Milling Wheat Production Guidelines

Nitrogen for Grain Yield

- Firstly the crop must satisfy N requirement for grain yield
- Crop N requirement for grain yield will depend on:
  - Variety
  - Crop grain yield potential
  - Soil type
  - Rotation
- High yielding crops will tend to dilute grain N

Nitrogen for Grain Protein

- Additional N required to boost grain protein & required during the grain filling period
- 40 – 50 kg N/ha above crop N requirements for grain yield to increase grain protein above 10.5%
- 40 – 50 kg N/ha will increase grain protein in the region of 0.5 – 1.0%
- Nutrient legislation (SI 610) permits additional 30kg N /ha for milling wheat.

Milling Wheat Grade - Quality Specifications

<table>
<thead>
<tr>
<th>Grade</th>
<th>Protein (%)</th>
<th>Moisture Max. (%)</th>
<th>Hagberg min. (sec’s)</th>
<th>KPH min</th>
<th>Varieties</th>
<th>End use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biscuit</td>
<td>Max 10</td>
<td>14.5</td>
<td>220</td>
<td>76</td>
<td>Einstein</td>
<td>Biscuit &amp; pastry flours</td>
</tr>
<tr>
<td>Standard grade</td>
<td>Min 9.5</td>
<td>14.5</td>
<td>220</td>
<td>76</td>
<td>Cordiale, Granary, Trappe, Sparrow</td>
<td>Retail &amp; soda bread flours</td>
</tr>
<tr>
<td>High grade</td>
<td>Min 11</td>
<td>14.5</td>
<td>250</td>
<td>78</td>
<td>Granary, Trappe, Sparrow</td>
<td>Bakers flour</td>
</tr>
<tr>
<td>Speciality</td>
<td>Specific to application</td>
<td>Specific to application</td>
<td>Specific to application</td>
<td></td>
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</tr>
</tbody>
</table>

Fertiliser N Type to Boost Grain Protein & Time of Application

**CAN (27%N)**
- Apply at GS 37/39
- Boost grain protein & Grain yield
- Protein content increase 0.5 – 0.6%

**Urea (late season foliar N)**
- Apply at GS 70 -75 (watery milk stage)
- Winter wheat 28 – 42 days / Spring wheat 25 – 28 days after flag leaf emergence
- Protein content increase 0.5 – 1.0%

Sulphur(S) – Yield & Quality

- S key component for grain yield & quality
- S key component to flour quality, dough strength & loaf volume

Magnesium (Mg)

- Major function in transport for N & carbohydrate from the leaf to the grain.
- Mg will extend grain fill period

Disease control – Fusarium development is strongly influenced by weather conditions around flowering. The severity of Fusarium species, smut & sooty moulds is depends on weather conditions at / around harvest time. Select fungicides strong on ear diseases (triazole mixtures) and apply treatments at GS 59/65.

Mark Plunkett, updated, 3rd June, 2015