Abstract

This research aims to investigate parameters which influence on production rate of a single screw compress machine on sesame seed. The experimental state is carried-out on 3 parameters; inconstant depth of compressed thread, rotational speed of compressed thread, and gap of die (outlet), for study a relationship to each other these directly affect on production rate.

Depth of thread, rotational speed, and gap of die had set-up for 5, 5, and 3 Level, respectively as 8, 8.5, 9, 9.5, and 10 mm. for Depth of thread – 10, 15, 20, 25 and 30 rpm for rotational speed – 7.5, 10, and 12.5 mm. for gap of die. Each group of variant had carried – out on 1 kg. of sesame seed for identify product rate and performance.

The results from an experimental state reveal these 8.5 mm. of depth of thread, 30 rpm of rotational speed, and 12.5 mm. of gap of die has a maximum production rate at 2.61 kg./hr. with production performance at 42.55%. On the other hand, 10 mm. of depth of thread, 15 rpm of rotational speed, and 10 mm. of gap of die has a maximum production performance at 61.7% with production rate at 0.75 kg./hr.

Keywords : Single screw compressed machine with an inconstant depth of thread