

Title Physical and chemical characterization of 16 varieties of triticale (X Triticosecale Wittmack)  
Author P. Alarcon-Chavira, B.J. Rodriguez-Terrazas, G.V. Nevarez-Moorillon, M.G. Gastelum-Franco, R. Olivas-Vargas, and M. Bejar  
Citation Book of Abstracts, 2004 IFT (Institute of Food Technologists) Annual Meeting and Food Expo, 13-16 July 2004, Las Vegas, Nevada, USA. 321 pages.  
Keyword triticale; physical property

### Abstract

Triticale is a synthetic cereal resulting from the genetic cross of wheat and rye, is described as a grain with a nutritive value adequate for food and feed. It has the ability to adapt to low temperatures and drought during its growth, as well as resistant to plant diseases. Local weather conditions include drought and extreme temperatures ranging from 10 to 105 °F and cause a difficult adaptation of plants; however, triticale varieties seem resistant to these conditions. It was necessary to evaluate the potential use of triticale as a food ingredient. Sixteen triticale newly adapted to local conditions varieties and one wheat breed (*Baviacora*) as a control were analyzed. The objective of the study was to evaluate the potential uses as bread making ingredients of the newly released varieties. Milling yield, proximate analysis, gluten index, falling number, maltose index, water holding capacity and mixing conditions (Farinograph) and dough strength (Alveograph) were performed. Milling yield for wheat was 60.3%, and for triticale ranged from 39.8 to 51.3%; proximate analysis for triticale varieties ranged from 10.5 to 13.8% for moisture, 7.8 to 13.2% for proteins and 0.44 to 1.78% for ash, while for wheat were 12.6%, 9.45% and 0.46% respectively. Gluten index was very different between varieties ranging from 1 to 70, however, most varieties were <39 values, only one variety (named E-11) gave a 70 value compared to wheat that gave a 94 and ideal values rated 100. Falling number, maltose index, farinograms and alveograms indicate gluten availability, amylase activity, water absorption and dough strength adequate only for one variety (E-11) and for wheat. This study shows that only one triticale variety (E-11) is potentially useful as food ingredient on bread making, while others are not.