

# Organic Application Note

## Moisture and Ash in Fish Meal

### Sample Preparation

Fish meal samples may be analyzed as received. Moisture and ash may be determined simultaneously on the sample using the TGA-601.

**Analysis Time** ~4.5 hours for moisture and ash

### Steps Information

	Step 1	Step 2	Step 3
Covers:	Off	Off	Off
Ramp Rate:	18	36	1
Ramp Time (h:m):	0:06	0:12	0:00
Starting Temp (°C):	25	135	600
Ending Temp (°C):	135	600	600
Atmosphere:	Air	Air	Air
Flow Rate:	High	High	Low
Hold Time (h:m):	2:00	1:35	0:25
Constant Weight:	100%	100%	100%
Weight/Time (h:m):	00:09	00:09	00:09
Final Step Weight	At end of step	At end of step	At end of step

### Equations

Initial Weight:	$W[\text{Initial}]$
Percent Moisture:	$((W[\text{Initial}]-W[\text{Step 1}])/W[\text{Initial}])*100$
Percent Ash:	$(W[\text{Step 3}]/W[\text{Initial}])*100$

### 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. Load 1.5 to 2.0 g sample into the crucible.
9. Press "Next" to continue.
10. When all crucibles are loaded, analysis begins.

### Typical Results

Sample	Weight	Moisture	Ash
Sample #1	1.744	8.2	17.6
	1.730	8.2	17.8
	1.593	8.2	17.8
	1.977	8.2	18.1
	1.702	8.2	18.4
	1.803	8.2	18.4
	<b>Average</b>	<b>8.18</b>	<b>18.0</b>
	<b>Std. Dev.</b>	<b>0.02</b>	<b>0.4</b>



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# TGA-601