State Board of Agricultural Research and Education
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SBARE Committee Members

Stan Wolf, President of the North Dakota Weed Control Association.

The North Dakota Weed Control Association represents county weed boards, weed control officers, government agencies and entities, and others interested in controlling noxious weed in North Dakota. The primary responsibility of county weed boards is to control noxious weeds in road rights-of-way and to encourage the control of noxious weeds on all lands in our districts. Most of the noxious weed infestations are in grasslands, rangelands, pastures, and rights-of-way. Since about 25% of the state landscape falls into these categories, either as publicly- or privately-owned land, such weed control is an enormous task. Plus, since nearly all of this property is adjacent to roads, the road rights-of-way are just as important an avenue in the spread of invasive weeds. Uncontrolled weeds in the various rights-of-way facilitates the spread of weeds in our private and public lands.

To help guide our weed control programs, we heavily upon the research and recommendations from the Noxious Weed Specialist and NDSU Extension office. Past herbicide efficacy trials from NDSU have provided us with unbiased data and show the value of various tank mixes necessary for improved weed control. Lately we have not had new efficacy trials due to the turnover of the Noxious Weed Specialist, which is unfortunate as new herbicides have become available. As the new specialist worked to build up his program, current Plant Science and Extension staff have worked to support us, but it is not like having a dedicated staff for noxious weeds for grasslands and cropland.

We have a shared research interest with the various commodity crops regarding herbicide resistant weeds, namely Palmer amaranth and kochia. The state has defined Palmer amaranth as a noxious weed, while kochia is on the noxious weed list in some counties. However, both weeds can infest grasslands and are resistant to many herbicides. The key to containing the spread of weeds (and preventing herbicide resistance) is the use of various herbicides in rotation, but without adequate research, we cannot identify potential new herbicides to use. Consider Leafy spurge, the longtime nemesis of landowners and weed boards, which has been sprayed primarily with Tordon for over 50 years, yet spurge keeps coming back every year. We need specialist experience and research to help combat the weeds we currently fight, and to prevent those weeds from overpowering the tools we currently have.

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As we look into the future, envisioning what noxious weed control will look like in 2035, the role of the Noxious Weed Specialist and support staff will be crucial. New tools and techniques are evolving rapidly. Presently we are seeing the incorporation of drone sprayers to cover terrain that was nearly impossible with wheeled sprayers or even on foot. The efficiency of these application techniques appears to be effective; however, research trial data is not available for spray drone applications. Nozzle selection, droplet size, spray volume and other factors should be evaluated for effective control measures. Scouting drones utilizing specific wavelengths and algorithms are being developed to identify specific weeds in a landscape or cropland. These are but two examples of new techniques currently being tested and tried today. What will tomorrow bring? Artificial intelligence, autonomous sprayers, laser zapping, and individual plant identification of weeds are being researched for crop production, can some of that technology be utilized in grasslands? A research program is needed to glean through new technologies, test effectiveness, and develop weed control protocols for noxious and troublesome weeds in both grassland and cropland. Also, as we look into the future new troublesome weeds are encroaching onto North Dakota. This past summer several weed officers and herbicide suppliers have scouted for Ventenata, a highly invasive early season grass that has no grazing qualities. Colorado and Montana have reported extensive infestations. This grass can render a pasture unusable for livestock. Noxious weed specialists would be an important teaching resource for weed officers, landowners, and agency land managers to develop appropriate control measures.

In summary, our needs are as follows:

1. Noxious Weed Specialist and research staff to conduct research trials and provide information for the control of noxious and invasive weeds.
2. Herbicide efficacy trials for best herbicide and adjuvant recommendations.
3. Shared research interest in resistant noxious and invasive weeds in cropland and grassland, especially Palmer amaranth, Kochia, and Leafy spurge.
4. Weed identification for landowners, weed officers and weed control staff.
5. Integration of novel weed control practices for noxious and invasive weeds.

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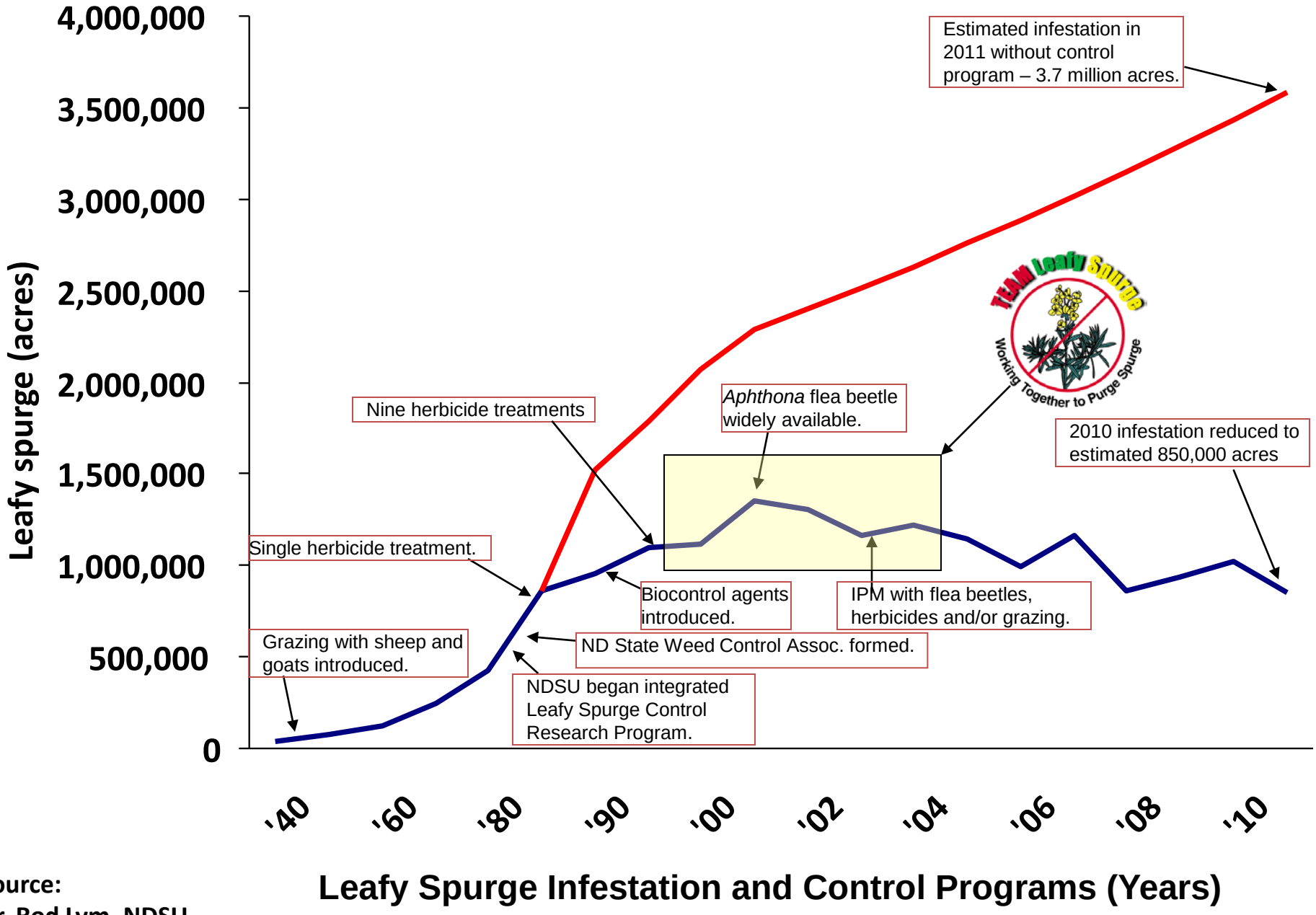

Leafy Spurge Infestation and Control Programs (Years)

Source:
Dr. Rod Lym, NDSU