

Texture Evaluation of Raw Cranberries

APPLICATION

A processor of cranberries wanted a way to determine how to process individual lots based on the texture of the fresh product. Firmer cranberries are typically better suited for one type of products while the softer ones work better for another.

PROBLEM

The method used by the customer in the past involved simply making an educated guess based on past data. This was inconsistent at best. It was not known how the product would act in the processing until it was introduced. Cranberries that work well for juicing can yield an undesirable product if dehydrated also, if cranberries that would make a desirable dried product are juiced, the processor will lose margin since the dried product is more profitable.

SOLUTION

Several samples were sent prior to processing. The tests were performed using TM-2 Shear Press with CS-1 Shear Cell. Each sample was prepared by rinsing the cranberries and then allowing them to drain for 2 minutes. The shear cell was then filled with the product based on volume. The test speed was 7 in/min (178 mm/min). The peak force and the work applied during each test, was recorded. The customer then processed based on the preliminary results to confirm the validity of the measurements.

BENEFITS

- Better understanding of how the product will act in processing
- Eliminates the downtime and rework associated with processing an off- spec ingredient
- Overall improved quality of the product



High and Low result removed from data

Batch	A	B	C	D	E
Sample 1	424	472	396	432	*
Sample 2	435	*	419	*	466
Sample 3	*	479	*	*	*
Sample 4	*	462	434	481	435
Sample 5	413	496	390	447	465
Sample 6	421	*	416	419	441
Sample 7	397	480	*	430	451
AVG	418.0	477.8	411.0	441.8	451.6
STDEV	14.1	12.5	17.9	24.1	13.9