

Accepted Manuscript

Comparison of quality protein maize (QPM) and normal maize with respect to properties of instant porridge

Navjot Kaur, Baljit Singh, Savita Sharma



PII: S0023-6438(18)30802-8

DOI: [10.1016/j.lwt.2018.09.070](https://doi.org/10.1016/j.lwt.2018.09.070)

Reference: YFSTL 7450

To appear in: *LWT - Food Science and Technology*

Received Date: 20 November 2017

Revised Date: 30 August 2018

Accepted Date: 27 September 2018

Please cite this article as: Kaur, N., Singh, B., Sharma, S., Comparison of quality protein maize (QPM) and normal maize with respect to properties of instant porridge, *LWT - Food Science and Technology* (2018), doi: <https://doi.org/10.1016/j.lwt.2018.09.070>.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**COMPARISON OF QUALITY PROTEIN MAIZE (QPM) AND NORMAL MAIZE
WITH RESPECT TO PROPERTIES OF INSTANT PORRIDGE**

Navjot Kaur, Baljit Singh and Savita Sharma

Department of Food Science and Technology, Punjab Agricultural University, Ludhiana, Punjab

Corresponding author- Navjot Kaur, Ph.D Scholar, Punjab Agricultural University, Ludhiana,

Punjab. Email:- navjot1667@gmail.com, Contact no. +917508201106

ABSTRACT

The investigation was carried out to optimize the extrusion conditions for the development of normal maize and Quality Protein Maize (QPM) based instant porridge. The effect of 3 independent variables (moisture content (14-18 %), barrel temperature (125-175 °C) and screw speed (400-550 rpm) on the dependent variables (carbohydrate solubility (CS), protein solubility (PS), hydration power (HP) and milk absorption capacity (MAC) was evaluated by using central composite design in response surface methodology (RSM). Feed moisture and barrel temperature exhibited significant affect ($p \leq 0.01$; $p \leq 0.05$) on PS, HP and MAC, while screw speed showed non-significant ($p \leq 0.01$; $p \leq 0.05$) affects on HP and CS. Increase in the moisture content and barrel temperature increases the CS and PS of normal as well as quality protein maize porridge. However, increase in screw speed results in decrease in protein solubility. **Optimum extrusion conditions for QPM were 14.19-15.36% feed moisture (on dry basis), 411.61-466.50 rpm screw speed and 150°C barrel temperature. Optimum extrusion conditions for NM were 14.02-14.17% feed moisture (on dry basis), 171.27-173.47 °C barrel temperature and 404.05 rpm screw speed.** Based on the results it was concluded that quality protein maize can be extruded into acceptable as well as nutritious breakfast food.

Download English Version:

<https://daneshyari.com/en/article/11024873>

Download Persian Version:

<https://daneshyari.com/article/11024873>

[Daneshyari.com](https://daneshyari.com)