Weed Management Trials 1995

In 1995, **Richard and Sharon Thompson**, Boone, developed their 1994 trial of light-versus-dark planting into a two-by-two factorial experiment combining light/dark planting and planting date (Table 4). Some experiments in Europe and the U.S. have suggested that weed numbers can be reduced by depriving weed seeds of light at planting. Doug Buhler, weed scientist at the National Soil Tilth Lab, who provided consultation, says it may only take a split second of exposure to light to signal some weed seeds to germinate. Dick Thompson attempted to achieve dark planting conditions by building housings over the units on his ridge-till planter. An electric light in each unit could be switched on for the light-planting treatments.

Ron Rosmann giving a cultivation demonstration at a PFI field day.

The Thompsons have often observed reduced weed pressure when crops were planted later than usual. Later planting allows the planter and rotary hoe to catch more of the spring flush of weeds, and there may be other factors involved as well. In all, the trial had four treatments: early planting in light, early planting in the dark, late planting in light, and late planting in the dark.

Neither planting date nor planting conditions had an effect on soybean yield. Early planting, however, resulted in a four-fold increase in broadleaf weeds compared to late planting. The light-dark factor did not have a significant effect on weed numbers either, but there is the suggestion of a reduction in weeds with dark planting at the late planting date.

Two other PFI cooperators carried out weed management trials in 1995. **Ron and Maria Rosmann**, Harlan, set out to time the pre-emerge rotary hoeing of corn by heat units accumulated in the soil (Table 5). Because of cool spring conditions, though, the weeds didn't wait for the heat units, at least as Ron was measuring them. He went ahead and hoed as demanded by the weed growth he saw in the field. The trial compared pre-and-postemergence hoeing to a single postemergence hoeing. Ron found no significant difference in corn yield, and he reports grass numbers were low throughout the experiment.

Don and Sharon Davidson, Grundy Center, evaluated a planter band of herbicide in their ridge-till soybeans (Table 5). The treatment receiving no band was not rotary hoed. Both treatments were cultivated. Don has noted that in some years rotary hoeing seems to be unnecessary in his ridge tillage system. The data indicate that 1995 was not one of those years. He reports grass was significantly more prevalent in the no-herbicide-no-hoe treatment, and the soybean yield difference (2.9 bushels) was statistically significant.