

## Yield increase over three years

### CORN

Premier Tech, Crow River Research, MN;  
Easton Agri-Consulting inc., IA;  
Alvey Ag Research, IL; 2007-2009.

#### OBJECTIVE

Evaluate the effect of mycorrhizal inoculation at seeding on corn yield, during three consecutive years.

#### METHODS

The multiple field trials took place in the Corn Belt States, mainly in Minnesota and Iowa during three years from 2007 to 2009. In 2007, trials were conducted in two fields in Illinois and in 2008, there was one field in the State of Illinois. Two treatments were tested, non inoculated Control and mycorrhizal inoculated (*Glomus intraradices*). The mycorrhizal inoculant was poured in the granular fertilizer boxes and was applied at seeding according to the equipment used in each field. The control plots didn't receive any inoculant. Field plots were 30 feet wide by 100 feet long in Minnesota and Illinois, and were 30 feet wide by 50 feet long in Iowa.

Each treatment was replicated twice in a field. Several fields were seeded in each State for a

total of 12 or 13 different fields each year. All corn varieties planted were Round Up ready. Only nitrogen fertilization was applied to the plots as recommended by the soil analysis for each field. The usual herbicide management was followed. Yields for each plot were recorded at harvest and data were analyzed with a combined analysis of variance over all fields.

#### RESULTS

Statistical analyses were performed on the fields for each year. In 2007, the mean average yield of the mycorrhizal inoculated plots was increased by 3,4% (statistically significant at  $p=0,057$ ) over the control plots. In 2008, mycorrhizal inoculated plots reached 4,5% higher yields (statistically significant at  $p=0,004$ ) over yields of the control plots. In 2009, the average yields reached 4,9% (statistically significant at  $p<0,001$ ) higher with mycorrhizal inoculation over the control.

Effect of mycorrhizal inoculation on corn yield

