Production: PANCAKES

Objective: Comparison of biaxial extensibility of two types of pancakes

Type of action: Penetration test

Test setting:

Speed	Test mode	Trigger	Target	Hold
1 mm/s	Distance (c)	5 gf	40 mm	0 sec

Accessory:

Dough puncture rig, Platform

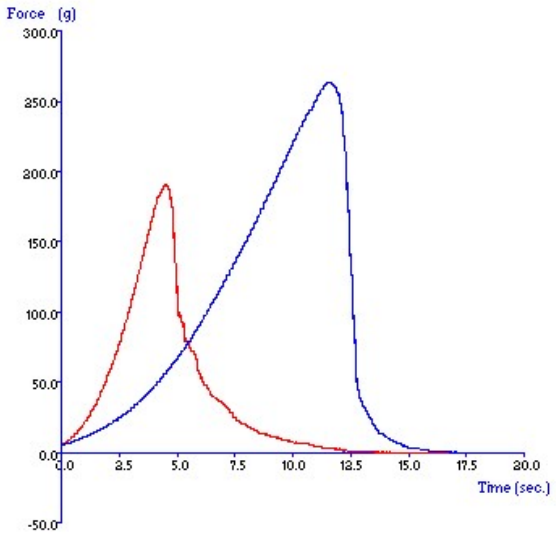
Sample Preparation:

Remove each pancake from its packet just prior to testing.

Test Set-Up:

Position the Heavy Duty Platform so that the ball probe is centralised. Unscrew and remove the top plate of the tortilla/pastry burst rig. Place a pancake on top of the middle plate ensuring that it completely covers the hole. Replace the top plate and clamp the sample in place by tightening the screws through the sample. When doing this one must try to minimise the slack in the sample over the hole without stretching/tearing the sample. Run the test immediately before the sample starts to dry out.

Typical plots:



Observations:
Once the trigger force is attained the graph proceeds to plot the effect on the pancake under tension. When the elastic limit is exceeded the pancake tears (observed as the peak tension force). The greater the distance at break point the more extensible the sample. It is quite clear that that the English pancakes are considerably more extensible and require greater force to stretch (therefore tougher) than the French pancakes.

Data Analysis:

☒Max Force

☒Peak Distance

Results

Sample	Mean Maximum Force 'Toughness' (+/- S.D.) (g)	Mean Distance at Break 'Extensibility' (+/- S.D.) (mm)
English	264.8 +/- 12.9	22.8 +/- 0.8
French	183.2 +/- 31.9	8.9 +/- 0.6

Notes:

- Before commencing each test, consideration should be made to ensure that there are no apparent weaknesses along the exposed sample area. Such weakened areas would result in lower break forces and distance of break values.
- To make it easier to clamp the sample, double-sided tape may be placed on the underside of the middle plate to secure it to the Heavy Duty Platform thereby aligning the screw holes.
- Storage, packaging and handling of the sample before testing are considered variable conditions. It is important to identify these conditions when reporting results and they should be kept constant for comparison purposes.
- When attempting to optimise test settings it is suggested that the first tests are performed on the hardest samples to anticipate the maximum testing range required and ensure that the force capacity allows testing of all future samples.