



## DRYING OF ONION PASTE TO DEVELOP POWDERS BY FOAM-MAT DRYING PROCESS USING SOY PROTEIN AS FOAMING AGENT

Muhammad Farooq<sup>1</sup>, M. Javed Iqbal<sup>2</sup>, Rizwan Shukat<sup>2</sup>, Moale Cristina<sup>3</sup> Naila Ilyas<sup>4</sup>, Iftikhar Ahmed Solangi<sup>1</sup>, Wang Yunyang<sup>1</sup>✉

<sup>1</sup>College of Food Science and Engineering, Northwest A&F University, Yangling, Shaanxi, 712100, PR China

<sup>2</sup>Department of Food Technology National Institute of Food Science and Technology University, of Agriculture Faisalabad, Pakistan

<sup>3</sup>Research Station for Fruit growing Constanta (RSFG) 907300 Valu Lui Traian Pepinierei Street, No 25, Romania

<sup>4</sup>Graduate School of Chinese Academy of Agricultural Sciences, Beijing 100081, China  
✉wyy10421@163.com

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### ABSTRACT

Onion (*Allium cepa*) is locally called piaz. It is a biennial, herbaceous, winter seasoned and cross-pollinated bulb crop belonging to Family *Alliaceae*. High moisture content of onion render it to be affected by microbial and enzymatic spoilage. Drying is a very effective way to preserve onion for a long time. Onion powder was prepared by foam mat drying technique in which onion paste was treated with different concentration of soy protein (0%, 4%, 8% and 12%) as foaming agent and Carboxyl methylcellulose (0.5%) as foam stabilizer and these were dried in hot air tray drier at different temperatures (55°C, 65°C and 75°C) with 3mm sheet thickness of onion foams. Effect of different concentration of foaming agent and drying temperature was studied on moisture loss drying rate of onion paste. Increase in concentration of foaming agent significantly increased the drying rate from 0.422± 0.169 (Control) to 0.744± 0.169 (soy protein). Foamed onion paste were dried faster than un-foamed which decreased the drying time of 5 hours for foamed onion paste at 65°C and 75°C. Foamed onion pastes were dried in 300, 240 and 300 min at 55°C, 65°C and 75°C temperature respectively, with 12 % concentration of soy protein as foaming agent while un-foamed pastes were dried in 600, 420 and 480 mints at 55°C, 65°C and 75°C temperature respectively. Soy protein 12% and 65°C drying temperature was found best for drying of onion paste to develop powder.

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