



Dodder Control In Alfalfa Seed Fields

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Numerous treatments involving herbicides, burning and cultivation to control dodder have been tested by the Idaho Agricultural Experiment Station. Some of the treatments gave reasonably satisfactory control of dodder in alfalfa seed fields.

However, no one treatment was best for controlling dodder in all alfalfa seed fields. The choice of the most effective and economical treatment for a certain field depended on a consideration of four variables: (1) the alfalfa crop used for seed; (2) the amount of dodder in a certain field; (3) the feasibility of frequent cultivation; and (4) the character of the field with respect to slope, soil, and drainage.

This publication presents the most satisfactory treatments for controlling dodder relative to variables (1) the alfalfa crop used for seed and (2) the amount of dodder

presumed to be in a given field. The amount of dodder is arbitrarily described by these terms: **light** — a trace to 10 percent; **moderate** — 11 to 25 percent; and **heavy** — above 25 percent. The percentages refer to the total area of dodder patches that would be expected in a field if no control measures were taken. In this regard, consider that a 1 percent dodder infestation would amount to some 400 to 500 square feet of dodder patches per acre.

The following herbicides are currently labeled for use in alfalfa seed fields: Furloe* (Chloro-IPC), Casoron* (dichlobenil), and Dow, Sinox, or Stauffer General* (DNBP). The most effective dodder control with these herbicides was obtained with the treatments that follow. Hereafter the herbicides are referred to by common name and rates are expressed in terms of chemical product (not active ingredient) per acre.

Seed Produced from Seedling Alfalfa

In southwestern Idaho, alfalfa seeded in late summer or early spring will produce a good seed crop during the seedling year. But weeds — dodder and other annuals — are particularly troublesome. They should be controlled early in the season; otherwise the alfalfa seedlings will be submerged by weeds. Yield reductions will be substantial and maturity of the crop will be delayed. Weed control can be facilitated by planting the alfalfa in rows 24 to 36 inches apart. Do not attempt this kind of production on fields known to be heavily infested with dodder.

TREATMENT 1. For Fields Lightly Infested with Dodder

- Cultivate as needed to control dodder and other weeds in the middle of the rows.
- If broadleaf weeds require treatment in the rows, spray with 2,4-DB using 1 to 2 quarts per acre in 10 or more gallons of water.
- When alfalfa seedlings are 4 to 6 inches tall apply 30 pounds per acre of Chloro-IPC granules and irrigate.

- Spot treat for dodder 2 or more times as per Treatment 10.

TREATMENT 2. For Fields Moderately Infested with Dodder

- Seed alfalfa in late summer. Do not attempt spring seeding.
- The following spring cultivate to control dodder and other annual weeds in the middle of the rows until the alfalfa seedlings are 4 to 6 inches tall.
- Treat as per item No. 3 of Treatment 1.
- Treat broadleaf weeds as per item No. 2 of Treatment 1.
- Spot treat 2 or more times for dodder as per Treatment 10.

*These are tradenames. They are used only to assure the identity of the chemicals with their common names. No endorsement by the University is implied.

Seed Produced from the First Alfalfa Crop

When the first alfalfa crop is harvested for seed, winter annual weeds are usually troublesome. They interfere directly with alfalfa seed production, and they complicate dodder control by serving as alternate hosts and by impeding the distribution of herbicides. Cultivation is, therefore, indicated whenever possible. On "rough" fields where cultivation is not desirable certain herbicides can be used to control winter annual weeds, but the success will be only fair. Second-crop seed is usually a more desirable alternative. Fields known to be heavily infested with dodder should not be used for first-crop seed production.

TREATMENT 3. For Fields Lightly Infested with Dodder

1. Cultivate in late March or early April to kill winter annual weeds and any dodder that might have germinated.
2. Between about April 10 and April 15 apply 30 pounds per acre of Chloro-IPC granules and irrigate.

3. Spot treat for dodder 2 or more times as per Treatment 10.

TREATMENT 4. For Fields Moderately Infested with Dodder

1. Proceed as per items No. 1 and No. 2 of Treatment 3.
2. Between about May 10 and 15 apply 30 pounds per acre of Chloro-IPC granules **ON DRY FOLIAGE**. OR —
3. If Canada thistles are frequent as well as dodder, apply 35 pounds per acre of dichlobenil granules **ON DRY FOLIAGE** instead of the Chloro-IPC.
4. Irrigate immediately following application of either chemical. Delay the next irrigation as long as possible consistent with good seed production.
5. Spot treat for dodder 2 or more times as per Treatment 10.

Seed Produced from Alfalfa with the Bloom Delayed

For controlling dodder as well as other annual weeds, the practice of delaying the alfalfa bloom but harvesting no hay crop is decidedly the best way to grow alfalfa seed. The practice facilitates the timing of herbicide applications, but most important the tillage used to delay the alfalfa bloom is a relatively cheap means of getting very effective control of dodder as well as other annual weeds.

Alfalfa seed production on land known to be heavily infested with dodder seeds is not desirable. Nevertheless, if some reason compels seed production on such land, it should be grown by this method.

TREATMENT 5. For Fields Lightly Infested with Dodder

1. Cultivate in early April with such implements as the mulch treader, KKK, or disc to kill winter annual weeds and dodder seedlings and to loosen the soil for subsequent tillage.
2. Cultivate two or more times with a finger weeder, flexline harrow, or spike tooth harrow to retard the alfalfa growth and kill dodder seedlings. OR —
3. In "rough" fields where frequent tillage is not desirable, substitute the following DNBP spray for the cultivation in items No. 1 and No. 2: Three pints DNBP (general) + 10 gallons of diesel oil + 1/2 pint of spreader-sticker + 50 gallons of water. Spray at 60 gallons per acre. Repeat as needed 2 or more times to retard alfalfa growth and kill dodder seedlings and annual weeds.

4. The alfalfa growth should be continued to a seed crop from about May 5 to May 10. During the interval that the alfalfa growth is delayed, take care that dodder seedlings do not attach to the alfalfa. If dodder germination occurs, cultivate immediately or spray with DNBP.
5. After the last cultivation or DNBP spray, apply 30 pounds per acre of Chloro-IPC granules. OR —
6. On fields where irrigation water does not sub enough to blacken the entire soil surface, spray with 4 to 6 quarts of Chloro-IPC emulsifiable concentrate in 20 to 40 gallons of water per acre.
7. After either herbicide application, irrigate immediately. Delay the next irrigation as long as possible consistent with a good seed yield.
8. Spot treat for dodder 2 or more times as per Treatment 10.

TREATMENT 6. For Fields Moderately Infested with Dodder

1. Proceed as per items No. 1 through No. 7 of Treatment 5.
2. In 3 to 4 weeks apply 30 pounds per acre of Chloro-IPC granules **ON DRY FOLIAGE**.
3. Irrigate after the herbicide application. Delay any subsequent irrigation as long as possible consistent with a good seed yield.
4. Spot treat 2 or more times for dodder as per Treatment 10.

TREATMENT 7. For Fields Heavily Infested with Dodder

1. Proceed as per items No. 1 through No. 4 of Treatment 5.
2. After the last cultivation or DNBP spray, apply 50 pounds per acre of Chloro-IPC granules. OR —
3. On fields where irrigation water does not sub enough to blacken the entire soil surface, spray with 4 to 6 quarts of Chloro-IPC emulsifiable concentrate in 20 to 40 gallons of water per acre.
4. Irrigate following either herbicide application.
5. Proceed as per item No. 2 of Treatment 6.
6. Irrigate after the herbicide application. Delay any subsequent irrigation as long as possible consistent with a good seed yield.
7. Spot treat for dodder 3 or more times as per Treatment 10.

Seed Produced from the Second Alfalfa Crop

Although second-crop seed allows a hay crop to be harvested, it poses a risk that dodder will attach to the alfalfa in the first crop and remain in the second crop as stubble-attached dodder. This dodder literally "grows up" with the second crop. It spreads widely and causes great damage in the seed field. The means necessary to kill stubble-attached dodder are drastic, expensive and time-consuming. They might cost more than the value of the hay crop. Do not grow second-crop seed on land known to be heavily infested with dodder.

TREATMENT 8. Fields Lightly Infested with Dodder

1. Cultivate in early spring before or shortly after the alfalfa starts growth to kill winter annual weeds and dodder seedlings.
2. Irrigate as early in the spring as possible.
3. Remove the hay crop as soon as a reasonably satisfactory hay yield can be obtained. About May 20 is the ideal time. It should not be later than June 1.
4. Carefully inspect any areas in the field previously known to have dodder patches for stubble-attached dodder. Spot treat as per Treatment 10.
5. Apply 30 pounds of Chloro-IPC granules on the stubble. OR —
6. If the field does not sub well, spray 4 quarts of Chloro-IPC emulsifiable concentrate in 20 to 40 gallons of water per acre on the stubble.
7. Irrigate immediately after either herbicide application. Delay any subsequent irrigations as long as possible consistent with a good seed yield.
8. Spot treat 2 or more times for dodder as per Treatment 10.

TREATMENT 9. Fields Moderately Infested with Dodder

1. Irrigate as late in the fall as possible.

2. During mid-April apply 30 pounds per acre of Chloro-IPC granules and irrigate.
3. Remove the hay crop as per item No. 3 of Treatment 8. In areas of known dodder patches, carefully inspect for stubble-attached dodder.
4. If numerous dodder attachments are found on the stubble, full-field treatment is necessary. Spot treatment of the stubble will not give adequate control in the seed crop. The stubble treatment plus a layby herbicide treatment will cost from \$20 to \$24 per acre. Unless the yield-price outlook will justify this expense, the second crop should be harvested for hay.
5. Propane flaming is the most effective treatment. The dodder kill is highest and the fuel cost is lowest when two flamings are used. Make the first flaming before the alfalfa regrowth exceeds 4 inches. The flaming should be at an intensity that will cause a water-soaked appearance on the alfalfa leaves, followed by wilting in a few minutes. The second flaming should follow in 2 to 3 days. Use an intensity that will burn the dried foliage and char the stubble to the soil.
6. DNBP spraying can also be used. It is slightly less effective than flaming. Spray before the regrowth exceeds 4 inches as per item No. 3 of Treatment 5. Repeat in 2 to 3 days.
7. If the stubble is not burned or sprayed with DNBP, apply 30 pounds per acre of Chloro-IPC granules as soon as the hay crop is removed. OR —
8. If the field does not sub well, spray 6 quarts of Chloro-IPC emulsifiable concentrate in 20 to 40 gallons of water per acre on the stubble.
9. If the stubble is burned or sprayed with DNBP wait until the alfalfa regrowth reaches 3 to 4 inches and apply either of the herbicides as per item No. 7 or No. 8 above.
10. After any of the herbicide applications, irrigate and delay any subsequent irrigations as long as possible consistent with a good seed yield.

TREATMENT 10. Spot Treatment of Dodder In Alfalfa Seed Fields

Spot treatment of dodder is imperative. Some of the weeds will escape even the most drastic full-field treatments. Dodder produces a tremendous number of seeds, and combine harvesting spreads them. A few uncontrolled dodder patches can change the status of a field from lightly infested to one so heavily infested with dodder that alfalfa seed production is not economical.

1. From mid-July to early August patrol the fields and mark the patches as the dodder stems reach the top of the alfalfa canopy.
2. Spray the patches thoroughly with the following mixture: 2 quarts of DNBP (general) + 20 gallons of diesel oil + 1 pint of spreader-sticker + 80 gallons of water.
3. In 3 to 5 days burn the patches by propane flaming taking care that dodder stems are not missed around the edge of the patches. OR –
4. Respray with the same DNBP-oil-water mixture.

Remember: Before using any herbicide read the label. Follow the directions. You are responsible for herbicide residues on your crops and for problems caused by drift to other crops or properties.



Use Pesticides Safely
FOLLOW THE LABEL

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