CONFAL, THOMAS[1], GODFREY, LARRY. D.[1] and BABB, THOMAS[2]. [1]Dept. of Entomology, Univ. of Calif. Davis, CA. 95616 and [2]Spreckels Sugar Company. Woodland, CA. Effects of the western potato leafhopper (*Empoasca* spp.) on sugar beet yields.

In the Central Valley of California the *Empoasca* leafhopper is considered a major pest. Yield trials were conducted from 1995-97 near Woodland, California to determine what effect the *Empoasca* leafhopper has on sugar yields of current beet varieties. Field plots of Spreckels 'SS-781R' (50' X 40' each) were arranged in a randomized block design with 4 replications. Two approaches were used in the study; 1.) the effects of different densities of leafhoppers (LD) and 2.) the influence of different durations of leafhopper infestations (LID). Populations were controlled using Monitor® 4E and Sevin XLR Plus®. In 1996, beet yellows virus was introduced to a portion of the field using viruliferous green peach aphids to evaluate the potential interacting effects of the leafhopper and virus stress. Monitoring consisted of counting leafhoppers (nymphs and adults) with leaf turns and sweepnet samples. Yields were evaluated for both fall and spring harvests. Beets were processed by Spreckels Sugar Company for weight and sucrose content. In 1995 the leafhopper pressure averaged from 5091.5 leafhopper days to 17775 leafhopper days (LD) and from 5112 leafhopper days to 20181 leafhopper days (LID). Fall harvest sugar yields averaged from 3.4 tons/acre to 3.9 tons/acre (LD) and from 3.5 tons/acre to 4.1 tons per acre (LID). In this study the *Empoasca* leafhoppers had little effect on sugar yields. The leafhopper pressure in 1996 was higher than 1995 The yield analysis for 1996 are ongoing.