Abstract

This paper highlights the objectives and achievements of a project undertaken to improve appropriate common technology and systems for destining lines for datefruits. Considering the problems facing destoning, a machine was developed to destone individual dates. The main parts are singulation unit and pitter unit. The automatic date pitter unit comprises of two parts; a cup for holding individual dates and a special probe to push the pit, downward leaving the flesh intact. A magnetic switch operated by a timer-circuit pushes the probe into the cup in line with the centerline of the fruit placed n the cup. The preliminary tests indicated minor modifications were needed for a satisfactory destoning operation. Three fruit moisture levels and two impulse levels were considered for evaluation of the unit. The analysis of variance of data on percent weight of flesh loss and percent deformation indicated that moisture content affected these indices, whereas impulse and interaction of impulse & moisture content did not affect this factor in a significant manner. The study showed no significant difference between means of percent weight of flesh loss for the impulse levels experienced. The comparison also revealed that as the fruit moisture content increases, the percent flesh loss increases in a significant manner. Percent deformation was affected by levels of moisture content, but no significant difference was noticed due to varying impulse levels, Other results indicated that the highest percent deformation occurred at the highest moisture level studied. The study also suggests that for minimum percent weight of flesh loss and minimum percent deformation, moisture content should be maintained around 25%.