

**Soil Technologies Corp.**  
**Research and Development Department**



## **Research Report**

**Title:** Garlic Gard<sup>1</sup> Trial on Red Mites

**Location:** Kafr El Sheikh, Egypt

**Principal Investigators:**

**Crop:** Cotton

**Date:** 2000

### **Abstract:**

The purpose of this study is to evaluate the effect of Garlic Gard on red spider mites (*Tetranychus urticae*) and other predator species on cotton plants. Garlic Gard at a dosage of 500 cm/feddan (equivalent to 1.03 acres) was applied to cotton plants. Populations of red spider mites and predators were counted before application of treatment and at three days, one week, two weeks and three weeks following treatment. Cotton plants that were treated with Garlic Gard had significantly lower populations of red spider mites than the control and treated plants saw an average reduction of red spider mite counts of 78.24%.

### **Methods:**

Cotton plants were observed for populations of red spider mites and other insect predators. Garlic Gard at 500 cm/feddan was applied to cotton plants while a control group was established. Populations of red spider mites and other insect predators were counted three days, one week, two weeks and three weeks after the treatment was applied.

### **Results:**

Cotton plants that were treated with Garlic Gard had significantly lower populations of red spider mites than the control. Three weeks after treatment, plants treated with Garlic Gard had 36 red spider mites while the control had 1780. Over the course of three weeks, treated plants saw an average reduction of red spider mite counts of 78.24%. Moreover, cotton plants treated with Garlic Gard also had a lower count of other predators compared to the control group. Before application of treatment, plants that were to be treated with Garlic Gard had a count of 21 predators before treatment and had a count of 55 predators at the end of the trial. The control reported a count of 27 predators before treatment and a count of 98 at the end of trial.

<sup>1</sup>Garlic Gard is a natural insect and animal repellent manufactured by Soil Technologies Corp. in Fairfield, IA

Table 1. Red spider mite count on cotton plants

Treatment	Dose	Count Before Treatment	Count After Treatment by:				Total
			3 days	7 days	14 days	21 days	
Garlic Gard	500 cm/feddan	374	194	108	126	36	464
Control	No treatment	416	704	732	804	1780	2418

Table 2. Percentage Reduction of Red Spider Mite Count on Cotton Plants

Treatment	Dose	% of Reduction After Treatment By:				Average Reduction
		3 days	7 days	14 days	21 days	
Garlic Gard	500 cm/feddan	69.35	83.59	82.57	77.50	78.24

Table 3. Average Count of Predators on Cotton Plants

Treatment	Dose	Count Before Treatment	Count After Treatment by:				Total
			3 days	7 days	14 days	21 days	
Garlic Gard	500 cm/feddan	21	14	15	16	10	55
Control	No treatment	27	704	22	31	18	98

### Conclusions:

Results from this trial suggest a potential for Garlic Gard as being an effective treatment for controlling red spider mites in cotton plants. Compared to the control group, cotton plants treated with Garlic Gard had significantly lower counts of red spider mites and other predators. Three weeks after treatment, plants treated with Garlic Gard had 36 red spider mites while the control had 1780. At the end of the trial, plants treated with Garlic Gard had a total of 464 red spider mites while the control had a total of 2418. Moreover, the treated plants had a total of 55 other predators while the control had a total of 98. The average reduction in red spider mite counts was calculated to be 78.24%.