



A New Technology, Energized Dispersive Extraction, for the Extraction of  
Free Total Fat

# Total Fat

Triglycerides, Phospholipids, Wax Esters, Sterols



Total Fat

# Total Fat Traditional Methods

## Gravimetric Analysis

Soxhlet

Hydrolysis

Free Fat Only

- Meats
- Nuts



Free Fat



Bound Fat

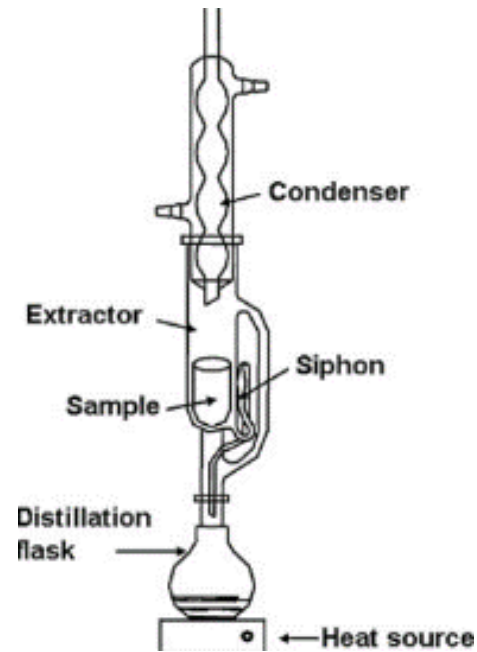
Bound Fat

- Dairy
- Bread
- Seafood



EDGE

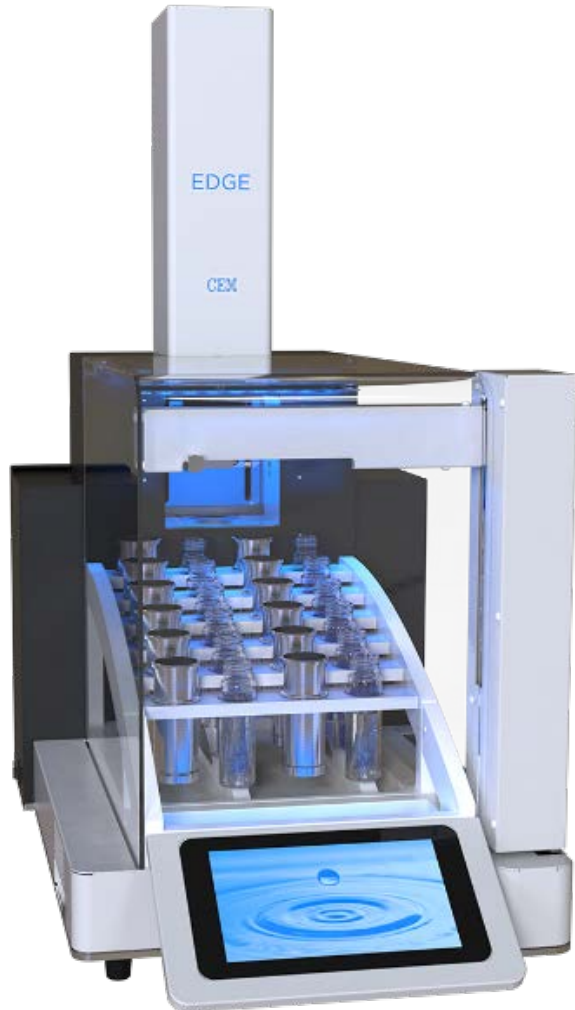
# Soxhlet Method



- Solvent: Petroleum Ether
- Volume: 100 mL
- Time: Minimum 4 hours

Consumable: Thimble = \$6

# EDGE Method



- Solvent: Petroleum Ether
- Volume: 40 mL
- Time: 5 min

Consumable: Q-Disc = \$0.75


# Sample Preparation





Correctly preparing the sample for extraction is key!

- Homogeneous sample
- Mix sample with sand to increase surface area
- Properly dry the sample
- Choose the correct Q-Disc

# EDGE Method

## Edit Method - TOTAL FAT





Settings	
Cycles	Name <input type="text" value="TOTAL FAT"/>
Parameters	Q-Discs™ Type <input type="text" value="C1"/> 
Wash	Multiple Collection <input type="checkbox"/>
	Wash <input checked="" type="checkbox"/>
	<b>Notes</b> <input type="text"/>

   3:03 PM 

# EDGE Method

## Create Method

Settings	Solvent	pet ether >
Cycles	Top Volume (mL)	<input type="text" value="10.0"/>
Parameters	Bottom Volume (mL)	<input type="text" value="10.0"/>
Wash	Rinse Solvent	pet ether >
	Volume (mL)	<input type="text" value="0.0"/>
	Temperature (°C)	<input type="text" value="140"/>
	Hold Time	1:00 >





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# EDGE Method




## Create Method

Settings	Solvent	pet ether >
Cycles	Top Volume (mL)	<input type="text" value="10.0"/>
Parameters	Bottom Volume (mL)	<input type="text" value="10.0"/>
Wash	Rinse Solvent	pet ether >
	Volume (mL)	<input type="text" value="0.0"/>
	Temperature (°C)	<input type="text" value="130"/>
	Hold Time	1:00 >





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# EDGE Method

## Create Method






Settings	Cycle	Solvent	Top Volume	Bottom Volume	Rinse Solvent	Rinse Volume	Temp	Hold
Cycles	1	pet ether	10	10	pet ether	0	140	1:00
Parameters	2	pet ether	10	10	pet ether	0	130	1:00
Wash								





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# EDGE Method: Washes

## Create Method

Settings	Wash	Solvent	Volume (mL)
Cycles		Water >	15.0
Parameters	2	pet ether >	15.0
Wash			

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# Data

## Total Fat Recovery Data for High Fat Content Meats

Sample	% Fat	% Recovery
Potted Meat	17	98
Hot Dogs	35	104
Pepperoni	45	99

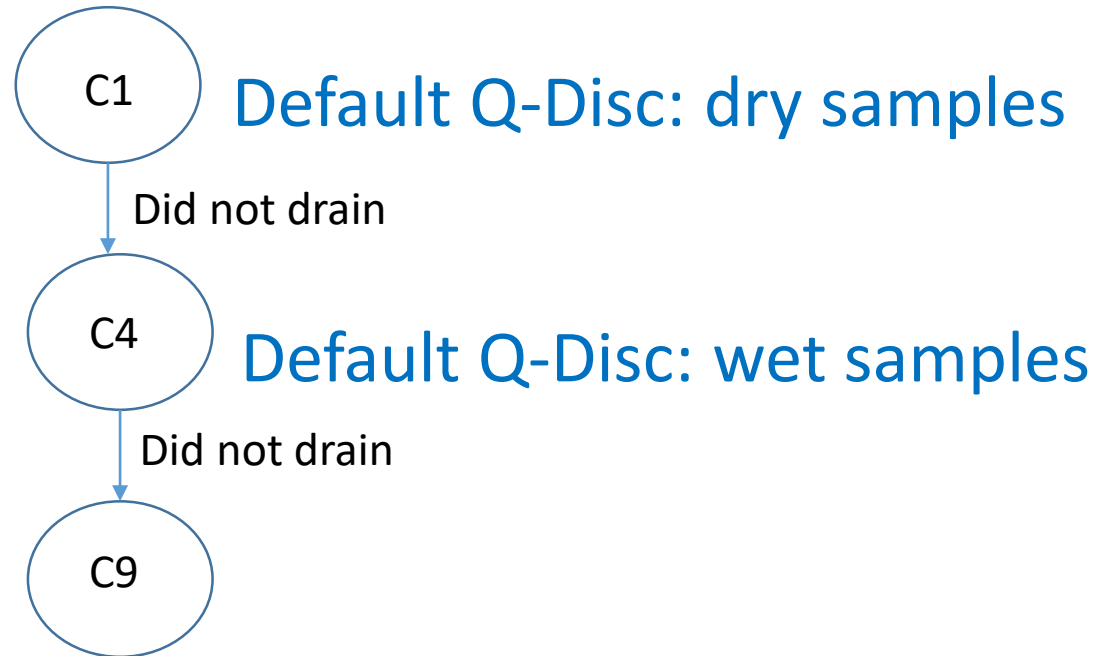
# Dry the sample in the Q-Cup



- Add a layer of Diatomaceous Earth to the bottom of the Q-Cup
- Add homogenized sample mixed with sand to Q-Cup
- Dry for 1 hour in an oven at 120 C°

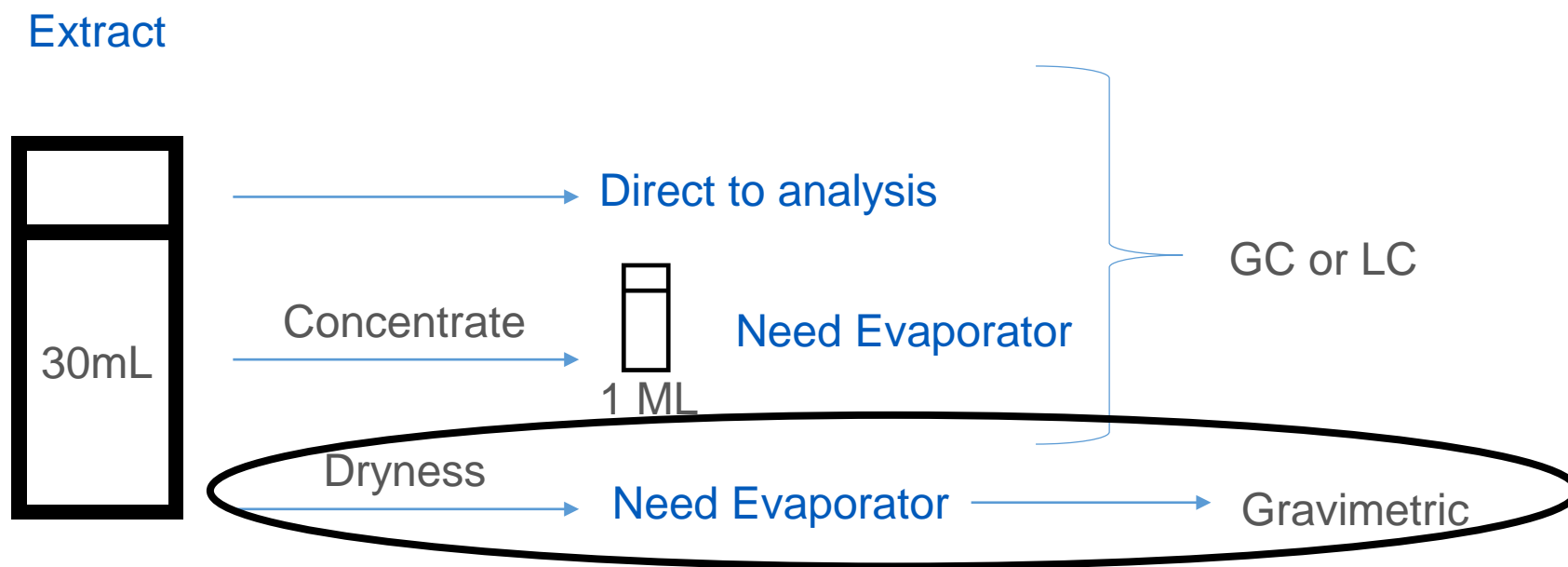
# Q-Disc

## Q-Disc Selection



If mix of dry and wet samples the best Q-Disc for the wet samples can be used for dry samples as well!

# Evaporate to Dryness



# EDGE | A New World of Sample Preparation

