2011 SOYBEAN TINEWEED

In 2011, the University of Vermont Extension Crops and Soils Team conducted an evaluation of tineweeding as a weed management strategy for soybeans in Alburgh, VT. Tineweeding is a type of mechanical cultivation that is implemented early in the field season. A tineweeder is a low-cost and simple piece of equipment designed to disturb the root zones of weed seedlings while they are in the very delicate "white thread root" stage (Image 1). This disturbance often results in weed seedling desiccation and death. This study also sought to evaluate the timing of tineweeding as it heavily influences the amount of damage caused to weed seedlings.

MATERIALS AND METHODS

The effectiveness and timing of tineweeding as a weed control tool in soybeans was evaluated with replicated plots at Borderview Farm in Alburgh, VT. Agronomic information is presented in Table 1.The soil type was a Benson rocky silt loam and the previous crop was corn. For this experiment, the design was a randomized complete block with three replications. Four treatments were evaluated: tineweeding 13 days after planting (DAP), tineweeding 21 DAP, tineweeding at both 13 and 21 DAP, and no mechanical weed control. The plot size was 10' x 25'. Before planting, on May 24, 2011 the herbicide Treflan (trifluralin) was sprayed on the plots at a rate of 2.5 pints per acre. The soybeans (Mycogen variety PB5B130RZ) were planted on June 14, 2011 with a John Deere 1750 four-row planter at 180,000 seeds per acre. Rows were 30 inches wide. Weed and crop populations were measured at 13 and 21 DAP. Plots were harvested with an Almaco SP50 plot combine on November 1, 2011. Yield was measured by weighing the harvested seeds. At harvest, moisture, and test weight were measured with a Dickey-John M20P moisture meter and a Berckes test weight scale.

Table 1. Agronomic and trial information for the 2011 soybean tineweeding trial.

Location	Borderview Farm-Alburgh, VT
Soil type	
Previous crop	
Tillage operations	
Herbicide	
Plot size (ft.)	

There were no significant differences among weed control treatments for yield, moi