

Production: DRIED PITTED DATES

Objective: Assessment of the toughness and work of shear of dried pitted dates and fruit bars

Type of action: Cutting test

Test mode settings:

Speed	Test mode	Trigger	Target	Hold
5 mm/s	Distance (c)	0 gf	19 mm	0 sec

Accessory:

Extended Craft Knife, Platform

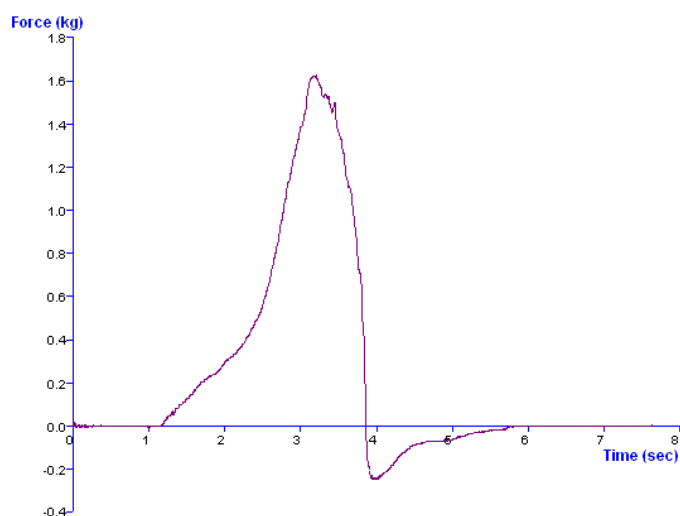
Test Set-Up:

The Extended Craft Knife Blade is fitted to the load cell. As the Texture Analyzer is being used in target distance mode, a probe height calibration must be conducted as described in Rig Calibration below. Place the date on the base of the instrument and position centrally below the probe. As dates are a natural product it is necessary to test a large number of dates, in this study 10 dates were tested and 5 fruit bar pieces were tested.

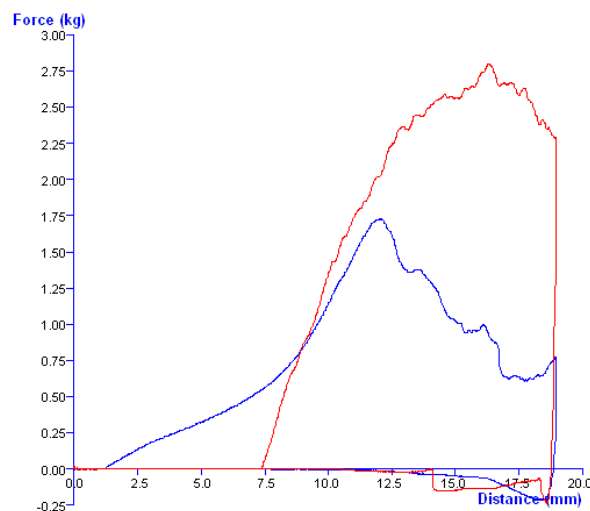
Rig Calibration:

Go to Calibrate Height and set return distance to 20 mm, the return speed to 20 mm/s and the contact force to 100 g.

Typical plots:



Graph 1. Typical Texture Analyzer Plot for a date



Graph 2. Typical Texture Plots of cutting a date and a piece of fruit bar

Observations:

The test begins with the probe moving towards the sample surface at the test speed of 5 mm/sec. As a button trigger is being used data is recorded from as soon as the probe starts to move at from the start of the test. When it comes into contact with the specimen surface, the force exerted on the probe by the sample starts to increase. The probe moves to the target distance of 19 mm (1 mm above the base of the PTFE plate) and then returns to the start position at the post-test speed of 5 mm/sec. A typical Texture Analyzer plot of a compression test on a date is shown in Graph 1 below.

Data Analysis:

☒Max Force

Results

Sample	'Toughness' (+/- SD) (kg)	Work of Shear (+/- SD) (kg)
Dates	1.97 +/- 0.56	14.41 +/- 4.92
Fruit Bar	2.62 +/- 0.30	22.35 +/- 2.28

Notes:

- The method used in this report could be extended to other dried fruit or dried fruit products. A probe of different size (and consequently a higher capacity load cell) may be required for other products.