

4th International Conference and Exhibition on

Food Processing & Technology

August 10-12, 2015 London, UK

Solar and adsorption drying on the physicochemical and functional properties of the flour of three cultivars of *D. rotundata* yam from Ghana

E A Amankwah^{1,2}, K A Dzisi², A A Sarpong², J Barimah², G Van Straten¹ and A J B Van Boxtel¹

¹Wageningen University, Netherlands

²Kwame Nkrumah University of Science and Technology, Ghana

This study sought to investigate the effect of different drying methods: Solar-adsorption drying (SAD); Solar drying and Open sun Drying (OSD) and micro structural makeup of three cultivars of *D. rotundata* yam (Pona, Dente and Lili), on the drying trajectory, physicochemical and functional properties of their flours. The present study has shown that yam cultivars from the same variety have different structural conformation and leads to different drying rates according to the granule size while the drying methods had effect on some functional properties. The granule size related negatively with the water binding capacity and solubility and positively with swelling power. SAD showed the least effect on the granule size and impacted positively on the color yielding higher L-values. There were significant ($P < 0.05$) differences in pH for both drying methods and yam cultivars.

emmanuel.amankwah@wur.nl

Effects of foliar fertilization on corn grain quality

Poposka H, Stojanova M, Mukaetov D, Andreevski M and Sekuloska S T

Ss. Cyril and Methodius University in Skopje, Republic of Macedonia

The presented data were collected at the experimental fields of the Institute of Agriculture in Skopje, Republic of Macedonia during 2008 and 2009. The experiment with corn plant was conducted to study the effect of fertilizer Mega green on some elements in corn grain (hybrid ZP 677, FAO 600). Mega green is ecological foliar fertilizer made of calcite, micronized by a new tribomechanical technology. Main components are: CaCO₃: 82.3%; SiO₂: 5.56%; MgO: 3.02%; CaO: 41.7%; Fe: 8783 mg/kg; Mn: 156 mg/kg; Se: 0.24 mg/kg. Foliar treatments consisted of three levels of Mega green with in a concentration of 0.3, 0.6 and 0.9 percent and control variant (without fertilizing). The experiment was carried out on two different experimental sites on alluvial soils. Soil samples (0-20 and 20-40 cm depths) were collected to determinate the chemical properties of the experimental field. During the harvest, the samples of corn grain were taken for chemical analysis from each variant. The soil and plant analysis were made carried out according officially adopted international methods. The statistical analyses showed significant positive effect of foliar applications of Mega green in concentration of 0.9 % on the content of K, Mn and Zn in corn grain. The concentration of these elements in grain samples for the 2008 and 2009 growing seasons was as follows: K- 0.27 and 0.29%; Mn-5 and 6 mg/kg and Zn-22 and 26.33 mg/kg. The findings showed that effects of Mega green on the P (0.18-0.20 %), Ca (0.13-0.15%), Mg (0.07-0.08%) and Fe (23.5-25.66 mg/kg) concentration in the grain were insignificant. Results showed the high relationship between some macro and microelements in corn grain. A significant positive correlation was found between concentration of Ca (like main fertilizer component) and Fe and Cu. Mega green applications in the both years of our research showed significant negative correlations between Ca and N concentration.

hristinapoposka@hotmail.com

Notes: