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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 89-01] [March 7, 1989]

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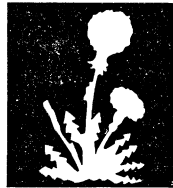
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INSECT PLANT DISEASE WEED SCIENCE

NEWS

DEPARTMENT OF AGRONOMY (WEED SCIENCE) UNIVERSITY OF NEBRASKA-LINCOLN,
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No. 89-01
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Herbicide Carryover Concerns for 1989

The dry conditions experienced during the 1988 growing season have raised concerns about herbicide carryover and recropping practices for this spring. Herbicide residues can be lost through several processes, many of which are dependent on environmental conditions. Dry weather results in less chemical and microbial breakdown as well as reduced plant uptake. Growers need to be aware of potential carryover problems when planning next year's crop rotation.

Corn and Grain Sorghum

Several of the newer soybean herbicides have long soil residual activities which could injure corn or grain sorghum this spring. Classic and herbicides which contain the Classic chemistry (Preview and Lorox Plus) have not presented a problem in the past except on soils with a pH greater than 7.0. Command and Commence caused some whitening of corn and grain sorghum this spring and the injury potential may be greater next year. Injury is normally temporary, varies by hybrid, and is more likely to occur on soils with a pH of 6 or less due to reduced microbial degradation. Scepter and prepacks which contain Scepter (Tri-Scept and Squadron) also caused some corn injury this past spring. Injury is more likely to occur where Scepter was used on low organic matter soils, and high pH soils due to greater plant availability. Grain sorghum is fairly tolerant of Scepter and may be the best choice for rotations with Scepter. American Cyanamid recommends that fields treated with Scepter or Scepter prepacks not be rotated to corn next year. However, Cyanamid will back the product where growers must rotate if the grower follows Cyanamid's recommendations for minimizing carryover risk. Contact your chemical dealer or a Cyanamid representative for Cyanamid's recommendations on minimizing carryover risk. Treflan carryover has occasionally injured corn



and sorghum in the past, especially on compacted soils. The carryover potential for Treflan and prepacks containing Treflan may be greater for this spring as well. Grain sorghum should not be planted for 12 months following the use of Treflan. If less than 20 inches of rainfall and/or irrigation has not been received, the rotational interval should be extended to 18 months.

Soybeans

Atrazine and prepacks containing atrazine can cause injury to soybeans next spring. Injury will be greater on low organic matter, high pH soils due to increased availability and reduced decomposition. There are several analytical labs available to test for atrazine content. If concentrations are less than 0.25 ppm in the top 3 inches of a silt loam, with 2.5% organic matter or more, and a pH of 6.8 or less, it's generally safe to plant soybeans.

Alfalfa and Oats

Many of the herbicides mentioned above can injure alfalfa or oats. Oats and alfalfa are very sensitive to atrazine residues. Generally concentrations need to be less than 0.15 ppm to safely rotate to either of these crops. This applies to a silty clay loam soil with at least 2.5 percent organic matter and a pH of 7 or less. Lower concentrations would be needed for coarser textured soils, and soils with lower organic matter or higher pH levels. Do not rotate to alfalfa or oats if Command or Commence were used last season. Treflan and prepacks containing Treflan have restrictions with oat rotations (see comments for Grain sorghum). Scepter, Tri-Scept, and Squadron also pose some risk. Alfalfa should not be planted for 18 months. Oats can be sown 11 months after application south of U.S. 34 and east of U.S. 81. North of U.S. 34, oats can be planted following Scepter only if it was used postemergence at 1/3 pint per acre and 15 inches of rainfall and/or irrigation has been received from the time of application to October 31.

Reducing Risk

Management options to reduce the risk of carryover should be considered. If possible, plant corn into set-aside acres and place carryover fields into set-aside. Deep spring tillage on non-erosive soils may help dilute herbicide concentrations. Another option is to no-till or ridge-till fields and use furrow openers or other devices to throw out the treated soil. Avoid using herbicides which contain metribuzin if atrazine carryover to soybeans is a concern. Reduce plant stress by following sound agronomic practices. Maintain good fertility and pH levels. Establish a good seedbed, avoid compacted areas, and plant at the proper depth and when soil temperatures will promote rapid germination and growth. Use hybrids that are adapted to stress. Plant carryover fields last to allow time for residues to dissipate. Use a herbicide program that won't cause crop stress, and will allow you to replant to a different crop if you must.

Finally, calibrate sprayers to apply no more herbicide than is needed.

Alfalfa Weed Control

Warm weather will spur the development of winter annual weeds in alfalfa. Downy brome, pennycress and other mustards can be effectively controlled with herbicide treatments at this time of year. Many times the weed problem isn't recognized until the alfalfa "greens up" in the spring--then it's too late for most herbicides. A word to the wise: "Scout alfalfa fields now and plan control programs accordingly."

For use on alfalfa established one year or longer there is Lexone, Sencor, and Sinbar. Those herbicides control both winter annual grasses and broadleaf weeds including pennycress and downy brome. Alfalfa injury may occur on soils containing less than 1% organic matter. If dormancy has broken, Sencor can be applied impregnated on dry fertilizer prior to 3 inches of new growth on the alfalfa. Foliage should be dry.

Kerb and Karmex are also labeled for use on established alfalfa. Kerb is used for the control of downy brome and other grasses while Karmex controls mostly broadleaf weeds. Karmex has performed well in the western part of the state but the heavy soils in the eastern portion reduce weed control.

Butyrac or Butoxone (2,4-DB) is "so-so" on pennycress and other mustards in the spring but can be used in both established and new seedings where plants have at least two trifoliate leaves. These herbicides should not be used where temperatures will drop to 40 degrees F within three days after application. Bucril can be used for broadleaf weed control in new seedings of alfalfa after plants have at least two trifoliate leaves and should be used when temperatures are below 70°F. Bucril provides only fair control of pennycress and mustard that have overwintered.

We have had several inquiries on the use of 2,4-D for pennycress and mustard control in alfalfa. While this appears to be a successful treatment, it is not an approved EPA label use. We feel the practice would be legitimate where an established stand is going into conservation uses. No forage would be harvested. The use of 3/4 to 1 pint of 2,4-D ester applied to dormant alfalfa would eliminate pennycress and mustards, thereby preventing seed production on conservation acres.

Treflan TR-10 is registered for the control of annual grasses including downy brome and cheat in established alfalfa. Rainfall or irrigation of 0.5 inches is required to activate Treflan. Because Treflan does not control established weeds, it would have to be applied in the late summer to control downy brome. Spring treatments will not control established downy brome.

Before deciding on a herbicide treatment, decide whether the alfalfa stand is worth the expense. Stands with less than three plants per square foot may not respond to improved weed control. The condition of the stand may also dictate which herbicide to use. If you plan on rotating out of alfalfa next year, avoid using Sinbar and Karmex. Both herbicides have rotational restrictions of two years following their use.

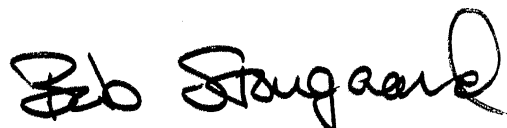
Miracle Products via Telephone

"Miracle herbicides" are again being sold by long distance telephone. In one case we know of, the salesperson claims the product can be used in soybeans and corn postemergence to control most annual weed problems and only costs about \$69.00 per gallon. The material is actually diquat and contains 1.85% herbicide on a weight basis. There are two problems as we see it: 1) Diquat is not labeled on corn and can only be used in soybeans as a harvest aid and 2) Ortho's formulation of diquat contains 35.3% herbicide and costs about the same.

Doing business with local dealers eliminates long distance rip-offs. Local dealers handle proven products and have reputable manufacturers and service groups to follow up on product performance. Do yourself a favor and buy herbicides from a local supplier.



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