

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Crop Watch

Extension

---

6-24-1994

## CropWatch No. 94-11, June 24, 1994

Lisa Brown Jasa

University of Nebraska-Lincoln, ljasa@unlnotes.unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/cropwatch>



Part of the [Agriculture Commons](#)

---

Brown Jasa, Lisa, "CropWatch No. 94-11, June 24, 1994" (1994). *Crop Watch*. 64.

<https://digitalcommons.unl.edu/cropwatch/64>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Crop Watch by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



# CROP WATCH

University of Nebraska Cooperative Extension  
Institute of Agriculture and Natural Resources

No. 94-12  
June 24, 1994

*Potential for pollution reduced*

## Sidedressing nitrogen improves efficiency

Methods of increasing nitrogen fertilizer efficiency have always been an important consideration for corn producers. Increased efficiency means increased profits. However, in recent years, increased fertilizer nitrogen efficiency has become even more important to avoid nitrate contamination of the groundwater.

It is well known that much of the nitrogen fertilizer applied in excess of that needed to produce optimum yields is likely moving through the root zone, ultimately reaching underground water aquifers. Thus, the nitrate-nitrogen content of our drinking water gradually increases to an unsafe level. While there are several other sources of nitrogen in the environment, inefficient use of nitrogen fertilizers in agriculture represents a large potential source for groundwater contamination.

One of the most effective methods of increasing nitrogen fertilizer efficiency is to delay application until the crop has established a root system and is ready to grow rapidly. With corn, this is at about the V6 stage or when it is 12 to 18 inches tall. Many Nebraska studies have shown the importance of delaying nitrogen application to achieve maximum nitrogen fertilizer efficiency in both irrigated and dryland corn.

In 13 irrigated corn experiments conducted from 1988

through 1990, sidedress and split application (40 lbs nitrogen/A applied preplant with the remaining nitrogen applied sidedress) averaged nearly 10 bu/A more grain than preplant nitrogen. Not only did delayed nitrogen application produce higher grain yields, but this higher yield was achieved with less fertilizer nitrogen. This certainly indicates a great potential to not only increase profits by delaying nitrogen application, but may also reduce the potential for groundwater pollution with nitrate-nitrogen.

However, there are limits. First, delayed application is probably generally more important for

irrigated crops than dryland crops, because of increased nitrate-nitrogen movement out of the root zone due to irrigation. However, during years of high spring precipitation, preplant nitrogen also can move out of the root zone on dryland. Second, sidedress nitrogen has somewhat more risk for the producer since a wet June can prevent sidedress application.

On dryland, a lack of rain can delay availability of the sidedress application which, if applied late, can affect yield response to applied nitrogen. In addition, if everyone delayed nitrogen application, it would be difficult for the industry to supply enough nitrogen in a short time. However, the potential exists for many producers to increase nitrogen efficiency by delaying application on their sorghum and at least part of their corn acreage.

**Don Sander**  
Extension Soils Specialist

## CPMU scheduled

The latest information on crop and pest management strategies will be discussed at the annual Crop and Pest Management Update conference Nov. 29-30 at the Ramada Inn in Kearney.

Speakers from Nebraska and other states will address recent research on crop production, insect management, weed control, disease identification and related topics. Put this conference on your calendar. Information on the program agenda and registration procedures will be available later in the year.

**Steve Danielson**  
Extension Entomologist

### Inside

FIFRA .....	84
Weed control .....	85
Clean grain bins .....	86
Kansas wheat .....	86
Corn progressing .....	87
Kansas outlook .....	87
Perennial weeds .....	87
Nebraska weather .....	88



UNIVERSITY OF NEBRASKA-LINCOLN, COOPERATING WITH THE COUNTIES AND THE U.S. DEPARTMENT OF AGRICULTURE



It is the policy of the University of Nebraska-Lincoln Institute of Agriculture and Natural Resources not to discriminate on the basis of sex, age, handicap, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.

# Nebraska Department of Agriculture assumes FIFRA administration for pesticides

In 1993 the Nebraska Legislature approved the Nebraska Pesticide Act, providing for the State Department of Agriculture to assume the oversight and enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Nebraska was the last state to assume the program, which had formerly been managed by the Environmental Protection Agency (EPA).

The Nebraska Pesticide Act recognizes that pesticides are a valuable asset to agriculture, necessary to protect humans and the environment from insects, rodents, weeds, and other pests. As beneficial as pesticides are, however, there is potential that through misuse or unintended movement, humans, animals or the environment could be injured by unintended movement. Problems can occur either through direct exposure or gradual accumulation. The Act also delegates responsibilities to several other state agencies, including the Nebraska Department of Environmental Quality, Nebraska Natural Resource Commission, the Nebraska Department of Water Resources, and the Nebraska Department of Health.

The Nebraska Department of Agriculture is responsible for developing a state management plan for the prevention, evaluation, and mitigation of occurrences of pesticides in groundwater or surface water. Fines of up to \$5,000 can be levied for any person who violates the provisions of the Nebraska Pesticide Act.

## Pesticide registration fees

Beginning Jan. 1, the pesticide registration fee was increased to \$100 per year, of which \$30 goes to the noxious weed cash fund and

\$70 goes to the pesticide administrative cash fund.

## Pesticide dealer license requirement

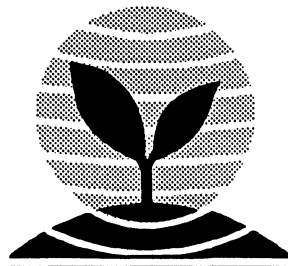
Also beginning Jan. 1, anyone distributing pesticides at the wholesale or retail level must be a licensed pesticide dealer or each distribution location needs to be licensed. All dealers' licenses are due Jan. 1 and require a \$50 annual fee. Late applications will be assessed an additional fee. Two exemptions to this licensing are: (a) commercial and noncommercial applicators who use restricted-use pesticides only as a part of the application service and who do not

distribute unapplied pesticides; and (b) persons who sell pesticide containers holding 50 pounds or less by weight or in volumes of one gallon or less and who do not sell any restricted-use pesticides or bulk pesticides.

## Applicator certification

Pesticide applicator certification also became the responsibility of the NDA, although training will continue to be provided by the University of Nebraska Extension. Applications for original and renewal commercial applicator licenses require a \$10 fee. All licenses will expire April 15,

(Continued on page 85)



# CROP WATCH

© 1994 University of Nebraska

*Crop Watch* is published from March through November by the University of Nebraska Institute of Agriculture and Natural Resources Communication and Computing Services, PO Box 830918, 108 Agricultural Communications Bldg., UNL, Lincoln, NE 68583-0918. To order a subscription or to change your address, write to *Crop Watch*, Box 830918, 108 Agricultural Communications Bldg. or call (402) 472-7981.

Lisa Brown Jasa, Editor

For more information about a particular subject, write the authors at the addresses below:

UNL Department of Entomology  
202 Plant Industry Bldg.  
Lincoln, NE 68583-0816

UNL Department of Plant Pathology  
406 Plant Science Bldg.  
Lincoln, NE 68583-0722

UNL Department of Agronomy  
279 Plant Science Bldg.  
Lincoln, NE 68583-0915

UNL Department of Agricultural  
Meteorology  
236 L.W. Chase Hall  
Lincoln, NE 68583-0728

# Improve weed control after winter wheat

Controlling weeds after winter wheat harvest is an ongoing challenge for Nebraska producers. A survey taken after winter wheat harvest in west central and southwest Nebraska in 1986 showed barnyardgrass and green foxtail were the leading summer annual grasses that infested winter wheat yields. Very little barnyardgrass was present in 1992 but in 1993 high populations of both grasses were present. In addition to the summer annual grasses, Russian thistle and kochia are two broad-leaf weeds that may be troublesome after winter wheat harvest.

The effectiveness of post-harvest weed control is often influenced by production practices associated with the previous wheat crop, such as winter wheat variety, fertilizer practices, planting date, and seeding rate. Other factors influencing weed control include: weeds that are too large; cutting off weed tops with the combine; crop rotation; temperature when spraying; rain the day of spraying;

streaks caused by sprayers; terraces; dust; straw; chaff; and weed seed distribution.

Many options, besides increasing the rate of herbicides, are available for controlling weeds after wheat harvest. However, best results are obtained when one starts with the winter wheat crop. It takes a total weed management package to obtain maximum weed control. Stands of vigorous winter wheat will compete better with weeds than thin stands. You must concentrate on controlling all weeds in the fallow. Timely weed control, fertilizing if needed, proper seeding, planting during the optimum time, selecting a competitive winter wheat variety, and weed control in the growing wheat with herbicides if needed will offer the winter wheat the best chances of reducing weed population and vigor after harvest.

After harvest it's essential that you watch closely and spray at the proper time to control weeds.

Most labels state that weeds must be treated before they are six inches tall. If weeds are under severe drought stress, wait for rain and spray about a week later.

Cyclone plus atrazine offers good control of barnyardgrass that is small or mature, but is less effective on medium or large plants. Control of barnyardgrass is poor with Cyclone + atrazine when sprayed during the tillering to boot stage. However, once barnyardgrass has headed, Cyclone plus atrazine provides good control. Spraying after the grass has headed allows seed production. In addition, the longer the weeds grow, the more soil water is used.

Several options are available for using nonselective herbicides with difficult-to-control weeds. With Cyclone be sure to use a minimum of 2 pints of X-77 or

*(Continued on page 86)*

## FIFRA *(Continued from page 84)*

following the third year in which they were issued.

The NDA is expected to assume applicator licensing April 15. All certified applicators (commercial, noncommercial, and private) will be required to maintain records of all restricted-use pesticides. These records must be kept a minimum of three years from the date of application. Previously, records had to be kept at least two years.

The NDA will investigate all reports of damages from pesticide applications and any reports of violations of the pesticide act. Civil fines, up to \$15,000 for each of-

fense, are authorized by the pesticide act. All monies collected from civil or administrative fines will be remitted to the State Treasurer for credit to the permanent school fund.

In overseeing and implementing FIFRA, the pesticide program also will administer and enforce Worker Protection Standards, the Endangered Species Act, and the FIFRA groundwater protection requirements, in areas relating to the use of pesticides. Funding of this program will be 85% from the federal EPA and 15% from state-generated sources.

The pesticide program will employ an administrator, one field staff supervisor, five field inspectors, one environmental protection specialist, one case review officer, and two clerical positions. The state expects to begin inspections in July and have the regulations for the dealers and applicators developed by fall.

If you have questions concerning Nebraska's pesticide program, contact the Nebraska Department of Agriculture, 471-2394.

**Geir Friisoe  
Administrator, Pesticide Program  
State Department of Agriculture**

## Weed control in wheat *(Continued from page 85)*

equivalent surfactant per 100 gallons of solution. A surfactant also needs to be added to Roundup. The label rates are 2 qt/100 gallons of spray solution (0.5% v/v). Landmaster BW and Fallow Master have a surfactant included. With Roundup, Fallow Master, and Landmaster BW, add ammonium sulfate (spray grade) at 17 lb per 100 gal of spray solution. The ammonium sulfate is the first item put into the spray tank after the water. Ammonium sulfate is especially helpful when stress conditions are present.

One cannot easily identify weeds under stress; therefore, it is wise to always add ammonium sulfate. Improve control by increasing the rate of Roundup, Landmaster BW or Fallow Master. A spray volume of 5 to 10 gallons per acre should be used with Roundup, Fallow Master and Landmaster BW. Fallow Master will provide better control of kochia and Russian thistle than either Roundup or Landmaster BW.

Our research and field surveys suggest that atrazine combined with either Cyclone or Landmaster BW is an effective treatment if applied before weeds are too large. Use Landmaster BW + atrazine on grasses from tillering to the boot stage. If weeds are mature, use the Cyclone + atrazine combination. Do not use Roundup, Fallow Master or Landmaster BW on days that it will rain or when temperatures reach 95°.

Split treatments have been especially effective. The split application avoids possible antagonism with atrazine + Roundup mixtures. With the split treatment, an application of Roundup, Fallow Master or Landmaster BW is made in July or early August with a second application containing at least 1 lb/A of atrazine applied in September with Cyclone, Crop Oil Concentrate, or alone depending on the amount and size of volunteer winter wheat, downy brome and/or jointed goatgrass present. The atrazine rate varies with soil and rainfall patterns and crop

rotation. In southwest Nebraska use at least 2 lb/A of atrazine, but in the Panhandle of Nebraska, 1/2 lb/A is often the maximum rate to be used in one season. Be careful not to exceed the label rate for atrazine with the two combined treatments. The advantage of the split treatments is that they provide excellent control of volunteer winter wheat and other winter annual grasses.

If winter annual grasses such as jointed goatgrass, downy brome or rye are a problem, tillage immediately after harvest may plant these weeds when a winter wheat-fallow rotation is used.

**Robert N. Klein, Extension Cropping Systems Specialist and  
Gail A. Wicks, Extension Weeds Specialist, both at North Platte  
Drew J. Lyon, Extension Dryland Cropping Systems Specialist,  
Scottsbluff**

## *Kansas harvest progressing quickly*

Wheat harvest is progressing quickly in central and southern Kansas, according to Kansas Agricultural Statistics, the County Extension Service, and the National Weather Service. Hot, dry weather provided excellent harvesting conditions, allowing 25 percent of the acreage to be harvested during the week. At least 70 percent of the state's wheat acreage is ripe.

This is well ahead of the 10 percent at this time last year and the average of 40 percent. All of the wheat crop is turning color with the exception of a few fields in northern counties. Dry conditions continue to stress the crop in the northwest, west central, and north central districts.

Condition of the wheat crop is rated 36 percent good to excellent, 61 percent fair, and 3 percent poor to very poor. (June 20)

**National Weather Service**

## Avoid potential pest problems; clean grain bins before harvest

Grain storage facilities should be cleaned now, prior to storing this year's wheat crop. Many potential insect problems can be eliminated by removing all old grain, chaff, dust, and other debris in and around the facilities. Combines, trucks, wagons, and augers should be cleaned.

Empty grain bins can be sprayed with formulations of malathion or methoxychlor insecticide to kill insects that may be hiding in crevices. Remember to check, clean, and treat void areas under drying or aeration floors as well.

Consider applying a grain protectant (i.e. Reldan or malathion) when the wheat is put into the bins, particularly if long term storage (over a few months) is possible. Top dressing with an approved insecticide can help prevent Indian meal moth infestations. Storing grain at the proper moisture and temperature also can help prevent serious pest problems and spoilage. By all means, regularly examine stored grain to check its condition and to look for insects or possible spoilage problems.

**Steve Danielson  
Extension Entomologist**

## Continued moisture essential for corn

### Hail spotty; pollination predicted for July 1-7

Heavy rains were received across portions of Nebraska this past week. Hardest hit were the northeast and western third of Nebraska. Unofficial reports of up to 9 inches of rain within a couple of hours were received. Most totals were between 1 and 4 inches. Spotty hail damage and localized flooding was also common within these areas. Even with the heavy totals, coverage wasn't uniform. Some areas are still dry and need additional moisture.

The corn crop is rapidly advancing to the critical pollination stage. The warm tropical weather that has been prevalent the last two weeks has resulted in rapid crop growth. At the present rate, two new leaves are formed every four to six days. Growing Degree Day

Units are accumulating at a rate of 25 per day. This places the critical pollination period between July 1-7 depending on the variety planted.

With 90°F or greater temperatures expected during the next 10 days, timely rains will be needed to minimize crop stress. Irrigators should note the corn crop will require up to 0.50 inches of water per day during the next two weeks.

If dew points remain in the upper 60s with a moderate wind, water use will be between 0.35 and 0.40 inches per day. If dew points are in the 50s to lower 60s, expect water use to increase to 0.40 to 0.50 inches per day.

**Al Dutcher**  
State Climatologist  
Agricultural Meteorology

## Finding solutions for perennial weed control on grazing lands

Normally, late June is the best time to treat broom snakeweed, vervain, goldenrod sagebrush, snow-on-the-mountain, western ironweed, and western ragweed. There is a tendency to treat too late rather than too early. A good guideline for most perennials is to mow or apply the herbicide when weeds are in the early flower bud stage. Biennial thistles are an exception and should be treated in the rosette stage.

The most commonly used treatments are 2,4-D ester and a combination of 2,4-D and Banvel. Tordon is available for tough

weeds and Crossbow is effective on woody plants. Grazing restrictions are minimal, with the exception of milking dairy animals. See June 10th issue of *CropWatch* for specific restrictions.

Uneven terrain often makes a uniform herbicide application difficult on grazing land. A marking system helps eliminate missed strips. Use care when applying herbicides near sensitive crops, gardens, windbreaks, and farmsteads. Injurious drift can occur for 0.5 mile or more.

**Alex Martin**  
Extension Weeds Specialist

## Kansas corn rated 69% good to excellent

Temperatures averaged 9 degrees above normal in the northwest and central divisions in the week ending June 20. They were 8 degrees above normal in the west central and northcentral. The southwest and northeast divisions were 7 degrees above normal while the remainder of the state was 5 degrees above normal.

Corn in the south central and southeast regions is beginning to silk. Dry conditions have stressed the crop, especially in the southern tier of counties. Condition of the acreage is rated 69% good to excellent, 30% fair, and 1 percent poor to very poor. Sorghum planting is 97% complete. This is well ahead of last year's 80%, and the average of 75% for this date. Planting stopped in some southern counties due to dry topsoil conditions. Soybean planting has reached 95% complete, compared to 80% in 1993 and the average of 80%.

Surface soil moisture is rated 65% short to very short and 35% adequate. Subsurface moisture is rated 27% short to very short, 72% adequate and 1% surplus.

Wheat harvest and planting of sorghum and soybeans were the major activities during the week. Pastures across the state are rated in good condition except in the southwest, central and south central districts where they are fair.

Statewide, the second cutting of alfalfa acreage has reached 25% complete. This compares to 5% one year ago and the average of 15%. (June 20)

**National Weather Service**  
Kansas Agricultural Statistics

# Nebraska weather data as of June 20

Accumulated from	Growing degree days				Precipitation				Emer Date	Evapotranspiration rates					
	Fahrenheit, Base 50***				6/13-6/19		4/1-6/19			Prior Week	Prior 3 Days	6/19	Next 3 Days	Next Week	Days**
	5/1	5/10	5/20	5/31	Act	%	Act	%							
Ainsworth	778	708	528	344	.87	107	6.54	84	5/5	.17	.15	.29	.22*	.26*	6
Alliance	727	647	483	332	.05	7	2.86	41	5/5	.24	.21	.33	.24*	.26*	9
Arthur	751	675	513	343	.04	6	5.35	74	5/5	.22	.21	.33	.24*	.26*	11
Beatrice	897	834	666	447	.44	45	7.86	85	5/5	.28	.27	.27	.27*	.28*	7
Central City	896	834	653	429	.00	0	4.23	45	5/20	.20	.17	.17	.20*	.22*	3
Clay Center	889	827	655	444	.00	0	5.83	63	5/5	.29	.26	.28	.28*	.30*	7
Concord	832	781	613	409	.61	63	5.83	63	5/20	.16	.14	.15	.17*	.19*	4
Curtis	862	787	616	427	.00	0	2.67	34	5/5	.34	.30	.41	.33*	.34*	8
Elgin	818	762	591	385	1.65	169	6.18	69	5/20	.15	.10	.15	.15*	.18*	5
Gordon	706	636	466	320	.20	27	5.04	71	5/20	.12	.12	.21	.13*	.14*	4
Grant	825	745	576	390	.00	0	1.73	23	5/5	.32	.28	.41	.31*	.34*	5
Holdrege	880	808	639	439	.00	0	3.67	41	5/5	.35	.31	.37	.32*	.34*	7
Lincoln	938	876	695	460	.62	69	6.61	72	5/5	.27	.25	.18	.27*	.29*	6
McCook	912	829	648	452	.00	0	3.11	42	5/5	.37	.35	.42	.36*	.37*	8
Mead	885	822	651	433	1.69	151	8.30	72	5/5	.26	.22	.12	.25*	.27*	5
North Platte	829	755	584	398	.00	0	5.31	70	5/5	.27	.23	.39	.27*	.30*	9
O'Neill	782	719	752	367	2.28	251	7.99	100	5/20	.11	.08	.14	.13*	.16*	3
Ord	845	778	606	407	2.68	294	7.32	91	5/20	.15	.11	.18	.16*	.19*	5
Red Cloud	890	825	661	454	.00	0	3.81	43	5/20	.22	.20	.21	.20*	.21*	4
Rising City	873	816	648	429	.00	0	5.79	73	5/5	.26	.22	.17	.26*	.28*	5
Scottsbluff	805	711	540	370	.00	0	2.41	40	5/5	.28	.24	.33	.29*	.32*	9
Shelton	912	847	663	443	.00	0	5.64	64	5/5	.31	.30	.36	.32*	.33*	7
Sidney	734	653	499	335	.59	84	4.53	69	5/5	.26	.23	.35	.26*	.28*	10
Tarnov	840	782	617	413	1.77	172	6.10	66	5/5	.15	.13	.11	.22*	.26*	6
West Point	887	824	649	429	.04	4	4.37	45	5/20	.17	.15	.10	.16*	.18*	5

\*Estimates based on an average year.

\*\*Days indicates number of days ahead or behind normal, relative to accumulated growing degree days on June 12.

\*\*\*Base 50 is used for corn, sorghum and soybean production.