

Effects of extrusion variables on corn-mango peel extrudates properties, torque and moisture loss

ABSTRACT

Effects of extruder parameters (barrel temperature: 75–175°C; screw speed: 76–100 rpm) and feed formulations (feed moisture: 15–21%; mango peel powder: 0–33.33%) on the extrudate properties, moisture loss, and the mixing torque during extrusion was studied. Feed formulations containing high moisture and mango peel powder produced less expand and hard extrudates. The torque decreased as the barrel temperature, screw speed and mango peel powder content increased. Low temperature extrusion increased the moisture loss of extrudates. Increasing the mango peel powder reduced the extrudate expansion, but the post-drying subjected to the extrudate produced improved texture.

Keyword: Corn; Extrusion; Mango peel; Specific heat capacity; Moisture loss; Torque