

Late Season Stalk Nitrate Test

One more tool is coming into use in PFI trials. It is a "rear view mirror" test to tell you how the crop fared for nitrogen. It is the late season stalk nitrate-N test. Eight-inch sections of stalks (from 6 to 14 inches above the ground) are

taken one-to-two weeks after black layering indicates crop maturity. Below the sufficiency range of 700-2,000 ppm nitrate-N, crop yields may have been reduced due to nitrogen shortage. Readings above that range suggest the crop had more N available than it could turn into grain. The stalk test is better at detecting excess nitrogen use than telling a producer exactly how short of N the crop was. It's a good way of summing up all the year's effects of weather and management.

Figure 4 presents yield-by-stalk nitrate-N for 127 fields of farms across the state in 1991. These data are part of a study of farming practices in the state that typed farmers as "sustainable" or "production maximizers" based on farming practices and attitudes. There was a tendency for more of the fields in the low range for stalk nitrate-N (less than 700 ppm) to be in the sustainable class, but there were also many exceptions. In the coming year, more information will be published on this study, in which many PFI members participated.

Fig. 4. An example of late season stalk nitrate-N results. Bushels corn per acre dot=Production Maximizers, Triangle=Sustainable

