Nitrogen Management Guide

Protein

Nitrogen

Hard Red Winter Wheat

For hard winter wheat

Application of 18 to 22 lbs N per acre is a common practice.

Suitable N is also important to protein formation in hard winter wheat. The feeding season is also critical for N uptake by the plant and protein formation. N fertilizer should be applied near the soil surface when soil dries will be available for uptake by the plant and protein formation later in the season. In dryland situations, N applied near the soil surface when soil dries will be available for uptake by the plant and protein formation. N during vegetative growth can limit yields. The total amount of N available during the growing season is important.

The availability of N at key times during the growing season is important. Additional N taken up by wheat after flowering is used primarily to increase yield and a moderate level of protein.

Yield and protein goals for the season are critical to achieving the maximum protein content. During this stage, N is essential to wheat but in the grain protein content. The yield potential of N is more yield in the grain protein content. The yield potential of N is more yield in the grain protein content. The yield potential of N is more yield in the grain protein content.

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Yield and protein goals for the season are critical to achieving the maximum yield. This is why an accurate estimate of yield is critical. The goal of 11.5% protein is a goal of 11.5% protein. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield. This is why an accurate estimate of yield is critical to achieve maximum yield.

For hard winter wheat, the amount of N necessary to achieve a protein of N increase yield and protein. Rates of N above those required to achieve maximum yield, while maintaining high protein, may begin to decrease.
**N Supplies**

<table>
<thead>
<tr>
<th>Yield</th>
<th>Protein</th>
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</thead>
<tbody>
<tr>
<td>150</td>
<td>20</td>
</tr>
<tr>
<td>100</td>
<td>18</td>
</tr>
<tr>
<td>50</td>
<td>16</td>
</tr>
</tbody>
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**Calculation of N fertilizer rates**

1. **Calculate the total soil N inventory**
   - 1. Yield goal: the crop to meet yield and quality goals
   - 2. N supply needed: \(\frac{A \times B}{2 \times C}\) lbs/N
   - 3. Credit from organic matter release
   - 4. Deficit remaining (if needed)
   - 5. Other N credits (source)
   - 6. Total N soil inventory (lbs N/inch)^2

2. **Block C**
   - Adjust the total soil N inventory

3. **Supplement the total soil N inventory**
   - 1. Credit from residual N, current soil test N (initiate + accumulation)
   - 2. Credit from previous residue crop
   - 3. Deficit remaining (if needed)
   - 4. Total N soil inventory (lbs N/inch)^2

4. **Block B**
   - Adjust the fertilizer N rate

5. **Block A**
   - With the fertilizer N rate, adjust the total soil N inventory

- **Yield** vs. **Protein**

**Basic Principles**

- For higher overall yields and nitrogen fixation, make supplemental applications of N if needed.
- In order to maximize yield and nitrogen fixation, apply additional N at the time of fertilizer application. When yield potential is less, then decrease the amount of fertilizer N applied. When yield potential is higher, increase the amount of fertilizer N applied.
- When yield potential is less, then decrease the amount of nitrogen fixation. When yield potential is higher, increase the amount of nitrogen fixation.
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