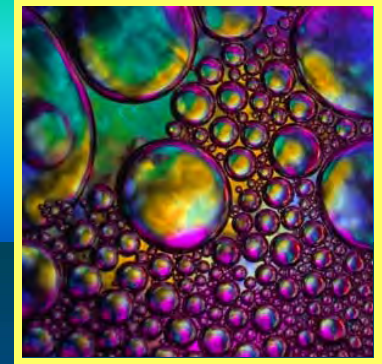


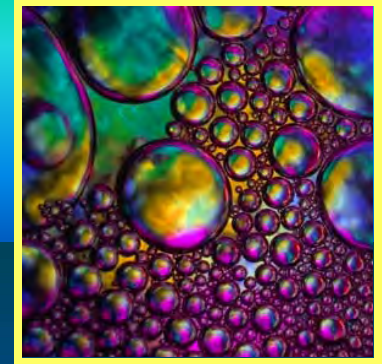
**Dr. Debi Rogers**  
**American Institute of Baking**



# **Function of Fats & Oils in Bakery Products**

**Global Oils & Fats Forum**  
**October 7, 2003**

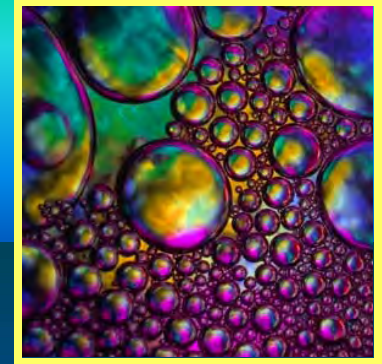
# Bread and Rolls



- **Main function is lubrication**
  - **Eases expansion and improves handling of dough**
  - **Improves slicing of finished product**

# Bread and Rolls

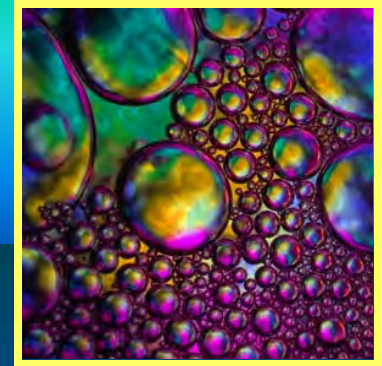
## Continued



- **Secondary functions**
  - **Tenderize crust**
  - **Improve shelf life by slowing staling process**
- **Any fat or oil can be used**
  - **Primarily soy**

# Bread and Rolls

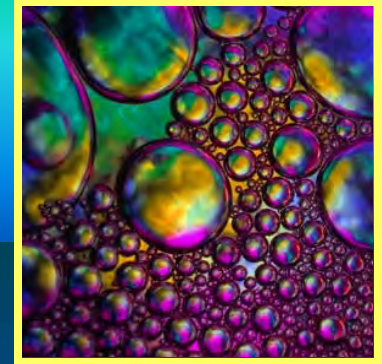
## Continued



- **Usage levels (bakers' %)**
  - **Pan breads** 0 - 6
  - **Fiber breads** 0 - 7.5
  - **Hearth breads** 0 - 1
  - **Sourdough** 0 - 1
  - **Whole wheat** 0 - 7
  - **Multi-grain** 0 - 6

# Bread and Rolls

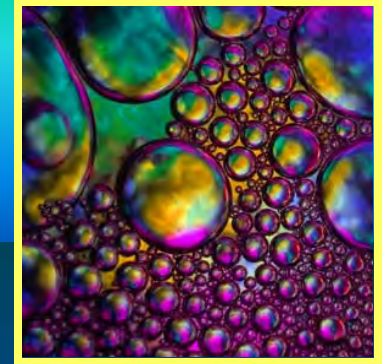
## Continued



- **Usage levels (bakers' %)**
  - **Bagels** 0 - 10
  - **Hard rolls** 0 - 5
  - **Soft rolls** 5 - 10
  - **English muffins** 0 - 1.5

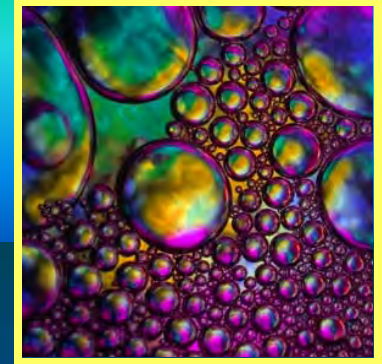
# Bread and Rolls

## Continued



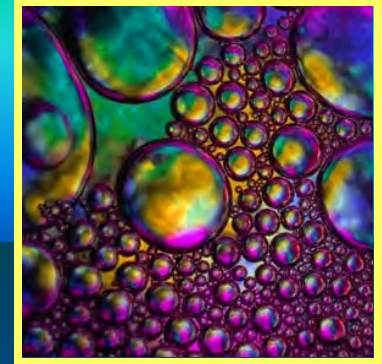
- **Usage levels (bakers' %)**
  - **Flour tortillas**      **2 - 15**
  - **Pizza**                      **2 - 14**
  - **Pitas**                        **0 - 1**

# **Cookies (Sweet Biscuits) & Crackers**



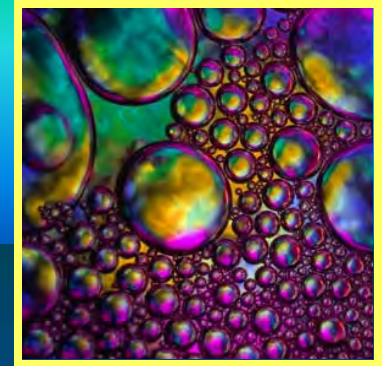
- **Major functions**
  - **Aeration**
  - **Lubrication / coating of ingredients**
  - **Cookie (sweet biscuit) spread**
  - **Texture / eating qualities**

# **Cookies (Sweet Biscuits) & Crackers** Continued



- **Secondary functions**
  - **Flavor**
  - **Coating of finished products**
  - **Crème filling structure**

# Cookies (Sweet Biscuits) & Crackers Continued



- **Usage levels (bakers' %)**
  - **Rotary molded** 24 - 30
  - **Wire cut** 28 - 60
  - **Deposited** 32 - 60
  - **Extruded** 40 - 75
  - **Rotary cut** 15
  - **Wafer** 1 - 6

**Deposited**



**Extruded**



**Wire cut**

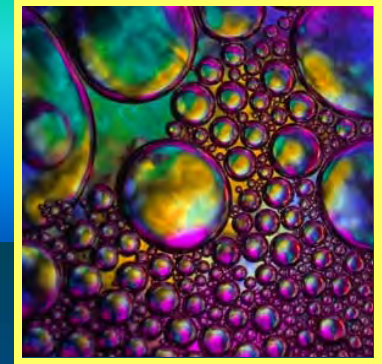


**Rotary molded**



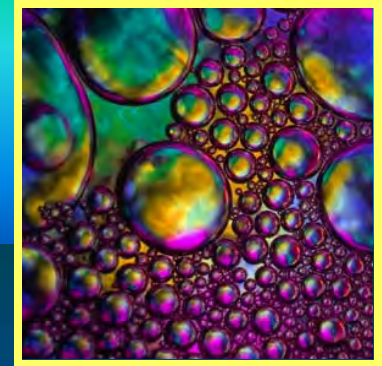
**Wafer**

# Cakes



- **Major functions**
  - **Aeration**
  - **Tenderness**

# Cakes Continued

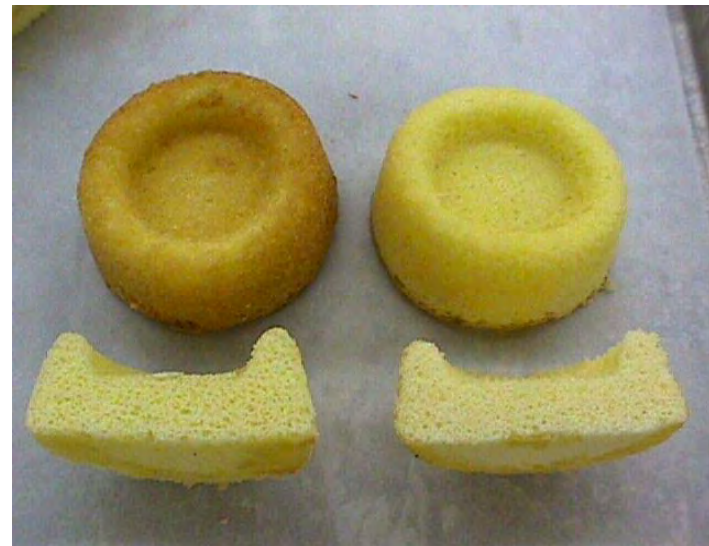


- **Usage levels (bakers' %)**
  - **Sponge / Foam**                      **0**
  - **Chiffon**                                      **50 - 60**
  - **High ratio batter**                      **20 - 70**

# Sponge Cakes

## Common Usage:

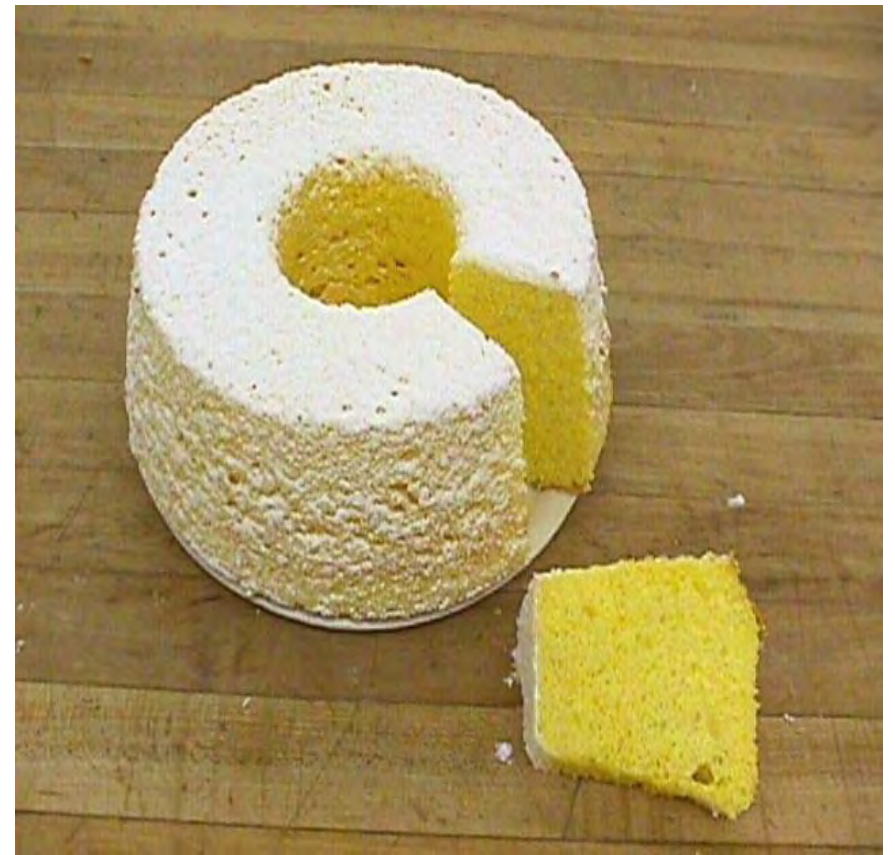
Whipped cream cakes, French pastries,  
Mary Ann shells, Jelly rolls, Snack cakes



# Angel Cake



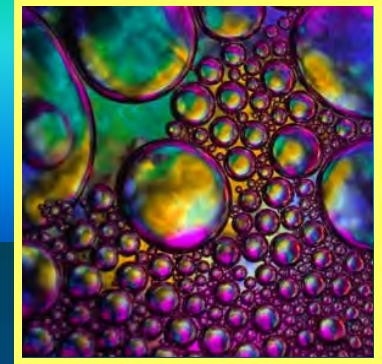
# Iced and Dusted Chiffon Cakes





# Iced Layer Cakes (High Ratio)

# Muffins



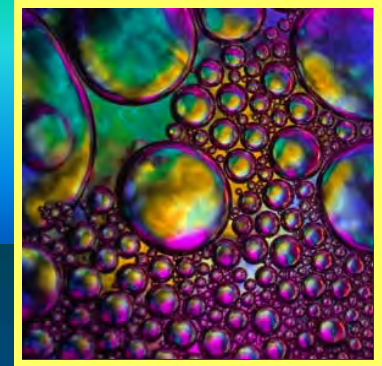
- **Functions**
  - **Texture / tenderness**
  - **Shelf-life**
- **Usage levels (bakers' %)**
  - **Oil or plastic      15 - 40**



# Muffins



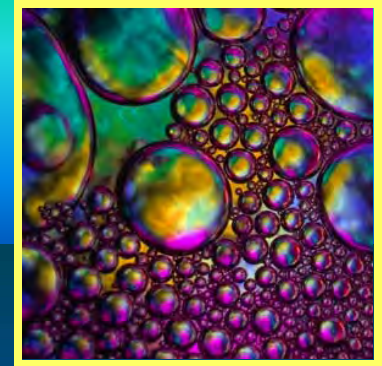
# Laminated Doughs



- Dough fat functions similarly to other doughs
- Major functions of roll-in fat
  - Texture (lamination)
  - Tenderness
  - Flavor

# Laminated Doughs

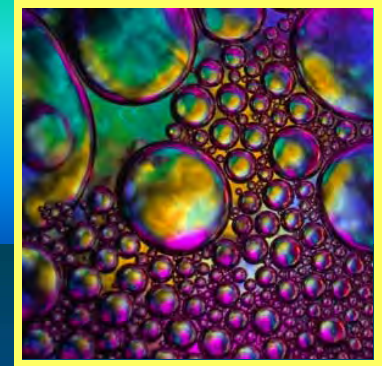
## Continued



- **Usage levels (bakers' %)**
  - **Danish dough** **0 - 20**
  - **Danish roll-in** **12.5 - 25**  
dough %
  - **Croissant dough** **0 - 12**
  - **Croissant roll-in** **18 - 25**  
dough %

# Laminated Doughs

## Continued



- Usage levels (bakers' %)
  - Puff pastry dough 100
  - Puff pastry roll-in 50 - 100  
dough %



# Sweet Rolls and Coffee Cakes

# Danish Pastries



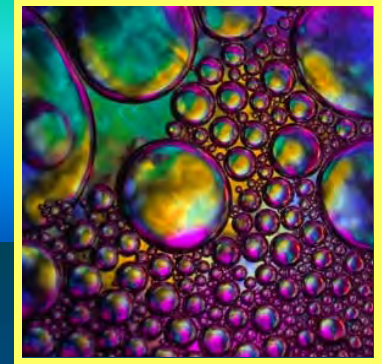
# Croissants



# Puff Pastry Variety



# Frying Fats



- Major function is heat transfer
- Minor functions
  - Flavor
  - Texture

# Cake Donuts



# Yeast-Raised Donuts



# Fried Pies

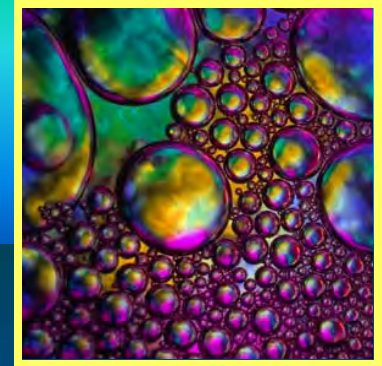




# Pies

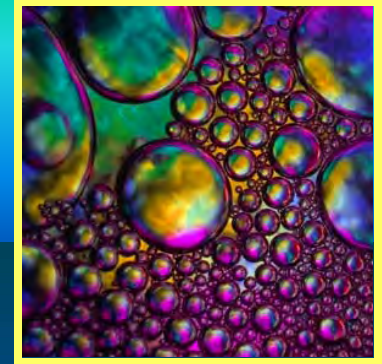


# Other Crusts



- **Functions**
  - **Tenderness**
  - **Mouthfeel**
  - **Flavor**

# Other Crusts Continued



- **Usage levels (True %)**
  - **Short dough 27**
  - **Graham cracker 29**