NITSCHELM, JENNIFER J.[1], PETER J. REGITNIG[2] and GREG. W. NIKLES[2], [1]Alberta Agriculture and Food, 100, 5401-1st Ave S., Lethbridge, AB T1J 4V6 and [2]Rogers Sugar Ltd, 5405-64th Street, Taber, AB T1G 2C4. **Evaluation of Cruiser seed treatment for control of wireworm damage in sugar beet.**

ABSTRACT

Sugar beet seed treated with Cruiser 5 FS (thiamethoxam) insecticide or Counter 15G (terbufos) insecticide was planted in a field with known wireworm infestation to assess wireworm control and sugar beet yield and quality. Currently, Counter is the only option for controlling wireworm damage in sugar beet in Canada. Alternative treatments are being investigated for use in sugar beets in anticipation of Counter deregistration. Cruiser is registered in wheat, barley, corn and soybeans for control of wireworm and other insect pests.

A commercial field seeded to barley in 2004 was observed to have areas of crop damage due to wireworm activity. One of these areas was planted to a four-replication experiment in the sugar beet crop in 2005. Cruiser was applied to sugar beet seed at two rates – 30 or 60 g ai/unit - and compared to sugar beet seed planted with Counter (1208 g ai/ha) applied modified-in-furrow. The experiment was seeded on April 23, 2005; two days after the surrounding commercial sugar beet field had been seeded. The grower applied postemergence Decis (deltamethrin) insecticide for cutworm control on May 23 to the experimental area.

On May 2, bait traps consisting of potatoes cut up and placed inside mesh bags, were buried 10-15 cm below the soil surface. One bait trap was placed on the end of each of the four control plots, so as not to disturb the seeded plots. The traps were removed on May 24, and soil under and around each bait trap was collected. The soil was sifted through, and any live wireworms found in the soil were recorded. Live wireworms were observed by the bait traps in three of four replications.

Sugar beet plant stands were significantly higher in the three insecticide treatments than in the control treatment. Cruiser applied at 60 g ai/unit resulted in 25% higher extractable sugar per acre and 22% higher beet yield compared to the control treatment. Counter provided comparable results to the Cruiser 60 g ai/unit treatment. Cruiser applied at 30 g ai/unit resulted in significantly improved beet yield over the control treatment, but yielded less than the Cruiser 60 g ai/unit and Counter treatments.