Cucumber Beetle Management

For vegetable producers, there are few insects more frustrating than the cucumber beetle. Not only do the striped and the spotted the cucumber beetles gnaw on tender squash and cucumber plants, the spotted cucumber beetle transmits the disease known as cucumber wilt, which can bring the harvest season to a premature end. Several years ago PFI member Angela Tedesco compared row covers and variety selection to combat the beetles in zucchini squash. More recently, ISU Extension Plant Pathology has been involved in on-farm evaluations of strategies against the beetles. In 2003, cooperators **Gary and Nancy Guthrie**, Nevada, and **Laura Krouse**, Mt. Vernon, participated in these trials.

Gary and Nancy Guthrie are organic producers, so they customized the treatments to fit organic practices. They compared untreated muskmelon plants to plants 1) protected until flowering with a row cover; 2) treated with Pyola®, an organic, pyrethrum-derived insecticide; or 3) both covered and treated with Pyola. The results appear in Table 3, click to view. Any differences in beetle numbers or disease are obscured by the fact that 1) there just wasn't much cucumber wilt in 2003, and 2) this was an unreplicated demonstration, preventing statistical evaluation. The Guthries plan to continue the study in 2004.

Viewing aphids and beneficial insects at the Dordt College Ag Stwewardship Center's 2003 field day.

Laura Krouse also "suffered" from few cucumber beetles. In her trial, zucchini plants treated with a full rate of Sevin® insecticide were compared to 1) the chemical attractant Invite® combined with a one-tenth rate of Sevin, and 2) the organically-approved attractant Diamite® plus the organically-approved contact insecticide boric acid. The results appear in Table 3. Low numbers of beetles and few replications in the trial made the results erratic. No significant differences in total beetles appeared. The numbers suggest that the attractant-plus -Sevin at one-tenth rate resulted in cucumber wilt levels as low as with the full rate of insecticide alone. If that result can be repeated, this may be a combination that conventional growers can use to reduce insecticides. Laura will continue the project with ISU Plant Pathology Extension in 2004.