Organic Application Note

Moisture and Ash in Snack Foods

Accessories
529-047 Ceramic Crucible, 778-891 Quartz (optional)

Sample Weight
~1 to 3 g

Analysis Time
~5 hours

Calibration Standard
No calibration necessary; check balance.

General Settings

Crucible Density:	3.00 (Crucible density should be set at 2.2 if quartz crucible is used)
Cover Density:	3.00
Sample Density:	1.00

Steps Information

	Moisture	*Ash*
Covers:	Off	Off
Ramp Rate:	6	20
Ramp Time (h:m):	00:13	00:24
Starting Temp (°C):	25	107
Ending Temp (°C):	107	600
Atmosphere:	Air	Air
Flow Rate:	Medium	Medium
Hold Time (h:m):	00:00	00:00

Constants

	Moisture	*Ash*
Constant Weight:	0.05%	0.05%
Weight/Time (h:m):	00:09	00:09

Equations

Initial Weight:	W[Initial]
Moisture:	((W[Initial]-W[Moisture])/W[Initial])*100
Ash:	(W[Ash]/W[Initial])*100
Ash Dry Basis:	E[Ash]*(100/(100-E[Moisture])

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Procedure

1. Check furnace balance with 1 g weight in "sequence test."
2. Select method as described above.
3. Enter ID codes if a PC is used; if not, they will be entered later with the DSP.
4. Press Analyze.
5. Load empty crucibles into the furnace carousel making sure a crucible is in the reference position.
6. Press Start to locate and tare crucibles.
7. The furnace cover opens and each crucible is presented to the operator for sample loading.
8. Load1 to 3 g sample into the crucible.
9. Press Next to continue.
10. When all crucibles are loaded, analysis begins.

Typical Results

Sample	Moisture	Ash	Ash Dry Basis
Sample #1	1.584	2.546	2.587
	1.575	2.514	2.554
	1.559	2.512	2.551
	1.547	2.526	2.566
Average	**1.566**	**2.524**	**2.565**
Std. Dev.	**0.017**	**0.016**	**0.016**
n = 4			
Sample #2	5.749	1.408	1.493
	5.755	1.389	1.473
	5.752	1.407	1.493
	5.789	1.380	1.465
Average	**5.761**	**1.396**	**1.481**
Std. Dev.	**0.019**	**0.014**	**0.014**
n = 4			
Sample #3	1.583	4.105	4.171
	1.575	4.098	4.164
	1.588	4.096	4.162
	1.594	4.045	4.110
Average	**1.585**	**4.086**	**4.152**
Std. Dev.	**0.008**	**0.028**	**0.028**
n = 4			

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