



NORTH DAKOTA  
**Farm Research**

Bimonthly  
Bulletin

Vol. 47, No. 5

May-June 1990



## Guest Column

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When immigrants came to the upper Great Plains area nearly 100 years ago from their east-central European homeland, little did they realize what havoc they played when they inadvertently brought the first leafy spurge seed.

Historians tell us that the bags of seed they brought to start farming in America also contained leafy spurge seeds. We're also told that those same people intentionally planted spurge as a graveyard ornamental. Although the first record of its introduction into the U.S. was in Massachusetts in 1827, the *Euphorbia esula* that we know in the upper Great Plains came 75 years later.

The significance of this historical information is important in that we look to that area of Europe for answers to our control problems. Fixing blame doesn't solve the problem, and certainly there is plenty of blame to go around, but that origin is important to researchers who look toward biological answers to this tremendous problem.

Scientists have long been aware of the results of biological control of spurge and other noxious weeds that are experienced in Europe. There appears to be a reluctance on the part of people in positions of influence to appropriate money to combat this problem. Presumably those people in research positions were viewed by politicians that it might be beneficial to have some "lay observers" have a "look-see" as to what those scientists know to be commonplace in Europe.

The details of the selection process are of no significance here, but research people from North Dakota, South Dakota, Wyoming, Montana and Idaho were involved in deciding that Bob Thoft from Stevensville, Montana (a state legislator and cattleman from the Bitter Root Valley) and myself, a North Dakota cattleman, were to go Europe and observe what was happening and see what influence we could exert to bring more attention to biological control of spurge.

Mid-summer of 1981 we embarked for Rome, where we were met by Neal Spencer who was in charge of the USDA research facility nearby. (Neal Spencer is currently at the ARS station at Sydney, Montana and continues to have our best interest in mind.) It was interesting to note that actual North Dakota leafy spurge was being raised as potted plants at the facility and thus our own variant of the plant introduced here decades ago was actually used in the testing procedures.

We spent several days touring test plots in the Rome area and listening to those scientists explain their tests. Then we were taken on a tour of more research work along the western coast of Italy, then across through the Poe Valley to

Continued on page 35

## In This Issue

Leafy Spurge Control: 10 Years of Research Enhancement <i>Calvin G Messersmith and Rodney G. Lym</i> . . . . .	3
Introduction of Insects for the Biological Control of Leafy Spurge in North Dakota <i>Robert B. Carlson and Donald Mundal</i> . . . . .	7
Economic Impact of Leafy Spurge in North Dakota <i>Flint Thompson, Jay A. Leitch, and F. Larry Leistritz</i> . . . . .	9
Leafy Spurge Control Following Nine Years of Herbicide Treatment <i>Rodney G. Lym and Calvin G. Messersmith</i> . . . . .	12
Leafy Spurge Patch Expansion <i>Rod K. Stroh, Jay A. Leitch, and Dean A. Bangsund</i> . . . . .	15
Guest Columns <i>Robert Hosford and Don Priebe</i> . . . . .	18
A Sampling Strategy for the Barley Thrips on Spring Barley <i>Barbara A. Bates, Michael J. Weiss, Robert B. Carlson, and Dean K. McBride</i> . . . . .	20
Flax Response to Planting Rate <i>Bryan K. Hanson and John R. Lukach</i> . . . . .	22
Beginning Farmers in North Dakota <i>F. Larry Leistritz, Brenda L. Ekstrom, Janet Wanzek and Timothy L. Mortenson</i> . . . . .	27
Discus Bush Buttercup and Dakota Gray Turban <i>N.S. Holland, L.J. Chaput and A.A. Boe</i> . . . . .	30
Sugarbeet Germplasm Selected From the USDA Collection <i>L.G. Campbell</i> . . . . .	32

**On the Cover:** *Aphthona Czwalinae* is a flea beetle from Austria being evaluated for biological control of leafy spurge. Photo by Don Mundal.



Vol. 47, No. 6

May-June 1990

A BIMONTHLY progress report published by the  
**Agricultural Experiment Station,  
 North Dakota State University  
 Agriculture and Applied Science  
 Fargo, North Dakota 58105**  
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 of Agricultural Experiment Station*  
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Venice and south along the Adriatic Sea Coast. After several days we proceeded to Zurich, Switzerland to see various insects being tested on spurge in the laboratories of a medical university. This was our first exposure to insects that are "host-specific." We saw various insects under laboratory conditions with controlled light, heat, temperature and humidity to make sure they ate only spurge. For a layman you had to see it to believe that they ate all the spurge given them, then died instead of eating grass in their compartments — truly "host-specific."

From there we visited a British Commonwealth facility at Delemout, Switzerland where contract work in various aspects of research were carried out for any country in the world who hired them. From there we went to Vienna, Austria to a sub-station of that British facility and observed more research. All this was not confined to just spurge. Of particular interest to my Montana cohort was work on Russian knapweed and toadflax which are a particular menace to areas west of North Dakota.

On the long flight home Bob Thoft and I puzzled over what our role should be in trying to apply what we had observed. Truly, we weren't scientists so we had no credibility in that arena. However, we concluded that the largest single component of the puzzling problem was the commitment of money by the state and federal government to hire the people to carry out our own efforts to get the right insects over here to control our spurge.

We each took on the task in our own state to try to exert influence on marshalling support in the legislature arena to get research money. Appropriation of significant dollars is key to our problem. After observing many years of attacking this problem with the application of various chemicals it has to be clear to even the most casual observer that we are losing the war against leafy spurge.

The biological control approach hasn't been as dramatic as using chemicals and for some unknown reason it doesn't seem to have stirred the adrenaline of great numbers of researchers, but reality dictates that the bio alternative must be addressed as aggressively as possible. There are some dedicated scientists involved in bio-control and they are making progress, but it is quite apparent that we're looking at a long-term approach rather than the quick fix chemical route. Lest my observations be misunderstood, let me make it clear that I'm not opposed to the herbicide system of control, but there are several reasons why it will not be the answer to our problem.

First of all is the cost-benefit ratio. Spurge grows best and consequently is the biggest problem on light, sandy grazing land. Not that it doesn't appear on heavy farming land (witness many fence rows and field borders in the Red River Valley) but cultural practices tend to keep it somewhat controlled. Sandy grazing land being of less productive capacity make it virtually impossible to pass the cost-benefit test except in small patches.

Second is the problem of accessibility. We find spurge doing best along river banks and in hilly tree-covered sand hills where accessibility with spraying equipment is, for all practical purposes, impossible. And this doesn't even address the vulnerability of the whole chemical approach in light of EPA involvement, and many of their concerns are more legitimate than we care to admit to. In lieu of bio-control, sheep and goats have been used in this type of terrain and attract a fair amount of attention. The logistics of this approach doesn't appear to show promise except in limited cases, so suffice it to say that unless you have the right geographical circumstances this approach isn't going to get the job done in North Dakota.

Our biggest problem in trying to control our million acre headache in North Dakota is commitment. Recognizing the limited resources in North Dakota, it's safe to say that bio-control of our spurge is still a long way off. If you've actually stood on the terrain and observed what bio-control has accomplished in Europe, even the most calloused observer couldn't avoid being convinced that bio is the only way to go. In order to accomplish this it will take a large financial commitment, because this type of research is largely hiring scientists to do the research, and a far greater number of researchers who are dedicated to this rather than the chemical approach. It is my hope that significant progress be made in bio-control in my lifetime. It's now nine years since we "lay observers" visited the USDA lab in Rome, and although some progress has been made and some insects have been released with promises of more this summer, we are still putting forth a very limited effort in a problem that costs ranchers in the U.S. \$35 to 45 million annually. Of an estimated 2½ million acres of spurge in the U.S. nearly 800,000 acres is in North Dakota — we can only look to ourselves for that commitment.

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of Agriculture and Applied Science  
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Fargo, North Dakota 58105  
Publication

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