

Nitrate Analysis

Pre-Side Dress Nitrate Nitrogen

The pre-side dress nitrate test (PSNT) is another soil test available to corn growers for improving the efficiency of N applications. Soil samples for PSNT are taken after planting at a time when the mineralization of organic N sources to plant-available forms of N has occurred. Consequently, the PSNT can predict the amount of N released from previous legumes; fall, winter or spring manure applications; soil organic matter and residual nitrate in the top foot of soil. The PSNT can be a valuable tool for a grower wanting to confirm the amount of N credited from manure of previous legume crops.

PSNT samples should be taken when corn plants are 6 to 12 inches tall, usually four to six weeks after planting. PSNT samples are collected only to a depth of one foot.

Results of the PSNT are interpreted using a critical value of 21 ppm nitrate-N. Fields testing above 21 ppm N most likely will not respond to additional N. Fields testing below 21 ppm N will likely respond to additional N.

Corn Nitrogen Recommendations Based On The Pre-Sidedress Soil Nitrate Test (PSNT)

SOIL TEST NITRATE N	PSNT RESULT N (ppm)	**SOIL YIELD POTENTIAL			
		(1) Very High	(2) High	(3) Medium	(4) low
		Application Rate (lb/a)			
	> 21	0	0		
	20-18	60	40		
	17-25	100	40		
	14-13	125	80		
	12-11	150	80		
	< 10	160***	120***		