 Labels are restricted use pesticides are for retail sale to and use only by certified applicators or person under their direct supervision. The label must be in the possession of the user at the time of pesticide application. A permit is required from CDA in order to use a Section 18 product. There is no charge for this permit.

Quadris (azoxystrobin) to control crown rot in sugar beets (Crisis issued 5/16 good through 7/31/00)

Eminent (tetraconizole) to control cercospora leaf blight in sugar beets (expires 9/30/00)

Folicur (tebuconazole) to control rust in sunflowers (expires 8/25/00)

EPA's ANTIMICROBIALS DIVISION WEB PAGE

EPA's Antimicrobial Division just announced a new web page. Antimicrobials, such as disinfectants & sanitizers, are pesticides that are intended to "(i) disinfect, sanitize, reduce, or mitigate growth or development of microbiological organisms; or (ii) protect inanimate objects (for example floors and walls), industrial processes or systems, surfaces, water, or other chemical substances from contamination, fouling, or deterioration caused by bacteria, viruses, fungi, protozoa, algae, or slime." The site can be accessed at **www.epa.gov/oppad001**.

NEW FOOD COMMODITY INTAKE DATABASE ALLOWS FOR MORE CURRENT ASSESSMENTS OF DIETARY EXPOSURE TO PESTICIDES

Through a cooperative effort with the United States Department of Agriculture (USDA), the Environmental Protection Agency's (EPA) Office of Pesticide Programs has developed a new tool, the *Food Commodity Intake Database*, for use by EPA and other organizations when conducting the exposure components of dietary risk assessments. The *Food Commodity Intake Database* includes data from two surveys conducted by USDA: *Continuing Survey of Food Intakes by Individuals*, and a *Supplemental Children's Survey*. These surveys provide useful information on 5,831 different foods and beverages people of different ages reported eating in 1994-96 and 1998. From these data EPA can more reasonably predict the quantity

of a particular commodity that an individual will consume. EPA's dietary risk assessments consider both people's exposure to a pesticide through the foods they eat and the toxicity of the chemical.

The *Food Commodity Intake Database* (FCID) is available on CD-ROM from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161. To order, call 1-800-553-6847 or 703-605-6000. To order online, go to: **www.ntis.gov/fcpc**. The NTIS Product Order Number for the FCID is PB2000-500101.

EPA RELEASES RISK ASSESSMENT DOCUMENTS FOR PROPARGITE AND VINCLOZOLIN

EPA has released risk assessment documents for two pesticides currently undergoing reregistration and tolerance reassessment.

On August 2, EPA published a notice of availability in the Federal Register for human health and ecological risk assessments for the propargite. Propargite is registered to control mites on a variety of agricultural food crops, as well as non-food agricultural sites. Crops include grapes, citrus, nectarines, peanuts, almonds, mint, cherries, grapefruit, and navel oranges; non-food agricultural sites include roses and evergreen conifers. There are no residential uses for propargite.

On August 18, EPA announced the availability of human heath and ecological risk assessments for the vinclozolin. Vinclozolin is a fungicide used on caneberries, chicory (grown for Belgian endive), lettuce, kiwi, canola, snap beans, and dry bulb onions. Import tolerances exist to permit importation of vinclozolin-treated cucumbers, sweet peppers, and wine, but there are no U.S. registrations for these three uses. Vinclozolin is also applied to ornamentals and turf in non_residential areas.

These assessments are being released to the public as part of the joint initiative of EPA and the U.S. Department of Agriculture to strengthen stakeholder involvement and help ensure that decisions made under the Food Quality Protection Act (FQPA) are transparent and based on the best available information. The risk assessments and related documents are available at **http://www.epa.gov/pesticides/reregistration/propargite/** and **http://www.epa.gov/pesticides/reregistration/vinclozolin/.** While there is no official comment period on these documents, since they are not part of the initial pilot public participation process currently limited to the organophosphate pesticides, EPA will consider comments. The docket number OPP-34233 should be included on any comments for propargite and OPP-34235 for vinclozolin.

PUBLIC PROCESS ENHANCEMENT AND TIME EXTENSION FOR BT CORN AND BT COTTON PLANT_PESTICIDES EXPIRING REGISTRATIONS

EPA is currently engaged in a comprehensive reassessment of the time-limited registrations for all existing *Bacillus thuringiensis* (B.t.) corn and cotton plant-pesticides. This reassessment has been designed to assure that the decisions on the renewal of these registrations are based on the most current health and ecological data (including recently reviewed non-target impact data), and incorporates recommendations made by the FIFRA Scientific Advisory Panel (SAP). The reassessment process has also been designed to assure maximum transparency of the decision making process. In addition to consideration of recommendations made by the SAP, this reassessment will be guided by the findings of the

1999 National Academy of Sciences (NAS) report on Genetically Modified Pest-Protected Plants and the findings of the recently announced Administration-wide biotechnology review led jointly by the Council on Environmental Quality (CEQ) and the Office of Science and Technology Policy (OSTP). This CEQ/OSTP review is focused on the existing federal regulatory review structures to assess and regulate the environmental impacts of products of biotechnology.

It is EPA's intention to extend the existing B.t. corn and cotton registrations until September 30, 2001. If not extended, these registrations will expire in April and January of 2001, respectively. EPA believes that in order to bring the results of all of the aforementioned activities to bear on our final assessment and renewal decisions, the additional time gained by extending the current registrations is necessary. EPA has strengthened resistance management requirements for both corn and cotton in the past year and believes these strengthened requirements, along with the original registration conditions, are more than adequate to be protective during the extension period. This notice sets forth the process that EPA intends to follow to reach regulatory decisions on the B.t. corn and B.t. cotton expiring registrations and extension of the existing B.t. product registrations. It also provides information on EPA's plans for finalizing core components of the Plant-Pesticides Rule, that was proposed on November 23, 1994.

Various background documents are available from EPA's Biopesticides Internet site at **www.epa.gov/pesticides/biopesticides** and from EPA's Scientific Advisory Panel Home Page at **www.epa.gov/scipoly/sap**. The Federal Register notice is available on EPA's Home Page at **www.epa.gov/fedrgstr/** or directly at **www.epa.gov/fedrgstr/EPA_PEST/2000/August/Day_09/p20174.htm**

COMPLETE REVISED RISK ASSESSMENT DOCUMENTS FOR CHLORPYRIFOS RELEASED; PUBLIC DOCKET OFFICIALLY OPENS FOR COMMENTS ON RISK MANAGEMENT

On August 16, EPA released the complete revised risk assessment documents for the organophosphate chlorpyrifos. This action officially opens the public docket and the 60_day comment period on risk management for this chemical. Chlorpyrifos (Lorsban, Dursban) is one of the most widely used insecticides in the United States. It is an ingredient used for a broad range of lawn and home insecticide products, for agricultural purposes and for termite treatment. EPA uses the risk assessment to determine whether further risk mitigation measures may be needed to meet EPA safety standards during reregistration and tolerance reassessment. This risk assessment incorporates the risk reduction measures announced on June 8. On that day the EPA and the registrants of chlorpyrifos agreed to phaseout/eliminate certain uses because of risk to children. At that time, EPA could only release a summary of the revised risk assessment because the full supporting documents were being revised to reflect the impact of the interim mitigation. Those revisions are complete and EPA is now making all supporting documents available in the OPP docket.

EPA has posted the revised risk assessment documents and information about the recent agreement for this chemical on the OPP web site at: **http://www.epa.gov/pesticides/op/.**

The EPA also announced the commencement of a 60-day public participation period during which the public may submit risk management and mitigation ideas, and recommendations and proposals for transition related to chlorpyrifos. Comments must be received by October 16, 2000, identified by docket number OPP-34203C. For more information, contact Tom Myers at 703-308-8589.

EPA EXTENDS COMMENT PERIOD ON CUMULATIVE RISK ASSESSMENT POLICY

On June 30, EPA published for comment the draft science policy "Proposed Guidance on Cumulative Risk Assessment for Pesticide Chemicals That Have a Common Mechanism of Toxicity." EPA has now extended the comment period on this guidance document to September 15, 2000. EPA must receive comments by the closing date. Comments should be identified by docket number OPP-00658A. A cumulative risk assessment considers the combined risks from exposure to different pesticides that act the same way in the body, such as the organophosphate pesticides. The draft guidance describes the scientific process EPA is developing for performing cumulative risk assessments, which will enable EPA to make regulatory decisions that fully protect public health and sensitive sub-populations, including infants and children. It also includes a case study demonstrating the application of the principles for conducting a cumulative risk assessment. The guidance document is available on the EPA web site at **www.epa.gov/pesticides/trac/science**.

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

Sincerely,

William M. Brown, Jr.

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Extension Plant Pathologist

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