
Talk

Physical-chemical and microbiological analyses of several pre-harvest samples of wheat (*Triticum aestivum*) from wheat milling industry



David Alfonso (1*,2), M. Teresa Navarro-Gochicoa (1), Agustin González-Fontes (1)

(1) Departamento de Fisiología, Anatomía y Biología Celular, Área de Fisiología Vegetal, Universidad Pablo de Olavide. Ctra. de Utrera km 1, 41013 Sevilla – España. *e-mail:dalfonso93@gmail.com

(2) Haribericas XXI S.L. Ctra. del Copero s/n, Puerto de Sevilla 41012, Sevilla

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ABSTRACT

Background: Wheat (*Triticum aestivum*) is a key raw material for production of staple food in the world. For this reason, any type of variations in quality and yield in wheat milling production is very important.

Most of variations are often caused by different weather conditions before harvesting. Due to these variations, farmers and the wheat milling flour industry need physical-chemical and microbiological analyses that guarantee the quality of the raw material. Every wheat milling industry has internal laboratories who carry out routinary quality and yield controls to ensure the wheat quality for customers.

The goal of this project is to study how variations in weather conditions affect several properties in the same type of wheat milling flour.

Methods: In this project, we use standard internal methods of a wheat milling industry laboratory for guaranteeing the same analytical conditions. We analyze different pre-harvest wheat from three different weather zones of the campaign 2017-2018. We perform the following analyses: Water absorption, falling number, rheological properties by alveograph, damaged starch, protein content, humidity, and specific weight. These different analyses can explain the theoretical behaviour of the wheat milling flour of pre-harvest samples from the bakery industry.

Results and Conclusions: Laboratory analyses allow to check the quality and yield of the pre-harvest wheat samples irrespectively of the weather conditions exposed during the campaign 2017-2018. Therefore, these analyses help to achieve a more homogeneous product and reduce negative results for customers.

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