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## INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 92-4] [April 24, 1992]

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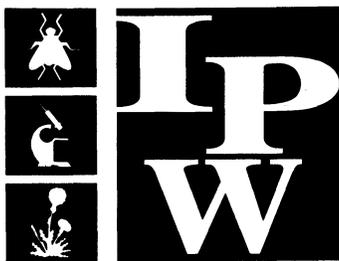
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## *Plant Disease*

### Wheat disease survey

## *Southeast wheat damage extensive*

The most recent wheat disease surveys were conducted in Custer, Lancaster, Cass, Johnson, Nemaha, Box Butte, Dawes, Sheridan, Cheyenne and Deuel Counties. The root and crown rot-stand loss situation in southeast Nebraska is extensive. Stands have declined to unproductive levels in many of the affected fields. In almost all situations the pattern is the same. Wheat that was no-tilled into corn, sorghum or soybean residue is in good condition; however, the problem fields are those where

wheat was planted into second- or third-year wheat. The common factor in this picture, regardless of geographic location of fields, is the firmness of the seedbed. Where the seedbed is firm, the wheat stands generally look good. If the seedbed is loose, the stand is in trouble. The loose seedbed apparently caused sufficient stress which resulted in severe crown and root-winter injury loss. Those fields showing decline lack a functional root system because of root rot.

A similar situation was found in Custer County, although the stand loss is not as extensive as it is in the southeast.

Wheat in the northern Panhandle looks good. Those fields that are loosing stand have soft seedbeds; however, these fields are the exception rather than the norm. The stand decline in the southern Panhandle is greater than it is in the north, but, in general, the overall wheat crop in that area looks relatively good. As with other areas of the state, the firmness of the seedbed was apparently the key factor to winter survival and spring vigor.

**John Watkins and Eric Kerr**  
Extension Plant Pathologists

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## Stewart's Wilt may attack Nebraska corn this year

Several plant disease newsletters from midwestern states have indicated that the potential for Stewart's wilt may be higher this year than in previous years. The reason given is because of the relatively mild 1991-1992 winter that allowed survival of a higher-than-normal population of corn flea beetles, the insect vector of the Stewart's wilt bacterium. Although this disease has not been a significant problem in recent years

for corn growers in Nebraska, I thought it might be well to review the aspects of the disease and look at the potential for its occurrence in Nebraska.

Most dent corn hybrids have some genetic resistance, although when infected early, the disease can cause a seedling problem in some hybrids. On the other hand, Stewart's wilt can be a serious

*(Continued on page 2)*



## Stewart's Wilt *(Continued from page 1)*

problem in sweet corn and popcorn throughout the spring and early summer months.

**Symptoms:** Early-season infection can infect the growing point, causing discoloration of the interior and lower stalk and finally wilting and death of the plant. Later infections of leaves show pale green or yellow streaks that run parallel to the veins; the margins of the streaks are often wavy or irregular. As the infection progresses, the streaks turn tan and dry.

**Disease Cycle:** The bacterium that causes the disease survives the winter in the body of corn flea beetles. The beetles then spread bacteria to corn when they feed. Once infected, symptoms develop and the bacteria can spread to other plants as flea beetles move from plant to plant.

**Forecast:** A simple way to forecast the potential for Stewart's wilt is to add the average monthly temperature (°F) for December, January, and February. When the total is below 90, flea beetle survival is low and little disease is expected. When the total is above 100, high disease pressure may be expected in or near fields planted to corn last year. From the table below it appears that Stewart's wilt should not be a significant problem again this year, but in a few locations along the southern tier of counties bordering Kansas, growers — especially sweet corn growers — should be on guard.

**Management:** Most sweet corn hybrids are at least moderately susceptible to the bacterial disease. A few sweet corn hybrids have fair resistance. Resistant "standard" varieties include Apache, Comet, Gold Cup, Incredible, Silver Chief, and Sweet Sue. "Sugar-enhanced" hybrids are Miracle and Seneca Sentry; "supersweet" selections include Florida Stay Sweet and How Sweet It is.

Growers should watch for early signs of flea beetle activity. These beetles are small, dark insects that jump readily when disturbed. Feeding results in scarring of the leaf surface giving the leaves a frosted appearance. These insects can cause serious

when the plants are less than six inches tall. The use of insecticides to control flea beetles is warranted in hybrids susceptible to Stewart's wilt.

David S. Wysong  
Extension Plant Pathologist

Average temperatures to be used for calculating the potential for Stewart's Wilt.

Location	Avg. Temp. (degrees F)			Total	Dis. Pot.
	Dec	Jan	Feb		
Falls City	31	25	31	87	Low
Lincoln	27	20	27	74	Low
Columbus	26	20	27	73	Low
Grand Island	27	21	27	75	Low
Holdrege	29	24	30	83	Low
McCook	31	26	32	89	Low
North Platte	26	21	27	74	Low
Scottsbluff	28	24	30	82	Low



## Insect Science Plant Disease Weed Science News

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Lisa Brown Jasa, Editor

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## Protect apples, flowering crabs from cedar-apple rust

During the next few weeks, orange gelatinous masses will begin to develop from the surface of woody galls on eastern red cedar and some ornamental junipers. These finger-like masses are the fruiting bodies of the cedar-apple rust fungus. Within these masses are millions of mature spores (fungus seeds) which are released as the "spore horns" on the cedar galls dry and shrivel. New apple and crabapple leaves are susceptible to infection by these spores for about a month to six weeks after emergence. Protect apples and crab apples by following a fungicide spray schedule starting as soon as the spore masses are noticed and continuing until the galls have completely dried.

Several fungicides are registered for use on apples and/or crab apples. They include Funginex 18.2% EC (Ciba-Geigy), Bayleton

50% Dry Flowable and 50% WP in water soluble packets (Miles, formerly Mobay Corp.), Nova 40W in water soluble packets (Rohm & Haas), or Rubigan 12% EC (Elanco). As with all pesticides,

read the label carefully, paying attention to safety precautions, and follow all directions.

David Wysong  
Extension Plant Pathologist

## Popular tree disease book reprinted

A fine publication on tree diseases has been reprinted for the third time and is now available from the USDA Forest Service. The title of the 149-page book is *Diseases of Trees in the Great Plains*. J.W. Riffle and G.W. Peterson, who have now retired as plant pathologist with the U.S. Forest Service in Nebraska, served as technical coordinators for the publication. The book contains 64 articles on tree diseases prepared by 31 authors. Each article includes two

to four color illustrations of characteristic symptoms and/or signs useful in disease diagnosis. Hosts, distribution, disease cycle, and control measures are described for 46 hardwood and 15 conifer diseases.

The book is free (one per individual) and available by writing: Publications; Rocky Mountain Forest and Range Experiment Station; 240 West Prospect Street Fort Collins, Colorado 80526

Dave Wysong  
Extension Plant Pathologist

# Weed Science

## 2,4-D, Banvel preferred for controlling alfalfa

Alfalfa can be controlled with herbicides in preparation for no-till planting of corn or sorghum. Herbicides of choice are 2,4-D and a combination of 2,4-D + Banvel. We have received numerous inquiries about combining nitrogen solution, AAtrex, Bladex and Extrazine with 2,4-D and Banvel to save a trip.

Our experience is that using such combinations will sharply reduce alfalfa control. The rapid desiccation of alfalfa leaves due to the fertilizer and triazine results in reduced uptake of 2,4-D and Banvel. Instead, apply the 2,4-D + Banvel at least three days prior to applying the nitrogen solution or triazine herbicide.

Alex R. Martin  
Extension Weed Specialist

## Herbicides — know what you're getting

When buying a prepackaged combination herbicide, consider the amount of each component in the product. Weed control performance, crop safety, and carryover potential of combinations compared with tank mixtures depends on the proportions used. Sometimes it is difficult to tell how much atrazine is contained in 3 quarts of Bicep or 3 quarts of Extrazine II. The following table lists the equivalent amount of each component contained in a gallon or pound of some combination products. The totals don't always add up to 1 gallon or 1 pound of herbicide because the combination products may be more or less concentrated than the individual herbicides.

(See table on page 4)

Alex Martin  
Extension Weed Specialist

# Combination herbicides — know the components

<i>Trade name</i>	<i>Equivalent amount of each component contained in 1 gal or 1 lb of product</i>	<i>Manufacturer</i>
Betamix	4 qt Betanal + 4 qt Betanex	Nor-Am
Bicep 6E	3.3 pt Dual + 5.3 pt atrazine	Ciba-Geigy
Brominal 3+3	3 qt Brominal + 3 qt MCPA	Rhone-Poulenc
Bronate	2 qt Buctril + 2 qt MCPA	Rhone-Poulenc
Bronco	2.6 qt Lasso + 1.4 qt Roundup	Monsanto
Buctril + atrazine	2.0 qt Buctril + 2.0 qt atrazine 4L	Rhone-Poulenc
Bullet	2.5 qt Lasso MT + 1.5 qt atrazine	Monsanto
Cannon	2.5 qt Lasso EC + 0.5 qt trifluralin	Monsanto
Canopy 75 DF	0.86 lb Lexone DF + 0.43 lb Classic	DuPont
Commence 5.25 EC	3.0 qt Treflan + 4.5 pt Command	Elanco/FMC
Crossbow	1 qt Garlon + 2 qt 2,4-D	Dow
Curtail	2.0 qt 2,4-D amine + .38 lb ai clopyralid	Dow
Cycle	2.0 pt Dual + 2.0 qt cyanazine	Ciba-Geigy
Extrazine II 4-L	3 qt Bladex + 1.0 qt atrazine	DuPont
Fallow Master	1.5 qt Roundup + 0.6 qt Banvel	Monsanto
Freedom	2.67 qt Lasso EC + 0.33 qt trifluralin	Monsanto
Fusion 2.66E	8.0 qt Fusilade 2000 + 5.3 pt Option	ICI
Galaxy	3.0 qt Basagran + 1.3 qt Blazer	BASF
Gemini 60 DF	1.1 lb Lorox DF + 0.18 lb Classic	DuPont
Laddok	1.66 qt Basagran + 1.66 qt atrazine	BASF
Landmaster BW	1.2 qt Roundup + 1.9 qt 2,4-D	Monsanto
Landmaster II	1.2 qt Roundup + 1.0 qt 2,4-D amine	Monsanto
Lariat 4 F	2.5 qt Lasso EC + 1.5 qt atrazine	Monsanto
Lasso + atrazine	2.5 qt Lasso EC + 1.5 qt atrazine	Monsanto
Lorox Plus 60 D F	1.1 lb Lorox DF + 0.12 lb Classic	DuPont
Marksman	1.1 qt Banvel + 2.1 qt atrazine	Sandoz
Matrix 75 DF	0.67 lb Harmony + 0.33 lb Express	DuPont
Milocep	3.33 pt Milogard + 3.3 pt Dual	Ciba-Geigy
Preview 75 DF	0.90 lb Lexone DF + 0.27 lb Classic	DuPont
Prozine 70 DF	0.35 qt Prowl + 0.35 qt atrazine	Am. Cyanamid
Pursuit Plus	2.8 qt Prowl + 0.8 pt Pursuit	Am. Cyanamid
Ramrod + atrazine	3 qt Ramrod + 1 qt atrazine	Monsanto
Salute 4 EC	2.7 qt trifluralin + 1.3 qt Sencor	Mobay
Squadron 2.33 EC	2.0 qt Prowl + 1.75 pt Scepter	Am. Cyanamid
Sutazine	5.7 pt Sutan+ + 2.4 pt atrazine	ICI Americas
Trimec Super Brush Killer	4 parts 2,4-D + 4 parts 2,4-DP + 1 part Banvel	PBI-Gordon
Trimec Turf	2,4-D, MCPP, Dicamba in 9:3:1 ratio	PBI-Gordon
Tri-Scept 3 E	2.6 qt trifluralin + 2.3 pt Scepter	Am. Cyanamid
Turbo 8 E	6.6 pt Dual + 1.45 qt Sencor	Mobay
Turflon D	2.0 qt 2,4-D ester + 1 qt Garlon	Dow

## *Soybean herbicides released*

*Select 2E (clethodim)* is a postemergence grass herbicide for use in soybeans. Select is manufactured by Valent but will be marketed by both Valent and American Cyanamid.

*Fusion 2.66E* is a combination of Fusilade and Option registered for postemergence grass control in soybeans. Fusion will be marketed by ICI.

# Insect Science

## Russian wheat aphids return

Russian wheat aphid infestations close to or above the economic threshold have been reported in a few isolated fields in Banner County. Russian wheat aphids also have been found in Kimball, Cheyenne, Morrill and Scotts Bluff counties. Heavy Russian wheat aphid infestations are being seen just across the border in Wyoming and some areas of northern Colorado. In most fields in Nebraska, only very low infestation levels can be found. These populations are not a problem at this time; however, continued dry and warm weather will increase the potential for developing economic infestations. Under these conditions Russian wheat aphid populations can increase rapidly.

Growers are strongly urged to scout their fields for Russian wheat aphids so that infestations can be detected before they surpass the economic threshold. The lack of evidence of an infestation does not mean that field will remain uninfested. Regular sampling through April, May and early June is necessary.

When scouting wheat fields, base infestation estimates on at least 100 tillers collected randomly throughout the field. The threshold for treatment will depend on the expected yield and value of the wheat and the cost of control. A formula for determining the threshold can be found in a recent publication, *Sampling Russian wheat aphids in the western Great Plains*. Copies of this publication are available from your University of Nebraska Extension Office.

The only control options available for Russian wheat aphid are Cygon, Di-Syston, parathion, or PennCap-M. Of these compounds, Di-Syston provides the best control of the Russian wheat aphid. However, for safety reasons, Di-Syston should not be used for ground applications, and label restrictions prohibit the use of Di-Syston where

wheat or wheat stubble may eventually be grazed. Lorsban 4E has been used in the past under emergency labeling. Wyoming and Colorado have crisis exemptions for its use in these states. It is not currently labeled in Nebraska and cannot be used in Nebraska.

Gary L. Hein  
Extension Entomologist, PHREC

## Dates set for crop pest training

Field scout training sessions have been scheduled for May 20 at the West Central Research and Extension Center, North Platte, May 21 at Buffalo County Extension office in Kearney, and May 22 at the Northeast Research and Extension Center at Concord. The meetings will begin at 8:30 a.m. (North Platte and Kearney) or 9 a.m. (Concord). A registration fee of \$10 at North Platte and Kearney and \$4 at Concord will be required and will include lunch. The sessions are designed for beginning field crop scouts or other interested people, and provide basic information on identification of pests, crop disorders, and irrigation scheduling. Training includes lecture and laboratory sessions. For more information, contact Ron Seymour, West Central Research and Extension Center, (308) 532-3611, concerning the North Platte and Kearney meetings, and Keith Jarvi, Northeast Research and Extension Center, (402) 584-2261, concerning the Concord session.

Additional training materials are available for individual study

by people wanting information related to crop pest identification and scouting procedures. These include two videotapes and a reference manual. The videotapes cover pest and beneficial insect identification and scouting procedures — one in corn (26 minutes), and the other in soybeans and alfalfa (21 minutes). Each videotape (1/2 inch, VHS format) costs \$29.95 plus sales tax; both videos may be ordered on one reel for \$50, plus sales tax.

The Field Scout Manual covers all types of pests — insects and mites, weeds, and diseases — commonly found in major Nebraska field crops. Text and color photos provide information on identification, biology and scouting techniques. The cost is \$28 plus sales tax.

Orders with checks made payable to University of Nebraska may be sent to Communications and Computer Services, PO Box 830918, University of Nebraska-Lincoln, Lincoln NE 68583-0918.

Bob Wright  
Extension Entomologist, SCREC

# Charts aid in alfalfa weevil management

No reports of alfalfa weevil activity in Nebraska were received as of April 20. Alfalfa growers are encouraged to begin scouting once alfalfa is 6 inches tall and degree day accumulations reach 300 in their area. (See map) Most of the state should now have alfalfa weevil larvae feeding in alfalfa fields, although the cold temperatures and high moisture conditions may have killed some of them. Scout fields now to determine conditions and whether management procedures are necessary.

To scout for the alfalfa weevil, carefully collect 50 stems at random from across the field and place them in a bucket. Shake the stems vigorously against the sides of the bucket to dislodge the larvae from the stem tips. Count the number of larvae in the bottom of the bucket and measure the length of the stems. Compare the average number of larvae per stem (divide the total number of larvae you counted by 50) to the stem length on the charts below to determine the recommended action.

Each chart has been developed for a different alfalfa hay value (i.e.

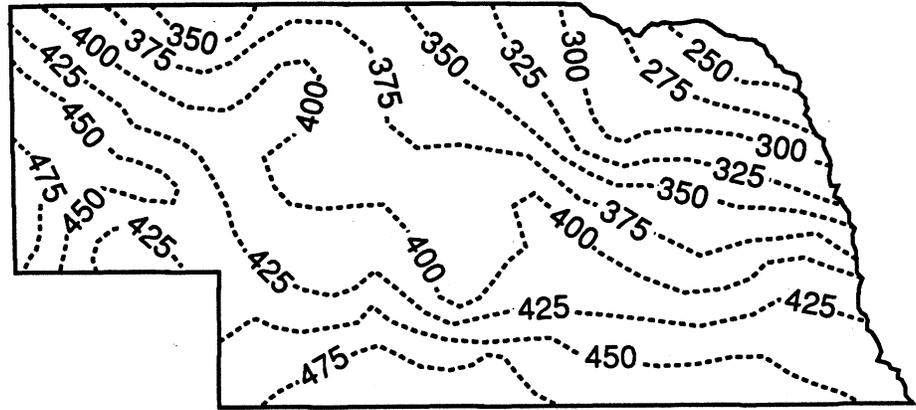


Figure 1. Degree day accumulations as of April 20 for a 48° base temperature

\$35, \$70, and \$105 per ton). Use the chart that corresponds most closely to the price you expect to obtain for your hay. If alfalfa prices are between these values, use your judgement and interpolate between the lines on the charts.

Each field must be scouted separately because weevil infestations are not uniform from field to field. Do not treat a field unless the weevil infestation is high enough to justify the cost of the insecticide application and harvest is not imminent.

For more information about the biology, life cycle, and management of the alfalfa weevil, refer to NebGuide G73-30, *The Alfalfa Weevil*. Alfalfa weevil management, including a list of insecticides registered for control, is discussed in detail in EC92-1511, *Insect Management Guide for Nebraska Alfalfa, Soybeans, Wheat, Range, and Pasture*. Both publications are available from your local University of Nebraska Extension office.

Steve Danielson  
Extension Entomologist

## Alfalfa Weevil Stem Count Method

