yeasts and molds. Going through all the stages of checking the raw materials and the measures that contributes to the profitability of chicken farms offers the possibility to breeders to avoid undernutrition or overfeeding of chickens on the farms.

Keywords: quality of raw materials, broilers, combined feeds.

F.54. THE USE OF ASCORBIC ACID IN BREADMAKING

VARTOLOMEI NICOLETA, TURTOI MARIA

Dunarea de Jos University of Galati, Cross-Border Faculty, Galați, Romania

Abstract. Ascorbic acid (AA) is widely used in the food industry as an antioxidant, preservative, nitrosamine inhibitor, fortifying compound etc., due to its reducing and antioxidant properties. This paper aims to present the role of AA in breadmaking and the ways of replacing synthetic AA with natural vegetal sources. AA is used as an improver or oxidizing agent in short-term or even no-time dough development processes. It is added either to the flour or directly into the dough. The role of AA is to mediate the oxidation reactions that stabilize the dough to preserve its elastic and viscous properties. Thus, the dough can retain more fermentation gases which cause an increase in the volume of the bread, an improvement in the structure of the crumb (finer crumb, with smaller and many pores, uniformly distributed) and reducing the crust thickness. The addition of AA accelerates the consumption of glutathione, a tripeptide that otherwise forms disulfide bonds with low molecular weight gluten proteins, causing the gluten network to weaken. The process is represented as the ascorbate-glutathione or Halliwell-Asada cycle. As most of the AA is obtained by chemical synthesis from glucose or other carbohydrates, current trends are to replace it with plant materials rich in vitamin C such as rosehips, cranberries, acerola and Kakadu plums.

Keywords: ascorbic acid, bread, bread making, dough, rosehip, vitamin C, white flour.

F.55. PREPARATION AND CHARACTERIZATION OF ACTIVATED CARBON FROM *PANDANUS CANDELABRUM* STEM USING H_3PO_4

DIM PAUL EGWUONWU[1], TERMTANUN MUTSEE[2]

[1]*Federal University of Technology, Chemical Engineering Department, Minna, Nigeria*

[2]*Silpakorn University, Chemical Engineering Department, Nakhon Pathorn, Thailand, 73000*

Abstract. *Pandanus candelabrum* stem agricultural biomass was used to produce low-cost activated carbon using phosphoric acid as the activating agent. The aim of this study is to find out the changes occurring in *Pandanus candelabrum* stem during activation with phosphoric acid (H_3PO_4). The adsorbent was characterized using Scanning Electron Microscopy (SEM) coupled with Energy Dispersive X-ray (EDX) and Fourier Transform Infrared Spectroscopy (FTIR). The BET method was used for textural analyses; surface area increased from 49.225 to 258.99 m^2/g, and pore volume increase from 1.046 to 3.383 cm^3/g after treatment. The physicochemical analysis showed 82.51% of carbon and 4.06% of ash, which suggests a good precursor for the production of porous adsorbent.

Keywords: *Pandanus candelabrum* stem, phosphoric acid, activated carbon, chemical activation, morphology characterization.