

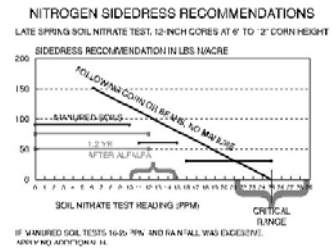
N and Manure

Two

NITROGEN SIDEDRESS RECOMENDATIONS:Late spring soil nitrate test, 12-inch cores ar 6" to 12" corn height

Figure 3. Nitrogen sidedress recommendations for the late spring soil nitrate test for corn.

IF manured soil tests 16-25 ppm and rainfall was excessive, applu no additional N.



cooperators conducted nitrogen rate trials in 1996. **Ray and Marj Stonecypher**, Floyd, used the late spring soil nitrate test (Figure 3) and then sidedressed two rates that were close to the recommendation (Table 3). Testing and sidedressing both took place in late June due to wet and cool spring weather. There was no yield difference between 130 pounds N and 150 pounds, and the late season stalk nitrate test suggested no shortage of N in either treatment. On the other hand, Ray reported the whole field appeared N deficient before he sidedressed the crop.

Ron and La Donna Brunk, Eldora, and their son and daughter-in-law **Steve and Tara Beck-Brunk**, compared three nitrogen rates in a field that received 3,300 gallons of liquid hog manure in the fall of 1995 (Table 3). Despite the manure, corn stalk analysis at the end of the 1996 season showed the crop was short of N. However, with only three replications in the trial, it was not possible to see a statistical response to nitrogen. Other fields tested much higher for stalk nitrate but yielded about the same as the corn in this trial.

Richard and Sharon Thompson, Boone, continue to search for the best way to manage manure in their farming system. In 1995, they compared spring applied manure, planter row fertilizer, and a check treatment in soybeans. The planter row fertilizer increased soybean yield significantly over the other treatments but did not pay for itself in the application year. In 1996, the experiment was continued on the same ground. The treatments were: 1) no manure or fertilizer since the 1993 plowdown of hay; 2) 1995 spring-applied manure; 3) 1996 spring-applied manure; and 4) 1996 spring-applied manure following 1995 planter row fertilizer.

Table 3 shows the no-fertilizer-no-manure treatment was outyielded by the other three. Calculation of economics is problematic for a trial like this, because both manure and fertilizer can have value beyond the year of application. In the table, treatment costs were prorated to reflect the residual value of the treatments: 1995 manure was charged at 25 percent of original cost, while 1995 fertilizer and 1996 manure were charged at 50 percent. By this economics, 1996-manure-plus-1995-fertilizer came out slightly ahead of the other two manure treatments. Incidentally, ISU Extension Economics has recently reduced its estimated costs for manure spreading, as reflected in bulletin Fm-1712, Estimated Costs of Crop Production.