

KNACK™ INSECT GROWTH REGULATOR

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Abstract

KNACK (pyriproxyfen) is an insect growth regulator (IGR) which is being developed in the United States for control of silverleaf whitefly, *Bemisia argentifolii*, (SLWF) in cotton. KNACK acts as a juvenile hormone mimic and causes inhibition of metamorphosis, embryogenesis, reproduction, and larval development in certain insects. In SLWF, KNACK inhibits egg hatch, either through the females or by direct contact with the egg, and suppresses adult emergence when larvae stages are affected. KNACK also exhibits pronounced translaminar movement in cotton leaves which also leads to inhibition of egg hatch and suppressed adult emergence after SLWF feeding on the lower leaf surface.

KNACK has been tested by numerous University, USDA, and private contract personnel to determine its effectiveness on SLWF. In general, KNACK provided effective SLWF control and demonstrated IGR tendencies by reducing nymphal populations of the SLWF while not affecting adult populations and producing mixed results on egg populations in small test plots. In larger test plots KNACK applications have led to reduction of SLWF eggs and adults as well as nymphs and has been effective in rotation with other classes of insecticide chemistry. The product will fit well into integrated pest management and insect resistant management programs.