



## Efficacy of HUMA GRO® PROUD 3® on Controlling Thrips

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### Research Report

#### Summary:

Products and rotations were evaluated for managing Western flower thrips (*Frankliniella occidentalis*), on Butterfly Bush (*Buddleia Flutterby Grande™ 'Blueberry Cobbler'*). Plants were grown in 3-gallon containers filled with Sunshine mix # 1 (Sun Gro Horticulture, Bellevue, WA) in an outdoor location under natural irradiance. Immature and adult thrips were counted using destructive sampling of panicles, prior to treatment application and once a week for a total of 7 weeks. Alcohol extractions were done on fully open panicle portions between 8.5 and 9.5 cm in length, measured from the tip of the panicle.

#### Description

In this study, no symptoms were observed of thrips damage or phytotoxicity after treatment applications. Figures G and H shows comparisons between the untreated control (UTC), Proud 3®, and Conserve & Hachi-Hachi (standards). The numbers of nymphs and adults were similar in all treatment groups before the first treatment application. High variability in the numbers of nymphs and adults were seen in this study. This was due to two conditions: 1) The study was a field trial conducted in an open, outdoor location where thrips could move freely among plants and migrate from neighboring areas, and 2) Most of the products tested kill by contact, are softer chemistries, and their residual effect is low, so it is likely that they need to be directly sprayed on the insect to cause mortality. To satisfy the assumptions of the analysis of variance, and reduce within-group variability, a logarithmic transformation was applied to the variables, number of nymphs and number of adults.

Four weeks after the first treatment (WAT) application, the UTC had less adult thrips than the rest of the treatments. Natural predators were observed when doing alcohol extractions; it is possible that these insects had a significant effect in the number of thrips in the control, but not in the insecticide-treated groups where the chemicals applied could have lowered their numbers. PROUD 3® efficacy is discussed on the next page.



Thrip Egg to Adult Stages of Life Image by Jeanne Himmelein, Michigan State University Extension

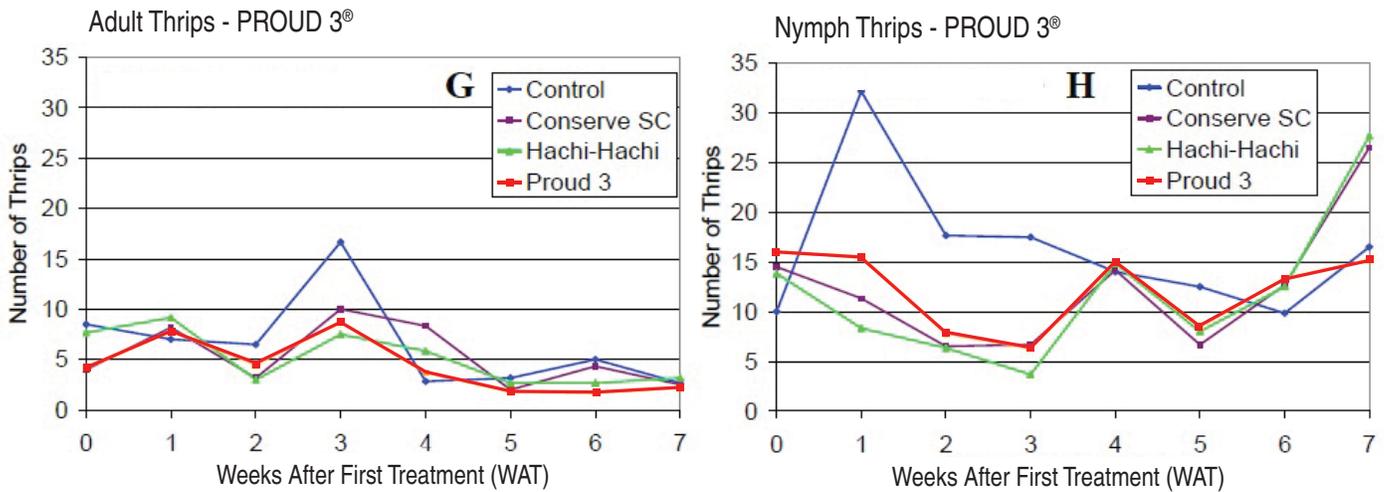


Butterfly Bush Panicles Image by Lucia Villavicencio



Butterfly Bush Plant Image by Lucia Villavicencio

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**Results**

**Efficacy of PROUD 3® to Control Adult Thrips (Fig. G):**

At one, five and seven WAT all treatments had similar numbers of adult thrips. PROUD 3® and Hachi-Hachi significantly lowered adult thrips population at six WAT.

**Efficacy of PROUD 3® to Control Nymph Thrips (Fig. H):**

At one, two and three WAT Conserve, Hachi-Hachi and PROUD 3® significantly ( $p = 0.05$  (probability is 95% accurate)) lowered the nymph thrips population compared the UTC. At four, six and seven WAT there were no significant differences in number of nymphs between the UTC, Conserve, Hachi-Hachi and PROUD 3®. At five WAT, there were no significant differences in number of nymphs between the UTC, Hachi-Hachi and PROUD 3®.

**Conclusion**

None of the products in this trial provided significant residual thrips control. The two standard treatments, Conserve and Hachi-Hachi, provided adult thrips control only at 1, 2, and 3 WAT. As expected, nymphs were more susceptible to the products than were the adults. Conserve, Hachi-Hachi, and PROUD 3® reduced the nymph population from the time of the initial treatment to 3 WAT. Western flower thrips in Buddleia panicles are extremely hard to control, because the insects hide in the inflorescence and because softer chemistries, which are mainly contact products, might not be very effective in controlling this pest. Constant applications at shorter intervals than those tested in this study may be required for adequate thrips control.

PROUD 3® is an OMRI-listed crop protection product acceptable for organic production. When following label instructions, it is a safe and effective, foliar-applied insecticide, miticide and fungicide. The mode of action is as a contact killer. As an insecticide, it works best on soft bodied insects or on juveniles.

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