

The sugarbeet crown borer, *Haltina undulata* (Lepidoptera: Pyralidae), rarely had been seen in Idaho until the mid 1980's when infestations were detected along the Idaho - Oregon border. To define pest distribution and assess economic status, we monitored during 1991 and 1992.

MAUK¹*, P.A., L.D. GODFREY², W. JOHNSON², and D. LIMBURG¹. ¹UC Coop. Extension, Sacramento CA 95827; ²Dept. of Entomology, Univ. of California, Davis, CA 95616. Efficacy of systemic aphicides on reducing populations of aphids and the effect of these treatments on incidence of beet yellows virus.

Beet yellows virus (BYV) is an aphid-borne virus of sugar beets. Planting date regulations and isolation between spring and fall harvest districts have reduced or eliminated incidence of BYV for 75% of the acreage in California. In the Upper San Joaquin and Lower Sacramento Valleys, however, these planting regulations have not had continued success. Annually, BYV causes up to 75% loss in yield. In California this disease is transmitted by both green peach (*Myzus persicae*) and black bean (*Aphis fabae*) aphids. Disease severity is dependent on both timing of infection and temperature, therefore losses vary with the timing of aphid flights and stage of the crop. Currently, growers control BYV by planting in the absence of the vector or by interfering with virus transmission through the use of insecticides. Information documenting the efficacy of aphicides in controlling both aphid vectors, as well as in reducing virus incidence or spread is needed. In 1991 and 1992, field trials to assess the impact of insecticides on aphid populations, virus incidence, and yield were conducted. The following products were tested in one or both seasons: aldicarb, phorate, imidacloprid (NTN), carbofuran, fosetyl-AI, fonofos+phorate, and chlorpyrifos. In both seasons NTN applied preplant (1991) or as a seed treatment (1992) reduced virus incidence. In 1991, there were statistically significant differences between chemical treatments and virus incidence. Percent BYV infection for all treatments, except NTN, ranged from 92.5 to 97.5%. NTN was the only insecticide that had a lower incidence of virus (77.5%) in the 1991 trial. All insecticide treatments, except chlorpyrifos, effectively controlled black bean aphid populations. Aldicarb, phorate, and NTN were most effective in controlling green peach aphids (6.6 aphids/plant). Other treatments had from 14.6 to 32.6 green peach aphids/plant. The differences in controlling aphids and BYV were also reflected in yield (t/a=NTN 17.0; aldicarb 14.3; phorate 13.7; untreated 12.5). In 1992, due to the lack of natural aphid vectors the plants were inoculated with BYV infective black bean aphids. All insecticides tested reduced BYV infection (21-27%) as compared to the untreated check (35%), however, no statistically significant differences were detected in incidence of BYV or yield.