

Pest Alert

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AUGUST 2 VEGNET REPORT

During the last week, daily high temperatures averaged in the mid to upper 80s at most sites in the region, except for Center with an average of 77. During the last week, rainfall averaged less than 1 inch at most sites; however, Fort Morgan, Sterling, Scottsbluff and the Kansas sites each received more than 1 inch. A few sites received less than 0.25 inches of rain last week, and included Delta, Wray and Champion. The upcoming week is forecasted at above average moisture and average temperature at most sites.

Continue to scout crops at least 1 – 2 times weekly for evidence of early outbreaks or secondary activity of pests. Check with your local consultants and other experts on crop status and the initiation or maintenance of disease protection strategies when either disease is confirmed in the nearby region and/or a disease threat does exist. Remember to rotate fungicide chemistry when possible to avoid selection of fungicide-resistant strains.

DRY BEAN Pests:

As of August 2, the dry bean crop continues with mid pod to pod fill phases, and there are still no reports of rust problems in the region. Bacterial brown spot is still persistent in many parts of eastern Colorado, western Kansas and southwestern Nebraska; and common bacterial blight continues to take advantage of the warm, moist conditions in some bean fields throughout the region. Maintain the copper bactericide program on a 7 – 10 day schedule throughout early to mid pod fill phases, especially for light red kidney and yellow beans. Ground-rig applications are preferable until row closure; then rely upon aerial sprays (4 – 5 gal of water/A) or chemigation (less than ¼ in of water/A) until the risk of infection is low due to absence of disease and/or persistent hot, dry conditions.

White mold reports are beginning to come in from sites around the region. On ground with a history of white mold planted to susceptible, vine-type pintos or great northern, consider application of a white mold fungicide (Topsin, Benomyl) at 100% to full bloom to protect blossoms from becoming colonized by the fungus and initiating white mold infection beneath the plant canopy after row closure.

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

Emphasize irrigation water management to extend intervals between irrigations to reduce excess surface moisture beneath the plant canopy.

ONION Pests:

As of August 2, bacterial diseases like Soft Rot persist in the Front Range area, and Xanthomonas Leaf Blight continues to persist in the Arkansas Valley. Fungicides like the EBDCs (Maneb, Mancozeb, Dithane, Penncozeb) tank mixed with copper based bactericides (Kocide, Champ, Nu Cop among others) at full labeled rates have been extremely effective, especially when a non-ionic surfactant is added in sufficient gallonage.

The disease model (PRI = 300, RH = > 95%) suggests that Purple Blotch may occur in some regions in transplanted fields, and now possibly in some seeded fields as well. Continue to scout fields at least once, and preferably twice, a week for early signs of disease in the field or region. Maintain applications of protectant fungicides including the EBDCs, coppers, Bravo and Rovral in high gallonage plus adjuvant for good coverage on a 7 to 10 day interval. Rotate fungicide chemistry every other application.

If Downy Mildew reappears in the region, continue to include EBDCs and/or Ridomil tank mixes in the spray program. However, recent high temperatures have reduced the threat of serious damage by Downy Mildew.

Botrytis Blast may appear with the recent cool weather, and can be managed with the EBDC and Rovral type fungicides applied on a 7 – 10 day schedule.

As we approach harvest, remember that air curing in the field and storage shed is very important to remove sources of moisture from the neck tissue and outer scales, thereby reducing the ability of pathogens to colonize and infect bulbs in the field and during storage.

POTATO Pests:

The Late Blight disease model exceeded the threshold at many sites in northeastern Colorado, even assuming a late May emergence date with hours greater than 80 % relative humidity.

Maintain protectant sprays (EBDCs, Bravo, Polyram, Quadris, etc.) on a 5 to 7 day interval for Early Blight. There are still no reports of Late Blight in Colorado or neighboring states, but maintain an aggressive Early Blight fungicide program which will also provide initial protection against the Late Blight pathogen. If Late Blight is detected in your region, incorporate newer chemistry such as Acrobat and others.

Early fields of potatoes are now being desiccated in northeastern Colorado. Thoroughly destroy foliage and potential sources of inoculum which can threaten later maturing fields downwind.
(Schwartz)

PLANT CLINIC CLOSED AUGUST 9 TO AUGUST 19

With the recent changes in plant clinic staffing and current staff (Barbara Ambruzs and me) previously planned programs, we will close the plant clinic from August 9 through August 19. In the meantime I would urge you to contact your county Cooperative Extension local master gardener staff for home horticulture. In the case of, nursery or golf courses problems, contact the JEFFCO clinic (phone 303-271-6620).

The clinic will be checked by Susan Nemeth and Lindsey Yerkes and some of the faculty and specialists, any insect specimens sent in will be forwarded to the appropriate specialist for action.

Other high priority, urgent commercial plant pathology requests or queries should be directed to the following people in the appropriate areas.

Commercial vegetables, bean and potato---Dr. Schwartz.....(970) 491-6987
Small grain and corn-----Dr. Hill.....(970) 491-7463
Trees and woody ornamentals-----Dr. Jacobi.....(970) 491-6927
Turf-----Dr. Koski.....(970) 491-7070

I will be checking my voice mail regularly (970-491-6470) and can respond to urgent calls. If you need immediate assistance call the main office, 970-491-5261 and they will attempt to redirect your query to the appropriate specialist. (Brown)

BACTERIAL STALK ROT OF CORN FOUND IN WELD COUNTY

With the very hot weather, we have been on the lookout for bacterial stalk rot. Earlier this summer I talked about this and other stalk rot disease problems as being very possible with high temperatures and associated stress. Bacterial stalk rot is a disease problem that I had only encountered on three prior occasions, all in Weld County. It is associated with a corn after corn system, warm or pond water use for irrigation, heavy manure use and the planting of susceptible varieties. It is now showing up again in several fields in Weld County.

Symptoms

Primary symptoms occur in mid-season when plants suddenly lodge or the emerging spear wilts. When lodging occurs it is generally at the second internode or above. Diseased areas on the outside of the stalk appear tan to dark brown, water-soaked, soft or slimy, and collapsed. Infected tissue produces a very characteristic foul odor that plants infected with Goss's wilt do not have. Affected plants may remain green for several days because the vascular strands remain intact.

Presently the symptom appearing is where the tips of the uppermost leaves wilt, followed by a slimy soft rot at the base of the whorl. The decay spreads rapidly downward until the plants eventually collapse. Collapsed, twisted stalks are a good indication of this disease. Bacterial stalk rot occurs in plants with either surface or sprinkler-irrigated river, lake, or impounded water.

Bacterial stalk rot is not common and in the past has been limited to just a few fields in Weld County associated with high manure use. Weld County of course probably has the most feed lots and dairies in the state. Thus lots of manure that is frequently used directly from the feed lot or dairy.

Pathogen and Disease Cycle

Erwinia chrysanthemi pathovar *zeae* is the bacterial pathogen that causes bacterial stalk rot. It is normally associated with tropical or semi-tropical environments.

The bacterium survives saprophytically on crop residue in the soil and invades corn through stomata, hydathodes, or wounds in the leaves or stalks. The organism is also seedborne.

Bacterial stalk rot is most prevalent and destructive in areas with high rainfall, where plants are watered by sprinkler irrigation, and/or on land subject to flooding. The disease is favored by high temperatures (30-35 degrees Celsius) and poor air circulation. It is frequently associated with high organic matter and manure use.

Control

Management of the disease once it is established is difficult to impossible. It must be prevented through a combination of factors that begin with resistant varieties and rotation. Unfortunately there

do not appear to be a lot of resistant varieties available and rotation is not historically a popular practice with most Colorado corn producers. In addition to resistance and rotation some other precautions can be taken.

In summary, stalk rot management depends on:

1. Resistant hybrids and varieties.
2. Good cultural management to avoid flooding.
3. Rotation
4. Disease free seed
5. Avoid excessive nitrogen fertilization
6. Avoid heavy manure use
7. Avoid extensive dairy lagoon water use, especially when higher temperatures are present or expected.

(Brown)

TOMATO PROBLEMS

We are continuing to get questions and specimens of problems on tomatoes. First and foremost, this is not really good tomato growing country. The season is not long enough and believe it or not it is really not hot enough! Admittedly you could not tell from some of the weather we have had recently.

Herbicide damage is readily seen on tomatoes when it is not apparent on other garden plants. Leaf distortion, darkened color, and a rolling of leaf edges are common symptoms. Herbicide damage (usually a 2-4 D type) is usually seen after lawn applications or in areas adjacent to agricultural activities with crops like small grains and corn.

Leaf rolling and purpling can also be a symptom of excessive water. Care should be taken to not confuse this with curly top virus or psyllid damage. Dr. Cranshaw has noted high instances of psyllid damage this season. Curly top is a virus disease spread by leaf hoppers and in transplant sets. Curly top would have shown early in the season and more often is limited to random plants dispersed throughout the garden area. Also it is more a problem encountered on the West Slope in the more arid climate which favors leafhoppers. Purpling, yellowing and leaf distortion associated with psyllids looks very much like curly top.

The purpling and leaf curl associated with excessive moisture will be uniform throughout the garden area or in lower areas. Generally it will have developed over the last couple of weeks. There is little that can be done for this problem except hope for a break in the weather. Cultivation of the soil to open it up to drying will help somewhat. Future planting on raised beds should be considered.

Early blight disease is also developing in potatoes in the Greeley and other Front Range areas. Early blight disease can also develop in home garden tomatoes. The same early blight fungus that causes the leafspot disease on both tomato and potato is *Alternaria solani*.

This same fungus is generally a problem in commercial potato production in the San Luis Valley and as mentioned above, the Greeley area. It is not normally a problem in surface irrigated gardens, but with all the rain we have had, it could be a problem this year.

Symptoms

Leaf spots begin as small dark brown to black areas. Spots frequently begin on the older, lower leaves inside the canopy of the plant where humidity is higher. As the spot develops a concentric ring pattern can frequently be detected. This is the most diagnostic symptom of the disease and is the source of the name "target spot" that is frequently found in popular garden books. In severe cases all

the foliage can be blighted and premature leaf drop and wilting result. This in turn results in leaving the fruit exposed resulting in sunscald problems later.

Control

Several cultural practices that will help reduce tomato damage to early blight and other problems in the home garden are:

- keep plant foliage off ground, use mulches and/or stakes.
- space plants to allow good air movement and drying of leaves. You may need to do some selective pruning of tomato branches and even plants to accomplish this.
- do not over fertilize with nitrogen (no more please!).
- improve drainage and cultivate around plants to hasten drying at the crown, this should help the leaf curl situation as well.
- do not work among the plants when the leaves are wet.
- remove older leaves at first sign of disease. The fungus tends to attack older leaves first.
- remove severely diseased branches and plants (the fungus survives on plant debris). Destroy these by burying in the soil or your compost pile. Do not leave exposed because spores will continue to be produced.

In some instances there may be a need for spraying a fungicide. Only use a fungicide if you have an accurate diagnosis and know for sure what disease is attacking the tomatoes.

ALWAYS FOLLOW THE FUNGICIDE LABEL DIRECTIONS.

About the only commonly available fungicides for the home gardeners that are effective are maneb, mancozeb or copper based products. When selecting a suitable copper based fungicide read the label carefully to insure that it can be used and follow the directions on the label. (Brown)

EPA ANNOUNCED DEADLINE MILESTONE

On August 3, 1999, EPA announced completion of 3,290 tolerance reassessment decisions, surpassing the Food Quality Protection Act (FQPA) statutory requirement of 33% (or 3,208). FQPA established a new safety standard for pesticide residue limits in food/feed (tolerances). FQPA required EPA to reassess all 9,721 tolerances and tolerance exemptions by 2006, with the first milestone of 33% due on August 3, 1999.

FQPA required EPA to give priority to pesticides which appear to pose the greatest risk to public health (Priority Group 1). Priority Group 1 consists of 228 pesticides and 5,546 tolerances, including tolerances for: organophosphates, carcinogens, carbamates, high hazard inert ingredients, and organochlorines. Group 1 represents 57% of the 9,721 tolerances. To this point, EPA has reassessed more than 39% (2,178) of the Priority Group 1 tolerances. Of the 3,290 tolerance reassessments completed to date 66% (2,178) are for pesticides in Priority Group 1.

EPA has accomplished some reassessments through revocation of existing tolerances. Of the 3,290 tolerance reassessment decisions, 1,493 were to revoke the tolerances. Included in this are 1,258 (84%) revocations for pesticides in Priority Group 1, including: 483 for organophosphates (OP), 92 for carbamates, 1 for an organochlorine, and 220 for carcinogens. Some tolerance revocations simply remove old tolerances whose corresponding pesticide uses were canceled many years ago.

A coalition in California lead by the National Resources Defense Council (NRDC) responded to this announcement by filing suit against EPA. Plaintiffs include NRDC, the Breast Cancer Fund, Pesticide Action Network, Pesticide Watch Education Fund, San Francisco Bay Area Physicians for Social Responsibility, and the United Farmworkers. At a press conference Monday in Washington, D.C., the organizations explained their reasoning: "The FQPA says EPA must address and reduce the worst health risks first. It doesn't say, address one quarter of the worst risks first."

From the risk assessments completed so far, EPA feels that, with few exceptions, measures beyond those specified by the Worker Protection Standard are needed to adequately protect workers and handlers of OPs. EPA is issuing a Pesticide Registration (PR) Notice that presents the Agency's approach for managing risk to workers and handlers of OPs. EPA's goal is to have substantial worker risk mitigation in place for all the OPs by December 31, 2000.

Along with meeting the deadline, Carol Browner, EPA Administrator announced elimination of certain uses of methyl parathion and significantly lowering allowable residues of azinphos methyl on a variety of produce. In addition, EPA will require new studies on neurological and developmental effects of certain pesticides, and new standards that will provide farm workers with significantly greater protections. EPA also laid out a rigorous 18-month schedule for completing its review of the remaining 37 organophosphates. The Agency has targeted several other older, widely used pesticides for priority review within the next year and a half, including the pesticides atrazine, aldicarb and carbofuran, among others.

Methyl Parathion (Pencapp M, Methyl Parathion) Cancellation

EPA has accepted voluntary cancellation of many of the most significant food crop uses of methyl parathion. The major manufacturers to enter into these agreements are Cheminova Inc., Wayne, N.J., and Elf Atochem North America Inc., Philadelphia, Pa.

The methyl parathion risk assessment found this OP to pose unacceptable dietary risks to children. Removing these crop uses considerably reduces risks to children through food, and risks to workers and the environment. The acute dietary risk to children age one to six exceeded the acute population-adjusted dose (or amount that can be consumed safely in one day or less) by 880%. The canceled uses represent 90% of the dietary risk to children. Removing these crop uses brings the estimated dietary risk down to 78% of the reference dose.

Methyl parathion uses canceled on children's food: all fruit (apples, peaches, pears, grapes, nectarines, cherries, and plums), carrots, succulent peas, succulent beans, and tomatoes. Methyl parathion uses canceled on other food: artichokes, broccoli, brussels sprouts, cauliflower, celery, collards, kale, kohlrabi, lettuce, mustard greens, rutabagas, spinach, and turnips. Methyl parathion non-food uses canceled: ornamentals, grasses grown for seed, mosquito use, and nursery stock.

Methyl parathion uses remaining: alfalfa, almonds, barley, cabbage, corn, cotton, dried beans, dried peas, grass, hops, lentils, oats, onions, pecans, rape seed (canola), rice, rye, soybeans, sugar beets, sunflower, sweet potato, walnuts, wheat, and white potatoes.

To increase worker protection until the methyl parathion cancellations become effective, EPA has increased the reentry intervals (REI) from two days to four-to-five days. To increase the safety of uses that will continue, for the 2001 growing season, enclosed cabs and cockpits and closed mixing and loading systems will be required.

Existing growers and applicators may apply stocks of methyl parathion products with canceled crop uses until December 31, 1999. Registrants must repackage or re-label their products to reflect only

the maintained uses. Application of methyl parathion for the canceled uses will be prohibited for the 2000 growing season.

Azinphos methyl (Guthion, Sniper) reductions

EPA has accepted voluntary measures to reduce both dietary and worker risks from azinphos methyl. The two primary manufacturers are Bayer Corp., Kansas City, Mo., and Makhteshim-Agan, Beer-Sheva, Israel.

Reduction of use on pome fruit (apples, pears, quinces and crabapples) through the establishment of a maximum seasonal use rate and an increased preharvest interval (PHI).

All cotton east of the Mississippi River and all sugarcane uses have been canceled. These uses appear to be a major factor contributing to drinking water exposure. The registrants also have committed to ground and surface water monitoring programs in sensitive areas. Use on ornamental, Christmas tree, forest tree, and shade tree uses have been canceled to reduce exposure to affected ecosystems.

Production of azinphos methyl will be capped in the U.S. EPA intends this to prevent use of other pesticides shifting to azinphos methyl as a result of other actions, such as the cancellation of many uses of methyl parathion.

To reduce worker exposure the REIs will be lengthened. All application with hand-held equipment is prohibited. Closed mixing/loading systems and enclosed cabs are required, as is additional worker exposure testing.

I will provide a more detailed assessment of the impact, implications and any further announcement in the September issue of *Agronomy News: From the Ground-up*. If you are interested in receiving this issue and are not on the mailing list it will be available on our website at <http://www.colostate.edu/Depts/SoilCrop/extens.html> or call Gloria at 970-491-6201 or e-mail at gluman@lamar.colostate.edu. Information on pesticides and their toxicity is available from the National Pesticide Telecommunications Network at 1-800-858-7378 or through their website (<http://ace.orst.edu/info/nptn/>). (McDonald)

RECOGNITION & MANAGEMENT OF PESTICIDE POISONINGS MANUAL AVAILABLE

The fifth edition of the U.S. Environmental Protection Agency's Recognition and Management of Pesticide Poisonings is now available. This manual has been produced by EPA since 1973 to provide health professionals with current information on the hazards and treatments of pesticide poisonings and injuries.

The manual deals almost entirely with short-term (acute) harmful effects of pesticides, drawing upon source material from published texts, pesticide product literature, and direct communication with toxicologists. It is indexed by signs and symptoms, as well as by products. New features for the fifth edition include tabular listings of commercial products in each chapter, and new chapters on disinfectants and taking patients' environmental and occupational histories.

This latest update was fostered by a larger initiative, Pesticides and National Strategies for Health Care Providers, which was clarified in a workshop held April 23 _ 24, 1998. The proceedings of this workshop (EPA 735-R-98-001) and the Recognition and Management manual (EPA 735-R-98-003) are available through EPA at (703) 305-7666; the manual is available on the Internet at <http://www.epa.gov/pesticides/safety/healthcare>. (McDonald)

POLICY PAPER ON ROLE OF USE-RELATED INFORMATION PUBLISHED

On July 14, 1999, EPA published a Federal Register notice announcing the availability of a draft document for public comment- The Role of Use-Related Information in Pesticide Risk Assessment and Risk Management. This paper is being released for a 60-day public comment period, as part of a process developed in conjunction with the Tolerance Reassessment Advisory Committee (TRAC) to ensure that EPA's policies related to implementing the Food Quality Protection Act (FQPA) are transparent and open to public participation. The paper announced in this notice summarizes the types of use-related information used by EPA in risk assessment and risk management, where the data come from, and how the Agency employs these data.

The Federal Register notice includes questions on which EPA is particularly seeking comment. The paper is available through the OPP Docket and on the Internet at:

www.epa.gov/pesticides/trac/science/.

Comments can be submitted in person, by mail, or electronically as described in the Federal Register notices. The Federal Register notice is available electronically at www.epa.gov/fedrgstr. (McDonald)

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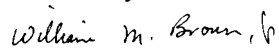
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Sincerely,


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