DETERMING CHLORANTRANILIPROLE RESIDUAL ACTIVITY AGAINST BOLLWORM (*HELICOVERPA ZEA)* IN COTTON

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Abstract

Chemical control is a critical tool in integrated pest management, especially in cotton production. Chlorantraniliprole, a diamide insecticide targeting the nervous system of insects, was released in 2008 and has played an important role in efforts to control cotton bollworm (*Helicoverpa zea)* in several important crops including cotton. Chlorantraniliprole is known to have residual activity up to 21 days when applied to foliage. A study conducted in 2020, at the Delta Research and Extension Center in Stoneville, MS, cotton leaf and flower samples were collected in-field at weekly time intervals after an initial application of chlorantraniliprole in an effort to determine concentrations in leaves from the top, middle, and bottom of the plant as well as flowers that were not present at the time of application. Chlorantraniliprole concentrations were found in cotton flowers and concentrations were quantified in the leaves of the plant. Currently, diet-incorporated assays targeting 2nd instar corn earworm larvae are being conducted using concentrations found in the previous study to determine mortality representing 4 rates of chlorantraniliprole, differing plant structures, and plant zones.