

# FIELD EVALUATIONS OF VIPCOT™ FOR ARMYWORM AND LOOPER CONTROL

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## Abstract

VipCot™ provides broad-spectrum, full-season control of damaging lepidopteran pests including bollworm, armyworm, and loopers quite effectively. This paper will demonstrate the ability VipCot™ has to control armyworm and looper species in cotton. Over the past two years research has been conducted in several locations across the cotton belt. Several of these locations have quantified the protection VipCot™ provided in terms of armyworm and looper control. In all locations where these worm species were rated, VipCot™ provided significantly better control than the untreated check plots.

## Introduction

VipCot™ is a newly discovered protein, VIP (Vegetative Insecticidal Protein), which transgenically controls worms in cotton. The discovery was made in 1994 from a sample containing the bacteria *Bacillus thuringiensis* (Bt). Although VIP is derived from Bt, it is not like other insecticidal traits currently on the market or in development.

## Materials and Methods

During the 2002 and 2003 growing seasons, VipCot™ cotton trials have been conducted in Texas, Louisiana, Arkansas, Mississippi, Alabama, Georgia, North Carolina, and South Carolina. Not all locations had armyworms or loopers to rate. However, six locations in 2002 and five in 2003 did have significant armyworm pressure adequate to quantify the level of control. In 2002, three locations had significant looper pressure to quantify the level of control.

## Results

During the 2002 and 2003 growing season, all locations where Beet Armyworm was present, VIP Coker cotton provided excellent control when compared to the susceptible Coker cotton (Table 1). This was not to say however no damage from Beet Armyworms was present on the VIP Coker cotton. Damage occurred on the bracts, calyx, and flower bud, however, when tagged these matured normally with no negative effects. The frequency of feeding damage was much less in the VIP Coker cotton than that of the susceptible Coker cotton. During the 2002 and 2003 growing season, VIP Coker cotton provided excellent control of Soybean Looper (Table 2). Like that with Beet Armyworm, feeding did occur on the VIP Coker cotton but at a much reduced rate to that of the susceptible Coker cotton. Finally, VIP Coker cotton provided excellent control of Southern Armyworm when compared to the susceptible Coker cotton (Table 3). This data is from one location collected in 2003. More data needs to be collected on the efficacy of VIP Coker cotton to control the Southern Armyworm before definitive recommendations can be given.

Table 1. Average of four trials across the cotton belt of VIP Coker cotton to control Beet Armyworm when compared to susceptible Coker cotton.

<b>VIP Coker</b>	<b>Nt Coker</b>
1.25	13.7

Table 2. Average of two trials across the cotton belt of VIP Coker cotton to control Soybean Looper when compared to susceptible Coker cotton.

<b>VIP Coker</b>	<b>Nt Coker</b>
1.5	9.3

Table 3. Efficacy of VIP Coker cotton to control Southern Armyworm when compared to susceptible Coker cotton.

<b>VIP Coker</b>	<b>Nt Coker</b>
0.0	33.0