



AGRI-FOOD LABORATORIES

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Pre-sidedress Nitrate Soil Test (PSNT)

The following table highlights the PSNT value, expected yield response, recommended N rate and economic return at each selected soil test level

PSNT (ppm)	Nitrogen Recommendation Lbs Actual N/ac	Delta Yield (bu/ac)	Fixed Application PSNT cost (\$/ac)	Total N cost (\$/ac)	% Return on Nitrogen
20	29	9	14.50	31.90	26
15	78	26	14.50	61.30	90
10	127	48	14.50	90.70	138
5	176	76	13.50	120.00	185*

* for every dollar spent on N and application you get it back plus \$1.85.

PSNT Pre-Sidedress Nitrate Soil Test

Delta Yield is the expected yield gain over using no nitrogen

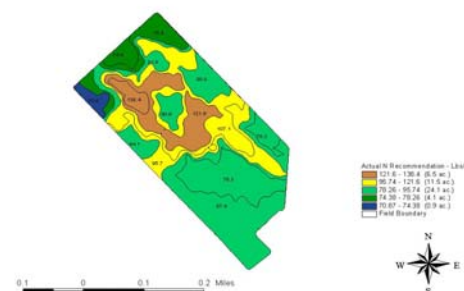
Fixed Applicator Cost includes an estimated \$9.00 per acre application cost plus cost of zone mapping, PSNT sampling and lab analysis.

Total N Cost is the cost of recommended N @\$0.60 per pound actual plus fixed applicator cost.

% Return On Nitrogen is calculated by:

$$\frac{(4.50/\text{bu of corn} \times \text{delta yield}) - \text{Total cost of Nitrogen}}{\text{Total cost of Nitrogen}} \times 100$$

Example 1(47.1 ac.) - Actual N Recommendation lbs/ac



We have 15 years experience in Nitrogen Management. Agri-Food Laboratories has pioneered the Delta Yield Concept.; Delta Yield explains the correct rate of Nitrogen better than Yield Goals. One simple statement explains it all, “you don’t know how big the crop will be in the fall when you have to pick a yield goal in the spring to determine the rate of N by current methods”.

A proper Zone Management approach and selective sampling to characterize the nitrogen supply of these zones using the PSNT, provides a more definitive way to predict the correct rate of Nitrogen without knowing the size of the crop but rather the size of the response, hence the “Delta Yield” .

Delta Yield is the yield gain received for using the correct rate of N based on the PSNT compared to using no Nitrogen. With a high PSNT test the expected response to N is small, as illustrated in the above table.. When the PSNT is low the expected yield gain is high. The research conducted by the Partners in Nitrogen Study provides the data to back up the concept.

We realize that the potential reduction in N rates is uncomfortable for most growers. We recommend sampling according to our protocol. Then the decisions on N rates can be tested in strips the first year in order to gain your confidence in the predictability of the AgTest Delta System.





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Sampling Protocol / Getting started

You can contact us directly or work through your Professional Ag Supplier. We work with most major Crop Input Suppliers in Ontario. We can support your effort to be a more efficient Nitrogen user.

The tools involved are multiple years of yield maps, or satellite imagery from our "on line service", followed by map analysis and creation of management zones with farmer input. Once the zones are set our experienced Field Technicians using GPS/GIS Technology will do PSNT sampling within the zones. Samples will go to Agri-Food Laboratories, then results are transferred back to The Agri-Food GIS Mapping Center to be merged into a map form showing the application rate of Nitrogen. At this point the economic analysis can be done to determine the best single rate or Variable Rate application.

The average return to N can be calculated giving you a comfort level of knowing you made the right investment.

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