

Texture Evaluation of Perogie Filling

APPLICATION

One sample of perogie filling was sent for preliminary evaluation. This sample is representative of the whole line of products; therefore these methods can be applied to the full range of products produced.

PROBLEM

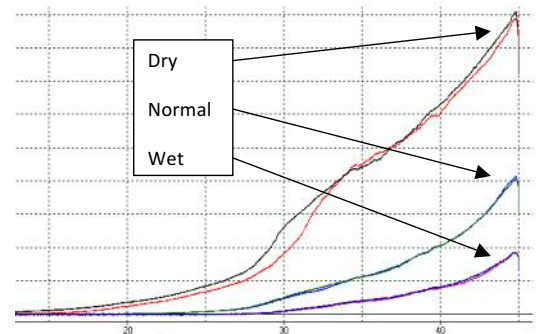
The final texture of this product is basically controlled by adding water to the product. Due to changes in the incoming product and different workers subjectively controlling the amount of water, the final product is not as consistent as the processor would like. A product with too much water, or “wet,” would not hold its shape through the remainder of the process. On the other end, product without enough water, or “dry,” crumbles and does not hold a consistent shape. A way to objectively measure the water content and therefore control the overall texture of the product is needed.

SOLUTION

Before testing, sample was allowed to thaw and equilibrate to room temperature (about 72 F°). A given amount (100 grams) of product was weighed and placed in a sample cup for each test replication. Because only one sample was sent, the product was manipulated to produce 3 different sample sets. It was strained in a colander to produce a “dry” product and water was added to make a “wet” product. The samples were then “Back Extruded” using a piston / plunger smaller than the container holding the sample. All testing was done using the TMS-Pro at a speed of 100 mm/min. As the plunger moved down, the filling flowed up and around the compression piston. The samples were compressed to a distance 10 mm from the bottom of the container. The force required to deform the product gives a good indication of the way a semi-solid food will move and behave under process conditions.

BENEFITS

- By measuring and therefore controlling texture, a processor can produce a more consistent “on target” product.
- Allows users to objectively “see” the difference between butter and margarine products and various formulations.



Rep	Dry		Normal		Wet	
	Peak	Work	Peak	Work	Peak	Work
1	46.7	470	23.6	159	11.6	64
2	44.4	442	20.7	140	9.2	53
3	45.3	470	20.3	140	9.3	54
Average	45.5	461	21.5	146	10.0	57
St. Dev.	1.1	16	1.8	11	1.3	6