

**Status Report to WIPMC
("Microbial biopesticides for small grain & potato wireworm control")**

1st Season – 2005 – Finished

2nd Season – 2006 – Finished

Follow Up Study – 2007 – Pending

Spring Wheat. We are currently finished with 2 years of research on the grant ("*Microbial biopesticides for small grain & potato wireworm control*"). All spring wheat trials had wireworm pressure over 5 times (>10 per bait station) the economic threshold. This pressure ensured an adequate testing medium for the topics involved.

During the 2005 and 2006 field seasons spring wheat plots treated with the microbial "*Metarhizium anisopliae*" did not have a higher stand density than the untreated control at the 2nd leaf or early tillering stages. In the same experiments, Cruiser 5FS did protect spring wheat plants from wireworm injury, with significantly higher stand densities in Cruiser 5FS treated plots compared to the control. Yield was not affected by any treatment in either field season, although significantly more heads were found in Cruiser 5FS treated plots when compared to the untreated in either field season.

Wireworm densities were significantly reduced by all treatments when compared to the untreated in 2006, however this was not repeated in 2005. Due to this, a 3rd field season was initiated in spring wheat to assess this phenomenon. This is pending.

Potatoes. During the 2005 field season Cruiser 5FS offered significant protection of potatoes, with significantly more plants per ft row compared to the untreated. *Metarhizium* treated potatoes did not offer any protection to wireworm damage in either 2005 or 2006 field seasons. No differences in damaged tubers or percent wireworm damaged tubers existed between any treatments at harvest in either field season.

Conclusions. It seems *Metarhizium* does not have high efficacy towards wireworms in our field investigations in either field season regardless of crop. Neither yield or plant stand was affected by any treatment formulation of *Metarhizium*. Wireworm densities were reduced in *Metarhizium* treated spring wheat plots, however this was not repeated in 2006. A follow up study is being conducted currently to ascertain the dynamics of this.