Assorted Questions

One of the strengths of PFI on-farm research is that the program has enabled cooperators to pursue their own questions. Of course this means that trials are often one-of-a-kind, and PFI trial designs allow each experiment to stand on its own. It also means that some very good on-farm trials are best categorized as "miscellaneous." Here are a few.

The Dordt College Agricultural Stewardship Center prepared for a 2002 corn trial by raising oats with-and-without an underseeding of Cherokee red clover (Table 9, click to view). The clover had no effect on yield of the oat crop. The cost of clover seed is charged to the treatment, making the practice appear entirely uneconomical. Some of the value will likely be recovered in the 2002 corn crop. Other benefits of the red clover may include weed suppression, reduced soil erosion, livestock feed, and winter habitat for wildlife.

Dieter Geest, Bluegrass, collaborated with Dr. Charlie Martinson, ISU plant pathologist, to evaluate biological controls for while mold of soybean. This fungal disease, also know as Sclerotinia stem rot, can severely limit yields when cool, wet weather occurs at early flowering. Few fungicides are registered, and their economics is questionable.

Dr. Martinson introduced two biological controls of while mold to plots on the Geest farm (Table 9, click to view). Coniothyrium minitans is a beneficial fungus that is available in a commercial product. Sporodesmium sclerotivorum is not commercially available, but this fungus is capable of seeking out spores of Sclerotinia in the soil. In 2001 there was little white mold pressure in the field, so Dieter did not apply the fungicide that was planned. However, Charlie Martinson also applied the beneficial fungi to a Geest corn field that will be in beans in 2002, so we may yet see what these biological controls can do.

Dave and Lisa Lubben, Monticello, also introduced microbes into their field - they inoculated soybeans with what Dave describes as a new generation of inoculant (Table 9). The field is in a corn-soybean rotation, so conventional wisdom suggests that the soil has adequate levels of the Rhizobium bacteria that allows the soybeans to fix nitrogen. In this case, the conventional wisdom may have been borne out, because there was no significant difference in yield between inoculated soybeans and those that were not inoculated.