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## Operations component contributions to TEAM Leafy Spurge, area wide integrated management of leafy spurge (*Euphorbia esula*)

ROBERT D. RICHARD<sup>1</sup>, CHAD W. PROSSER<sup>2</sup>, and CONNIE O'BRIEN<sup>3</sup>

<sup>1</sup>Robert D. Richard, Station Director, USDA, APHIS, PPQ, Bozeman Laboratory, Bozeman, MT 59717; <sup>2</sup>Chad W. Prosser, TEAM Leafy Spurge Coordinator, USDA, ARS, Sidney, MT 59270; and <sup>3</sup>Connie O'Brien, Field Technician, North Dakota State University, Belfield, ND 58622.

### Abstract:

USDA, APHIS and USDA, ARS teamed together to organize, manage, and implement a biologically based Integrated Pest Management (IPM) project, focused along 300 miles of the Little Missouri River in Wyoming, Montana, North Dakota, and South Dakota. The Ecological Area-Wide Management of Leafy Spurge (TEAM LS) began in 1997. The goal of the project was to develop and demonstrate ecologically based IPM strategies that could be used to achieve affordable, effective, self-sustainable leafy spurge control. Successes in establishment and collection allowed for over 13,000 releases of *Aphthona* spp. throughout the Little Missouri drainage. Additionally, through TEAM Leafy Spurge Operations, insects have been provided to additional states and provinces for leafy spurge control. Within the "TEAM" Program, biological control methodologies were designed as a control foundation, to be used alone or as a base strategy, coupled with other control methods, such as multi-species grazing and herbicides. Specific contributions of Operations include development of large volume insect collection, sorting, packaging for transport, and delivery of biological control insects. More than 40 million *Aphthona* spp. insects were collected from established populations. These insects provided the basis for research and demonstration projects within the program. Operations developed and provided a standardized scalable data collection form, used by all research assessment teams within the four-state-area and provided spreadsheets of the data for their use in interpreting insect establishment and leafy spurge control. Operations supported and hosted nine tours and field demonstrations in four states, developed "Leafy Spurge Biological Control Information and Photo Resource Gallery" CD, and provided information and support for the development of a second CD, a

multimedia biological control information suite, including: Biological Control of Leafy Spurge Brochure, Power Point presentation, Biological Control Photos, and Information and Resources.