Biological Control of an Invasive Weed: Cypress Spurge

*Euphorbia cyparissias*

Heather Faubert
Plant Sciences
RHODE ISLAND
HISTORICAL
CEMETERY
TOWN OF
S. KINGSTOWN

VANDALISM IS PUNISHABLE
BY LAW.

4
Euphorbiaceae – Spurge Family

Genus *Euphorbia* contains ~1600 species
In North America - 107 native *Euphorbia* species divided into 4 Subgenera:

- **Agaloma**
- **Chamaesyce**
  - includes cypress spurge
- **Cattia**
Leafy spurge – Euphorbia esula
Biological Control Efforts – leafy spurge

- Surveys started in Europe 1961, funded by Canada
- Surveys 1961-1990 (USDA-ARS also)
- 121 insect spp. developed on 3 spp. of spurge
- 39 spp. fed exclusively on spurge
- 22 spp. screened
- 18 spp. released in US starting 1965
- 17 spp. released in Canada
Biological Control Efforts – leafy spurge

- Early releases not effective
- 1980’s switched to smaller insects that attacked roots
- Root-feeding chrysomelid - *Aphthona spp.*

- 66 known European *Aphthona spp.*, almost half found only on *Euphorbia* – *Aphthona spp.* generally adapted to a few plants within a single subgenus.

- Between 1982-1993, six *Aphthona spp.* released
Aphthona larvae feed on roots
Received shipments of beetles through Bozeman, MT - USDA lab
Released 5 species *Aphthona* from 1995 - 1998
Aphthona flava most successful!
Three years after release
Rock outcropping in 1996
At some sites, beetles have become established but are providing little or no control.
SUMMARY

9 release sites in RI, good suppression at 5 sites (though 2 sites had regrowth).

Future – identify characteristics of successful & unsuccessful sites.
  • Release other spp. such as A. nigriscutis.

Continue to release beetles as new infestations located.
  • 2006 released in other pastures in Jamestown.