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Leafy spurge management: Perspectives of a Nebraska sandhills rancher

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My biggest qualification in giving this talk is not the success I have had with leafy spurge control, but rather the lack of success I have had in the past forty years in attempts to stem the onslaught of this noxious weed. In spite of past failures, I'm very encouraged by the possible control of spurge in the future. The efforts within the scientific community that are occurring today in the various disciplines of chemical and biological control are a great beginning. I'm fully confident that we are beginning to witness the fruits of this important research.

As a member of the producer's group, I want to thank the scientists for their contribution to developing strategies to improve the control of leafy spurge. I'm very pleased that there is much work being done with many potential control or management practices in many different environments. A simple "shotgun" approach to control is not applicable to the many different environments in which leafy spurge is found. A diverse array of economic and environmentally sound management options are needed to effectively deal with leafy spurge.

I will use my ranch as an example of the complexity of problem. Ours is a typical sandhills ranch that has leafy spurge on many different range sites including; sub-irrigated hay meadows with a water table that fluctuates between 3 inches to 3 feet in depth, many groves of trees where leafy spurge thrives in the understory, and high dry sandy hills that are 30 to 70 feet above the water table. It has become apparent to me that one method of control will not adequately address these varied situations.

Our primary control practice has been to use herbicides. In the sub-irrigated meadows we spray 2,4-D twice a year. This treatment would work quite well if we were able to be consistent in applying the herbicide every year, but in extremely wet years the ground is too soft to support spray equipment so we are unable to spray before leafy spurge sets seed. Spraying in the fall of the year is very difficult because the leafy spurge is often hidden from sight by forage grasses. We spray 2,4-D to control leafy spurge that occurs in tree groves, but it is a real challenge to maneuver herbicide application equipment in the groves and to get complete coverage. We spray small patches of leafy spurge in the hills with picloram and have been very successful in eliminating these patches.

A management practice that we have adopted to reduce the spread of leafy spurge is not to feed hay to cattle on non-infested hay meadows that may be contaminated with leafy spurge seed. In the past, feeding hay on the wet meadows was a widely adopted practice and on our ranch was a very efficient vehicle for movement of seed and propagation of leafy spurge. Today we feed contaminated hay in lots and pile up the manure and let it stand for extended periods of time. This has appeared to be quite effective in decreasing the germinability of the leafy spurge seed. We look forward to using sheep or goats in the tree groves and insects and pathogens on other areas of the ranch along with the judicious use of herbicides.

The topic of my talk is suppose to be a producers perspective on leafy spurge control and the reason I have concluded our control problems and treatment efforts is to expose you to my background and to help you understand the influences that have shaped my thinking. A holistic approach to leafy spurge control is going to be a necessity if this scourge of Northern Plains rangelands is to be controlled. A necessary part of this approach will include continuing scientific research, publicity, and operator assistance in implementation of new control technology and most importantly, a different mind set. I will briefly examine each of these topics.

Scientific research needs to be continued and expanded to include new areas as the knowledge base is enlarged. I urge the scientific community not to limit their thinking and to consider new possibilities regardless of how ridiculous they might seem. An example of this that comes to my mind is something that I'm personally involved with at the present time. A year ago I analyzed the feed value of leafy spurge in hay from a subirrigated meadow and found it to contain 14.5% crude protein. I contacted some researchers about the possibility of starting feeding trials with cattle. Preliminary in vitro trials were run and the results were encouraging enough to continue with a limited look at the nutritive quality of leafy spurge. I am not advocating at this time that we should adopt leafy spurge as the new forage of the century, but who knows we may find that the most economical and environmentally sound treatment alternative for leafy spurge on subirrigated meadows is to use leafy spurge as a feed source. Another relatively unexplored area is determining the influence of livestock trampling on leafy spurge growth and development. I use these two examples to make the point that no avenue should be left unexplored.

Publicity is a very important part of the fight against leafy spurge that has been neglected. The public and state and federal legislators and research institution administrators are not going to consider leafy spurge as a pressing problem unless they are made aware of it through the news and individual contact. Producers and scientists both have the responsibility to jointly make the public aware of this problem weed. The scientific community has the responsibility to make their results available in public forums and not only in the rather narrow outlet of scientific publications. Producers need to assume more responsibility in helping publicity campaigns because their input to state and federal legislators and research administrators will have a great impact on appropriation of funds and establishment of research priorities.

Several years ago a coalition of researchers and producers formed the Nebraska Leafy Spurge Working Task Force. This group has had some significant accomplishments that include conducting quarterly meetings and an annual state-wide meeting, garnering support from various state and county organizations and private individuals to support a

graduate research position at the University of Nebraska, exhibiting posters and disseminating information on noxious weeds at numerous meetings around Nebraska, actively interacting with state and federal legislators, and working with local Weed Districts to promote control of noxious weeds. These are just a few of the Task Force's many accomplishments. I use these examples to highlight their efforts and to demonstrate what can be done to enhance public awareness. Remember that "the squeaky wheel gets the grease" and getting the word out is crucial to developing and maintaining successful research and control programs.

Research efforts, publicity, and laws are not going to get the job done if the producer community does not believe that leafy spurge is a real threat to his/her livelihood or that of his/her community. Publicity is a big help, but there is more that can be done to improve our efforts to control leafy spurge. I feel that there is a need to develop more effective and efficient information delivery systems, detailed economic analyses of control options, programs to improve producer involvement, field demonstrations of various control methods that include treatments that could be used in a producer's operation, methods to map weed distributions that can be easily applied in the field and understood months later, and last, but not least, producers need to encourage one another to continue control efforts.

One thing that could help would be government financial aid, but this must be handled correctly or it could work against development of successful weed control programs. I am very opposed to state or federal financial assistance in the form of a set dollar amount for control, but would support a cost share of a percentage of the cost of control incurred by an individual. Cost share programs should allow for the use of all viable control practices and not just herbicides.

The future looks bright for leafy spurge control, but I have concerns that we should be aware of and protect against. These concerns are the loss of herbicides, a "tunnel" vision approach to control, a mind set that strives for eradication of leafy spurge, and the occurrence of producer apathy that arises from the philosophy that research will solve this problem without his/her help. The loss of herbicides is not a scare statement, but a reality. Herbicides must be used prudently and wisely or else it will be mandated by the public that their use must be curtailed. The "tunnel" vision approach always is a possibility as various segments of the scientific community focus on parts of the problem and lose sight of the need to develop research programs that include many different disciplines. We need to continue to hold meetings, to communicate through the Leafy Spurge Newsletter, and to generate support for truly integrated research and control programs. The mind set that one leafy spurge plant is too many must be changed if mechanical, insect, and pathogenic control methods are to be successful.

The last concern I have is the lack of producer support. Producers have traditionally been very demanding that somebody should help them and this somebody includes state universities, federal agencies and whoever else is in sight. To ensure success, producers must take the bit in their mouth and help support these efforts and not focus only on their operation. I encourage and strongly recommend a conscious effort to establish more groups such as the Nebraska Leafy Spurge Working Task Force and to develop a partnership between producers and researchers.

In conclusion, I want to say thank you for the research endeavors that have been and are being made. I am confident that the problems I have expressed can and will be overcome and in the next ten years more progress will be made than has been made in the last 30 years. It has been a privilege to address this group and please remember that what I have presented today are my opinions.