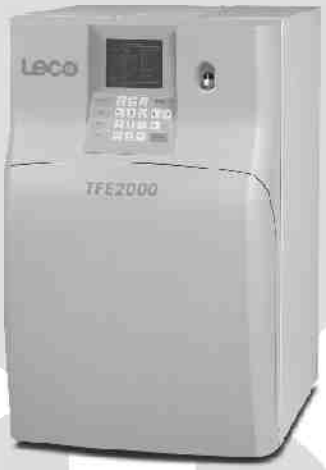
# Organic Application Note

## Fat in Pie Dough




### *Standard Methods Used for Comparison*

Ether Extraction

### *Accessories*

501-081 Glass Wool; 502-327 LECO-Dry; 502-369 Kimwipe®; Sea Sand

### *Collection Vial Preparation Procedure*

1. Cut 1.3 to 1.5 g of glass wool from the end of the glass wool rope.
2. Pull the compact section of glass wool apart so that the material is loosened considerably.
3. Pack the loosened glass wool into the collection vial with a clean spatula, a little at a time. The goal is to have random, not vertical orientation of wool strands.
4. Tare the empty balance pan.
5. Weigh collection vial and enter initial vial weight into the instrument.
6. Install the collection vial on the instrument collection system.

### *Sample Preparation Procedure*

1. Place 8.7 to 9 g of Sea Sand into a 50 ml beaker.
2. Place beaker with sand on balance and tare the weight.
3. Drop ~1.0 g of sample onto the LECO-Dry.
3. Enter the sample weight into the instrument.
4. Remove the beaker from the balance. Thoroughly mix sample with LECO-Dry, using a clean spatula.
5. Install a lower end-cap assembly on a thimble and place in a thimble stand.
6. Pack 1/4 of a Kimwipe into the bottom of the thimble by folding it once and packing it into the bottom of the thimble with a clean spatula.
7. Transfer the prepared sample into the thimble using the funnel.
8. Install the upper end-cap assembly on the thimble.

### *Extraction Parameters/Procedure*

1. Set up (or recall and activate) the following instrument parameters:

| | |
|---|---|
| Extraction Pressure: | 9000 psi |
| Extraction Temperature: | 100°C |
| HVR Temperature: | 90°C |
| Hold Time: | 0 minutes |
| Extraction Time: | 45 minutes |
| Flow Rate: | 1.3 lpm |

2. The pump head should be at 0°C or below from the last set of extractions. However, the refrigeration system times out and stops 20 minutes after extractions end. If the system has timed out, pre-cool the pump head by pressing any key on the key pad. The thimble and HVR temperatures should also be at set values. Temperatures can be displayed using the "Ambient Monitor" menu.
3. Insert the thimbles into the instrument and press the START key. The extraction will automatically take place, and the system will depressurize.

**TFE2000**

## Post-Extraction Manipulations

1. Remove the collection vials from the instrument.
2. Using the thimble removal tool, remove the thimbles and place them in the thimble stand to cool.
3. Tare the empty balance pan.
4. Weigh each collection vial and enter the weight into the instrument.
5. Results will be automatically calculated. Choose the print option to receive a printout of the results.

## Typical Results

| Sample ID | Weight (g) | TFE2000 Fat (%) | Standard Method Ether Extraction (%) | Support |
|---|---|---|---|---|
| #1 | 1.298 | 23.49 | 23.9 | sand |
| | 1.714 | 23.29 | | sand |
| | 1.907 | 23.72 | | sand |
| | ***Average*** | ***23.50*** | | |
| | ***Std. Dev.*** | ***0.21*** | | |
| #2 | 1.355 | 24.04 | 22.81 | sand |
| | 1.377 | 24.30 | | sand |
| | 0.993 | 23.82 | | sand |
| | ***Average*** | ***24.05*** | | |
| | ***Std. Dev.*** | ***0.24*** | | |
| #3 | 1.1922 | 23.83 | 23.91 | sand |
| | 1.0403 | 23.70 | | sand |
| | 1.1836 | 23.57 | | sand |
| | ***Average*** | ***23.70*** | | |
| | ***Std. Dev.*** | ***0.13*** | | |
| #4 | 1.0824 | 22.33 | 18.18 | sand |
| | 1.2499 | 22.65 | | sand |
| | 1.1917 | 22.15 | | sand |
| | ***Average*** | ***22.38*** | | |
| | ***Std. Dev.*** | ***0.25*** | | |
| #5 | 1.0602 | 24.08 | 24.03 | sand |
| | 0.9960 | 24.38 | | sand |
| | 1.2519 | 24.24 | | sand |
| | ***Average*** | ***24.23*** | | |
| | ***Std. Dev.*** | ***0.15*** | | |
| #6 | 0.7892 | 28.00 | 28.35 | sand |
| | 0.8488 | 28.13 | | sand |
| | 0.8331 | 28.12 | | sand |
| | ***Average*** | ***28.09*** | | |
| | ***Std. Dev.*** | ***0.07*** | | |
| #7 | 1.0773 | 28.28 | 28.35 | LECO-Dry |
| | 0.8521 | 28.20 | | LECO-Dry |
| | 0.8361 | 28.06 | | LECO-Dry |
| | ***Average*** | ***28.18*** | | |
| | ***Std. Dev.*** | ***0.11*** | | |

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