

# Biological Control Agents For Spotted Knapweed

By Tom Barbouletos

USDA Forest Service, Forest Health Protection

## Plant

Spotted knapweed, *Centaurea maculosa*, is an aggressive biennial or shorted-lived perennial. It grows 1 to 3 feet tall and it has a stout taproot. Plants have alternately arranged, lobed, pale green leaves 1 to 3 inches long. Solitary pink to light purple flowers form at the ends of the main stem and upper branches.



Spotted knapweed



Flower of Spotted knapweed

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## Root Feeders

The major impact caused by this class of biological control agents is the larval feeding in the roots. This feeding reduces spotted knapweed's ability to uptake water and nutrients to replace depleted root reserves. Wounds caused by this feeding may allow entry by soil microorganisms and secondary diseases that can further weaken the plant.



Sulphur knapweed moth adult



Sulphur knapweed moth larva



Knapweed root weevil adult



Knapweed root weevil larva

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