

# ► Impact Of Mepiquat Chloride Rates On Tarnished Plant Bug Populations

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Tarnished plant bugs have become the key insect pest in Louisiana cotton production. In 2013, over 128,000 acres were infested with tarnished plant bugs resulting in 15,985 bales lost. Over the last 10 years a large increase in number of applications for tarnished plant bugs has been observed. This increase in the number of applications is due in part to a decreased use of insecticides early in the year. It may also be attributed to a large increase in corn acres, as well as an increase in the number of wild hosts. Tarnished plant bugs have been documented to be resistant to organophosphate chemistries. This pest has also been shown to be 54-fold more tolerant to permethrin and 35-fold more tolerant to bifenthrin than in previous years.

Previous research been conducted on insecticide efficacy on tarnished plant bugs as well as evaluating the effect of nitrogen rates, planting dates, and cultivar maturity on control. However, limited data exists on the effect of plant height on tarnished plant bug populations and control. Therefore, the objective of this study was to determine the effect of mepiquat chloride rates on tarnished plant bug populations, cotton growth, and yield.

Experiments were conducted in Louisiana at the Dean Lee, Macon Ridge, and Northeast Research Centers located at Alexandria, Winnsboro, and St. Joseph, respectively. Phytogen 499WRF was planted at all three locations. Cotton was planted in a 4 x 2 factorial combination to accommodate four mepiquat chloride rates and two insecticide rates. Mepiquat chloride treatments consisted of a 0x, .5x, 1x, and 2x rate. Insecticide applications were either applied or not applied to control plant bugs throughout the season. Each treatment was replicated four times in a randomized complete block design. Plot sizes were four rows by 50 feet in length. Row spacing was 40 inches.