

# **Effect of Extrusion Conditions on Hunter Colour ( $L^*a^*b^*$ ) Parameters of Kodo (*Paspalum scrobiculatum* L.) Based Snacks Using Response Surface Methodology**

**Mohammad Azam and Sheela Pandey**

College of Agricultural Engineering, JNKVV, Jabalpur, M. P.

## **ABSTRACT**

Response surface methodology was used to investigate the effects of extrusion conditions including the moisture content of feed (8-16%), die head temperature (160-240 °C), barrel temperature (120-200 °C), screw speed (80-160 rpm) and change in feed composition on the Hunter colour ( $L^*a^*b^*$ ) characteristics of the ready-to-eat snack food developed from Kodo millet flour (70%) in combination with defatted soy flour (5-25%) and water chestnut flour (5-25%). Models developed for the colour parameters gave  $R^2$  values 0.79 for  $L^*$ , 0.86 for  $a^*$  and 0.80 for  $b^*$ . The results indicated that the  $L^*$  values of extrudates varied between 49.25 and 57.24 with a mean of 52.64,  $a^*$  values ranged from 5.09 to 6.7 with a mean of 5.84 and  $b^*$  values varied from 17.81 to 22.72 with a mean of 20.58.

**Keywords:** *Extrusion cooking, Hunter colour ( $L^*a^*b^*$ ), Kodo millet and Response surface methodology*