

EFFICACY OF VARIOUS INSECTICIDES AGAINST ALFALFA WEEVIL IN ARIZONA'S LOW DESERT

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ABSTRACT

Alfalfa (*Medicago sativa* L.) is a critical row crop in the U.S., with the western region producing 15.4 million tons in 2019. Alfalfa weevil (*Hypera postica*) is a key pest, particularly in early-season growth, causing significant defoliation, reduced yield, and diminished hay quality in the first few cuttings of the year. This is why timely control of alfalfa weevil larvae is essential to achieving optimal yield and quality. This study evaluated the efficacy of experimental and labeled insecticides for controlling alfalfa weevil (AW) larvae under low desert Arizona conditions. A field trial was conducted using twenty-three (23) insecticide treatments, applied with a randomized complete block design (RCBD). AW populations were assessed 7, 15, 21, and 28 days after treatment (DAT). Results indicated that Warrior II (1.92 oz/acre) and Cobalt Advanced (24–32 oz/acre) provided the most effective control, reducing larvae populations below the economic injury level (1–3 larvae per sweep). Additionally, treated plots yielded significantly higher forage (up to 30.6 lb./60 ft²) than untreated plots (10.9 lb./60 ft²). The findings suggest that the timely application of effective insecticides can minimize AW damage and enhance alfalfa production in desert climates.

Key Words: Alfalfa weevil, insecticide, efficacy, yield

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