The presidedress soil nitrate test (PSNT) is one of two soil tests available to corn growers for improving the efficiency of nitrogen (N) fertilizer applications. The PSNT measures soil N from previous legume crops, manure applications, soil organic matter and carry-over N from the previous growing season.

The PSNT can reduce the need for purchased N fertilizer. The PSNT can be a valuable tool for growers wanting to confirm N credits from manure or legumes. The PSNT can reduce the risk of nitrate movement to groundwater due to N applications in excess of crop need.

Advantages

✓ The PSNT can reduce the need for purchased N fertilizer.
✓ The PSNT can be a valuable tool for growers wanting to confirm N credits from manure or legumes.
✓ The PSNT can reduce the risk of nitrate movement to groundwater due to N applications in excess of crop need.

Disadvantages

✗ The PSNT requires sidedress application of supplemental N.
✗ The PSNT requires that soil sampling, lab analysis, and sidedress N applications all occur during early to mid-June when other field operations, such as weed control or haying, need to be done.

* The other test available is the Preplant Soil Nitrate Test (PPNT).
** The PSNT should not be used to assess nitrogen credits from a previous soybean crop.

Flip the card over for more information on Conducting a PSNT, and for Nitrogen Credits for Corn based on PSNT Results.
**Conducting a PSNT**

Nitrate N is more likely to accumulate in silt loam or heavier textured soils. *The PSNT is not recommended on sands.*

Soil samples for the PSNT are collected to a depth of one foot when corn plants are from 6 to 12 inches tall. Analysis is offered by several commercial soil testing labs, as well as the University of Wisconsin labs in Madison and Marshfield.

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**Nitrogen Credits for Corn based on PSNT Results**

<table>
<thead>
<tr>
<th>PSNT RESULT ppm N</th>
<th>Soil Yield Potential</th>
<th>VERY HIGH/HIGH lb N/acre credit</th>
<th>MEDIUM/LOW lb N/acre credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥21</td>
<td>—no additional N is needed—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20–18</td>
<td>100</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>17–15</td>
<td>60</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>14–13</td>
<td>35</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>12–11</td>
<td>10</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>≤10</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

1 Amount of N to reduce from target N fertilizer application rate.

2 To determine a soil’s yield potential, consult UWEX publication A2809, *Nutrient application guidelines for field, vegetable and fruit crops in Wisconsin,* or contact your agronomist or UWEX county agent.

Note: When corn follows alfalfa, the maximum N recommendation is 40 lb N/acre for all PSNT results less than 21 ppm N.

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For more information, contact the Nutrient and Pest Management Program at (877) 426-0176 or on the internet: ipcm.wisc.edu