

THE WILLOW SHARPSHOOTER *GRAPHOCEPHALA CONFLUENS* (UHLER),
A NEW PEST IN POPLAR TREE PLANTATIONS

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Introduction

Poplar tree plantings are being explored as an alternative forest products commodity in the Treasure Valley of eastern Oregon and southwestern Idaho. Damaging infestations of a species of leafhopper, Homoptera: Cicadellidae, were observed in a poplar tree plantation (hybrid of *Populus deltoides* x *Populus nigra*) located at Oregon State University (OSU) Malheur Experiment Station (MES) during the 1999-2001 growing seasons. 1999 was the third growing season of the trees and first year of the observed infestation by this new pest. The damaging impacts of the insect were underestimated and the infestation was not treated until September 4. The high population densities and feeding by the insects injured leaf buds and caused noticeable stunting of tree branch terminals and whole trees during 1999 growth cycle. In 2000 the leafhoppers were detected and treated much earlier in the season. Residual stunting of trees was observed even through the 2001 season from the previous year's insect activity. During all 3 years leafhopper outbreaks were treated at least once per season with aerially applied insecticides. Commercial poplar growers in the western Treasure Valley also reported observing and treating for leafhopper infestations over the last 3 years. The purpose of this study was to identify the species of cicadellids. The outbreak of this insect and its potential pest status in commercial poplar tree plantations have not been previously reported in the Pacific Northwest.

Methods

In May 2000 insects were collected and sent first to the OSU Department of Entomology and then forwarded to the USDA, Agricultural Research Service Systematic Entomology Laboratory (ARS SEL) in Washington D.C. Stuart McKamey of the ARS SEL made the species determination.

Results

The leafhopper was identified by ARS SEL as *Graphocephala confluens* (Uhler). The unofficial common name designation is the Willow Sharpshooter (WS). A literature search resulted in very few papers that mention this species and virtually no information about the species' pest status in poplar trees. Hardy (1942) observed this insect, using the synonym *Cicadella hieroglyphica* var. *confluens* (Uhler), "as a nuisance due to abundance" to the residence of White Swan, Washington. He goes on to describe the probable host for the insect as willow trees in a nearby riparian habitat. More recently *G. confluens* (syn. *Neokolla confluens*) has been implicated as a vector of plant pathogens including Pierce's disease (Frazier and Freitag 1946, Wolfe 1955, Purcell 1980). The possible existence of a leafhopper vectored plant pathogen infecting the poplar trees and contributing to the observed symptoms in the plantation is currently under study.

References

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