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Management guidelines – Rangeland weeds

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The leafy spurge control research effort has produced a lot of good information in the past five years. Research is continuing on chemicals, biological, and other control methods – all in an effort to find a way to get this major weed problem under control. A separate effort has been put into awareness programs in each state. Montana State University has had awareness and education projects putting on tours and programs throughout the state for five years. The other states with leafy spurge infestations have also been working hard on education programs. I think we have seen the awareness in each of these states become very high in the last three years. Most ranchers are concerned about leafy spurge and want to control it. Now we are faced with a new problem. Research is continuing, but there is no magic potion or insect to tell ranchers to use to wave good-bye to leafy spurge forever; however, we do have several tools to choose from. Tordon herbicides have shown to be the most effective chemical; but, retreatment is required, and we are finding results can be dependent on soils and other conditions. There are currently four different rate/retreatment schedules to choose from to gain 95%+ control in a three-to-five-year period. Since the seed is spread readily, new patches seem to pop up in new places each year. As one rancher said to me last week, “It requires persistence with a capital ‘P’ to control leafy spurge.” If a ranch has large acreage of leafy spurge, where do you know where to start with a control program?

Researchers are making progress with the biological control effort with insects, and I hope to see this continued. Unfortunately, there is not an insect available right now that will gain on a spurge problem. The leafy spurge hawkmoth redistribution at this symposium is promising. Sheep control is quite promising from a containment standpoint and can really help a control effort on a ranch. There are some predator and management considerations with this control method.

We have several tools--not one is perfect. We have ranchers that are aware of the problem and have gone out to take care of it. Because there is no cure-all, many ranchers have not felt they are making progress and feel frustrated and confused on what they really should be doing. On top of that, their neighbor does not control the leafy spurge, and his areas are being reinfested. They have become overwhelmed.

There is an answer to all this. First, land managers must realize (and face) that it is going to be a long-term effort utilizing all the tools currently available. Second, a step-by-step approach should be implemented to develop a plan of action for an infested area. Third, cooperative efforts between landowners, public and federal agencies need to be organized. Each ranch has a unique leafy spurge problem and requires different manage-

ment. We, at Dow Chemical, are in the process of developing guidelines to help land managers sort out the problem with a management plan entitled:

“Management Guidelines – Rangeland Weeds”

Objective: To set forth a series of guidelines that will reduce the confusing and frustrating problem of leafy spurge control to a systematic programmed approach and which makes optimal use of available resources.

The guidelines were developed with this outline plan of approach.

I. Evaluate Range Weed Problem

A. Map

B. Collect Data

II. Set a Budget

III. Set Priorities

IV. Examine Control Methods

V. Keep Records

I. Evaluate range weed problem

This is the major part of the program. It is important for a rancher to see the “big picture” of the problem. What is it doing to the ranch now and where is it going?

A. Map

Each ranch should have a mapping system. It need not be complex or time consuming. Some ranchers like the topography maps, others the aerial photos from ASCS. Most ranchers have a map in their heads; but it is important to have it down on paper to truly evaluate and plan.

B. Collect Data

Each pasture will be evaluated for several things important to making a decision on a control program. We will call each fenced-in area a unit. The following will be recorded unit by unit.

1. General Range/Pasture Condition

a. Use of Pasture

b. Pasture Ownership

c. Soil Type

d. Vegetation Present

- Trees
- Brush
- Adjacent Crops

- e. Aquatic Characteristics
 - Irrigation
 - Waterways
 - Standing Water
 - Drainage
 - f. Pasture Productivity Rank
 - g. Pasture Condition
 - h. Terrain
 - i. Is this unit on the perimeter of infestation?
 - j. Has the spread from this unit threatened a highly productive unit?
- 2. Weed Infestation Analysis
 - a. Degree of Infestation (1 = 10% to 10 = 100%)
 - b. Type of Infestation (patches or solid)
 - c. Density of Infestation
 - 3. Source of Infestation

II. Set a budget

III. Set priorities

This is important if every area cannot be managed each year. Which area will give you the most long-term effect and use of your time and money?

IV. Examine control methods

- A. Chemical
 - 1. Rates
 - 2. Application Method
- B. Biological
 - 1. Insects
 - 2. Sheep

V. Keep records

To record each year's control method, keep track of results and make new plans.

Note: A workshop was held in Billings, MT in March, 1985. Four people from the states of Montana, North Dakota, Wyoming and South Dakota attended representing university, extension and federal agencies. They helped us refine and add to the above data collection.

Computer

A computer program has been developed to sort the data collected in Section B listed above. It will print out priority and control method recommendations and hard copy records for current program and retreatment schedules.

Model Ranch

This program will be tested and evaluated on a model-ranch basis in 1985. Currently, there will be two in Montana, one in North Dakota and one in South Dakota.

Final

“Management Guidelines – Rangeland Weeds” is still in the initial stages. We will be making conclusions this fall after the model ranch programs and changes are made. Again, we want to help ranchers and land managers:

- o Develop a plan to decrease frustration and confusion
- o Utilize money effectively
- o Choose appropriate tools
- o Protect rangelands and the environment

Please feel free to contact your Dow representative with questions or comments on this program.

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