

# Long-term leafy spurge management with biological control

Monika Chandler, Minnesota Department of Agriculture

# Leafy spurge, *Euphorbia esula*

- Herbaceous perennial
- Native to Eurasia
- Overtakes grasslands
- Loss of species diversity
- Loss of wildlife habitat
- Toxic to cattle



# Leafy spurge infestation



# Leafy spurge beetles, *Aphthona* spp.



A. B. Cortilet, MDA

# Spurge Decrease From Beetle Damage



# Long-term studies

- Setter and Lym (2013) recorded a decrease from the 1999 average of 110 and 78 stems m<sup>2</sup> at two sites to 2 and 9 stems m<sup>2</sup> at these sites in 2009.
- Joshi and Olson (2009) determined that long-term spurge management can be achieved with biological control. They found that the 95% leafy spurge control from *Aphthona* spp. in 1994 continued 10 years later at two sites in North Dakota.

# Spurge and beetle cycles



# Discourage Herbicide Control of Small Remaining Patches





# Adult beetle collection in June



# Beetle sorting and packing



# Beetle release

Multiple small releases within a large site  
Take photos of release site



# Monitoring for beetles

## Dead leafy spurge stems – early June



# Monitoring for beetles

## Dead leafy spurge stems – early June



# Monitoring for beetles

Beetle density – mid June



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Beetle density – mid June



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Beetle density – mid June



# Monitoring for beetles

Beetle density – mid June



# Obtaining beetles

- Contact your state agriculture department
  - Some states work with spurge biocontrol
- In Minnesota, contact your County Agricultural Inspector
- Vendors
  - Three private vendors based in Montana
    - \$100 per 1,000 beetles

# Permits

- An USDA APHIS 526 permit is needed to move beetles between states
- States may require a permit for within state movement of beetles
  - Contact the state department of ag
- No permits are needed for moving beetles within Minnesota or to receive beetles from a vendor

# Contact information



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# Stem-boring beetle

## *Oberea erythrocephala*



# Hawk moth

## *Hyles euphorbiae*

