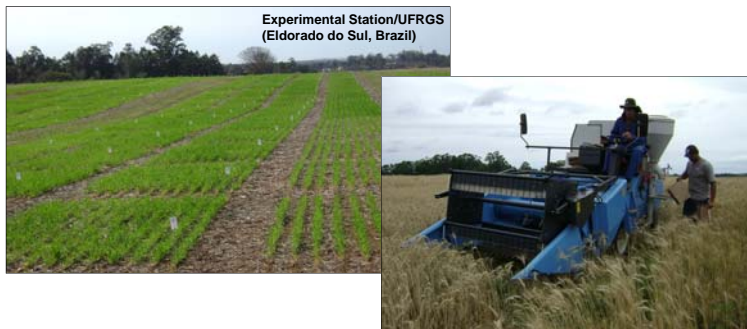


WHEAT GRAIN QUALITY AFFECTED BY NITROGEN MANAGEMENT

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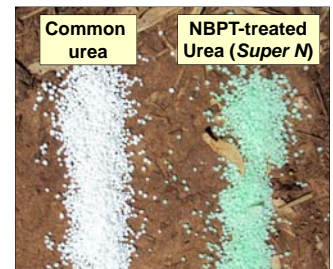
Introduction

Wheat grain quality is the result of multiple interactions in the field, as soil conditions, climate, diseases pressure, crop management and genotype. In this sense, nitrogen management can be considered one of the main factors affecting quality of wheat grains. This work had the objective to evaluate the response of grain yield and grain quality to late nitrogen application at flowering in two spring wheat cultivars.



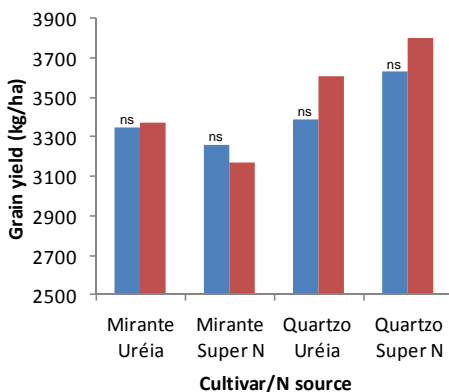
Material & Methods

- Experiment carried out in 2010
- Field conditions (Eldorado do Sul, RS, Brazil)
- Previous crops: Soybean
- Spring wheat cultivars: Mirante and Quartzo
- Sowing date: 01/07/2010
- Nitrogen management:
 - 20 kg/ha at plant emergence
 - 80 kg/ha at 6-leaf-stage
- Treatments:
 - Application of N at flowering: 40 kg N ha⁻¹
 - Two N sources: Common urea
NBPT-treated urea (*Super N*)
- Parameters evaluated:
 - Grain yield
 - 1000-grain weight
 - Grain protein content
 - Hectolitre weight

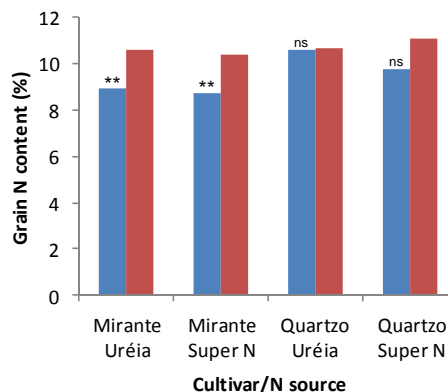


Results & Discussion

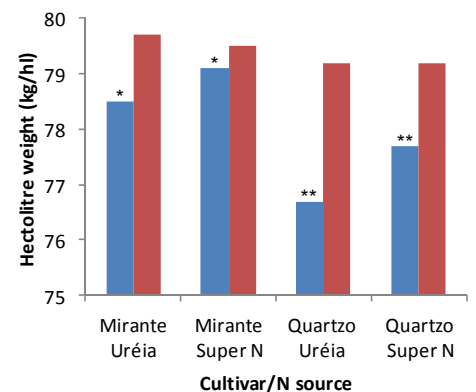
Grain yield



Protein content



Hectolitre weight



■ No N at flowering ■ 40 kg N/ha at flowering

Figure 1. Grain yield, grain protein content and hectolitre weight as affected by N topdressing at flowering in two spring wheat cultivars. Eldorado do Sul, Brazil, 2010.

• Nitrogen topdressing at flowering slightly (but not significantly) increased wheat grain yield, due to an increase in grain weight. Hectolitre weight increased with nitrogen topdressing at flowering, resulting in grains with better market quality. Grain protein increase with application of N at flowering depended on the genotype evaluated.

Final considerations

• The application of nitrogen fertilizer in late developmental stages as flowering can be an alternative to increase wheat hectoliter weight and grain protein content. The response of other grain quality parameters will be evaluated, as well as the response of different wheat genotypes.