

Reprinted with permission from: Proceedings: Leafy Spurge Symposium. Bismarck, North Dakota. June 26-27, 1979. pp. 21-24.

Sponsored by: North Dakota State University Cooperative Extension Service, North Dakota State University Agricultural Experiment Station, Agricultural Research-USDA-SEA, and United States Forest Service.

The social and economic impact of leafy spurge in Montana

WILLIAM REILLY and KIM R. KAUFMAN

Judith Basin County Weed Supervisor and Judith Basin County Extension Agent

The history of leafy spurge in Judith Basin County

Leafy spurge first appeared in the Judith Basin in 1929. It was introduced with Cossack Alfalfa seed onto a ranch in the foothills of the Little Belt Mountains. Very little attention was given to the plant at that time.

From this origin plus other sources of infestation, Judith Basin County now has an estimated 26,795 acres of leafy spurge.

This pattern is fairly representative of the state, where we now have an estimated 543,323 acres of leafy spurge.

The social impact of leafy spurge

The social impact of leafy spurge as well as other noxious weeds in Montana has led to a variety of conflicts.

One of the major conflicts has been trying to carry out the Montana Weed Law which states that “no noxious weed shall be allowed to go to seed.”

This presents a challenge that few individuals or organizations are able to meet with the weed management tools we have available today.

With the type of terrain that exists in much of the foothill and mountain country where a majority of the leafy spurge exists, the sheer magnitude of the task creates an impossible situation.

Other conflicts exist as well, a common one being the “upstream landowner” who fails to control noxious weeds thus spreading the problem to his neighbors below him on the same watershed.

In Montana, there have been few court cases between landowners over the spread of noxious weeds, but as land prices continue to go up and more emphasis is put on production for farm and rangeland, the possibility of court cases will increase.

Conflicts between the railroads and adjacent landowners is a real and continuing problem. The landowners feel that it is a waste of time and money to spray noxious weeds if the railroads do not do the same and vice versa. In some areas, the railroads are doing an adequate job of controlling the weed problem and it is the landowners who are at fault.

Noxious weeds on state-owned land also presents a problem, both for the lessee of the land and the administrators of the land. Lessees run the risk of losing the land if the noxious weeds are not controlled, however, in many cases the cost of such measures seems to be prohibitive in respect to the return from the land in strict dollars and cents terms.

Weed districts are finding themselves in more and more of an enforcement role in trying to administer the Noxious Weed Law at the County level.

Weed Supervisors are many times the arbitrator in disputes that arise between landowners, between landowners and railroads and between highway departments and landowners.

The Weed Supervisor can play a key role in settling these disputes by making both sides more aware of the many factors involved in weed management.

Economic aspects of leafy spurge control

It is estimated that private landowners in Montana are spending more than 2 1/2 million dollars per year in an attempt to control leafy spurge.

A number of ranchers in the Judith Basin have weed control expenses that amount to more than their land payment each year.

As one local banker states, "some of these ranchers are paying for their places two or three times with the weed control expenses that they must incur to keep their land productive."

The Agricultural Stabilization and Conservation Service started participating in a noxious weed control program with landowners in 1975. The following figures show what was spent in Montana for cost-share payments on noxious weeds.

Year	Acreage	Cost
1975	39,152	\$235,487.00
1976	39,648	267,112.00
1977	53,288	452,911.00
1978	58,990	488,901.00

These figures include payments for controlling all noxious weeds in Montana, not just leafy spurge, but are an indication of the growth of the problem.

The A.S.C.S. program was mainly an educational program to create an awareness of the noxious weed problem among landowners. A quick look at the figures reveals that it was indeed an effective program in that respect. Many people were made aware of noxious weeds and the increased participation in the program during its final two years is quite evident.

In terms of production losses associated with leafy spurge on rangeland, L. O. Baker, Assistant Professor of Agronomy at Montana State University, Bozeman, reports that tests he conducted in the Gallatin Valley show that leafy spurge infestations resulted in rangeland carrying capacity losses of up to 75% (50% yield reduction in rangeland production and 25% loss in utilization due to existing grasses being intermixed with leafy spurge which is not palatable to cattle).

Assuming a carrying capacity of 4 acres per A.U.M., this would reduce the carrying capacity on the 546,355 acres of rangeland reported infested with leafy spurge from 111,588 A.U.M.'s down to 27,897 A.U.M.'s.

If you graze your cattle from May 1 to November 30 as you can some years, that would mean a reduction in cow numbers by 11,956 head (from 15,941 down to 3,985).

Carrying this on, let's assume a 90 percent calf crop and 500-pound calves at 95 cents per pound, the loss in dollars to the beef cattle industry in the state of Montana would amount to \$5,110,715.00 annually.

What we are doing with the problem

We all seem to be in agreement that leafy spurge is a problem, but what can you or I do about it?

Last fall, we held a Leafy Spurge meeting in Stanford, Montana on December 1. Representatives of the Montana Extension Service, Agricultural Experiment Station, Forest Service, Bureau of Land Management and the Burlington Northern Railroad met with state legislators and landowners to discuss the leafy spurge situation.

One of the major recommendations from the meeting was the need for a biological control program to supplement existing methods of controlling leafy spurge.

The result was House Bill 410, introduced into the 1979 Legislature by Representative Bob Thoft of Stevensville and supported by a number of other key legislators.

The bill called for an appropriation of \$138,500 to fund a biological control program on leafy spurge for the biennium. The bill passed the House with only two dissenting votes and went on to clear the Senate.

This funding will provide \$63,500 to construct a greenhouse for propagating and screening insects for leafy spurge control with the balance of the money going to run the program for two years.

The farm organizations within the State gave their support to this bill also as did a great many private landowners and concerned citizens.

Dr. Gary A. Strobel, plant pathologist at Montana State University is currently starting a research project to examine phytotoxins produced by pathogens that attack weeds (bacteria and fungi). These compounds have the likelihood of being specific, biodegradable and very effective in weed control.

Dr. Strobel is an outstanding scientist and has conducted some of the top plant pathology research in the United States.

We need to get behind him and help in any way possible to see that his work in weed control is carried out as this could very well prove to be one of the bright spots of the future for noxious weed control.

According to researchers, funding is badly needed for selecting and screening insects in Europe to be exported to this country for biological control of leafy spurge.

The insects, once collected, must undergo rigorous testing and evaluation both in the foreign country where found and also once they arrive in the United States to make sure that they do not carry harmful pathogens and also to make sure that they are host specific to leafy spurge.

The process, which is a very necessary part of a successful biological control program, requires a great deal of time and money. Any support that you can give to this program will be of value toward increasing the size and scope of the biological control program that is in effect today.

Controlling leafy spurge is not an easy task. It will take the cooperation of all organizations and individuals related directly and indirectly with the problem to bring it under control.

It will mean a real commitment by the people involved in terms of dollars, both for research and chemical control, and in time; time to learn more about the problem yourself and time to teach your neighbor more about what you have learned.