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Mousse/ Aerators, Sugar Cooking, & Whipped Cream

Day 4

Learning Objectives

- Define mousse and describe its characteristics.
- Identify the components of a mousse and outline the method of preparation.
- Distinguish between different types of egg foams used in mousse.
- Explain the proper use of sheet gelatin.
- Demonstrate proper whipping and handling of cream.
- Prepare a range of baked goods using standardized recipes with accuracy and consistency.

Mousse

- "**Mousse**"= French word, translates to "foam" or "froth
- Light, airy, and creamy whipped dish
- Can be served sweet (chocolate mousse) or savory
- Fluffy texture is achieved by suspending air bubbles in cream or egg whites
- Will deflate if *Mise en Place* is not ready before beginning

Mousse

Composition:

- **Base:** fruit purée, crème anglais, pastry cream, curd or sabayon
- **Aerator:** whipped cream or meringue (one or both)
- **Stabilizer (Optional):** gelatin

Mousse Method

1. Mise en Place: Prepare molds, pastry bag
2. Base: Bloom the gelatin (if using) and prepare the base. Melt the gelatin in the base, slightly cool.
3. Aerator: Prepare aerator (meringue and/or whip cream).
4. Combine: Fold one-third of aerator into the base to lighten mixture. Fold remaining aerator into mixture.
5. Mold immediately, refrigerate until set.

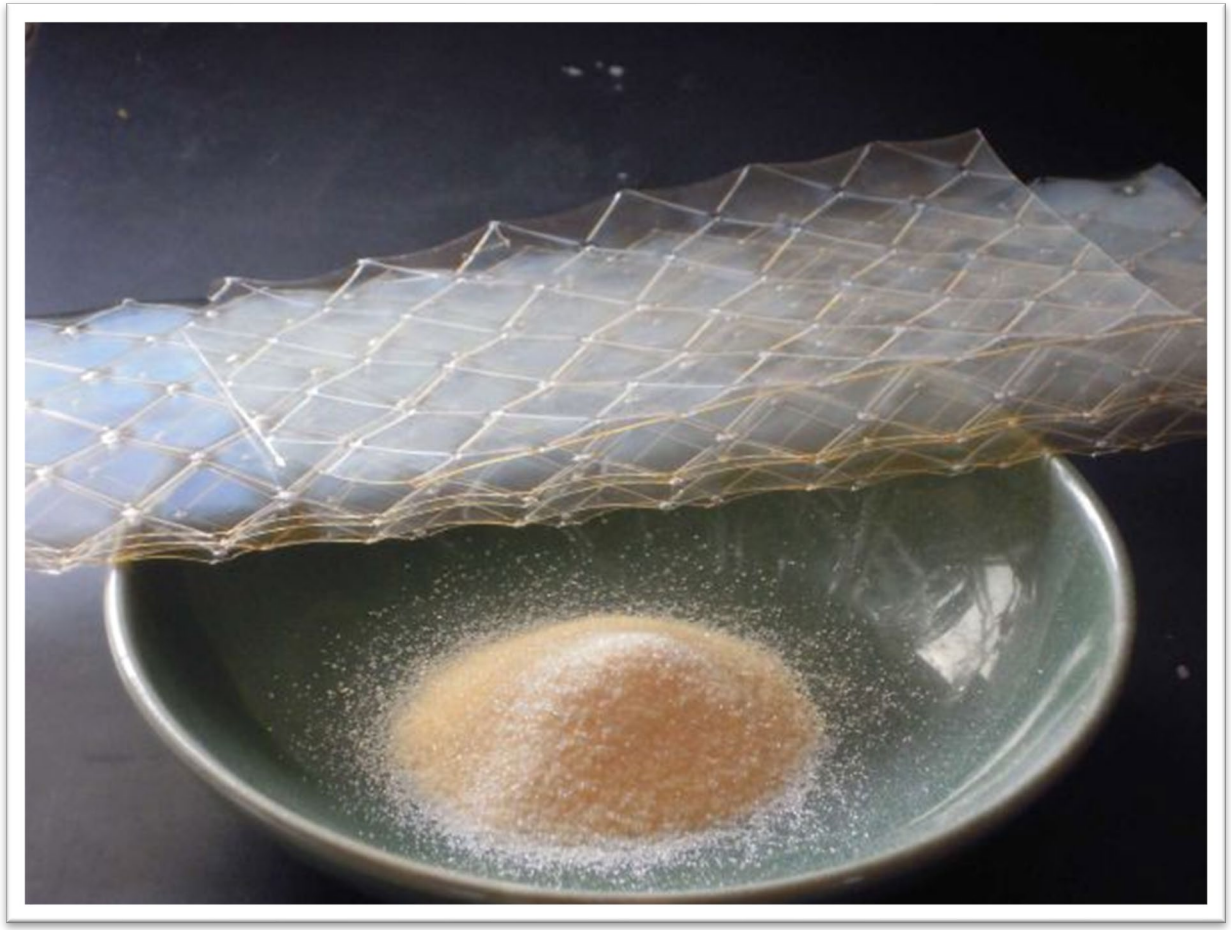
Mousse: Things to Check Before Starting

- Where are you putting this mousse?
- Is your cream whipped?
- Is your chocolate melted?
- Do you have your cake cut and ready?
- Is your gelatin bloomed?
- Do you have a large bowl for folding?
- Do you have all of your necessary tools?

Gelatin

- Collagen from bones, connective tissue, cartilage
  - Pork (most common), beef, and fish available
  - No “vegetarian” gelatin, there are other gelling agents
- Bond destroyed by *Bromelain* enzyme
  - Raw pineapple, tropical fruits
  - Can be cooked out, but changed flavor profile

Gelatin



- **Types**: Powdered and sheet; both must be bloomed + dissolved
  - **Bloomed**: ice water for 15 minutes
  - **Dissolved**: melt to 110-120°F, temper into base

Preparing Gelatin

1. Scale out the gelatin sheets.
2. Bloom: Bloom the gelatin sheets in a large volume of ice water. Squeeze out extra water.
   - Will soften dramatically.
3. Melt: 2 possible ways:
   - Add directly to a warm liquid (about 100°F to 110°F).
   - Warm mixture over a hot water bath until 110°F to 140°F.
4. Combine the gelatin with the base.

Meringue

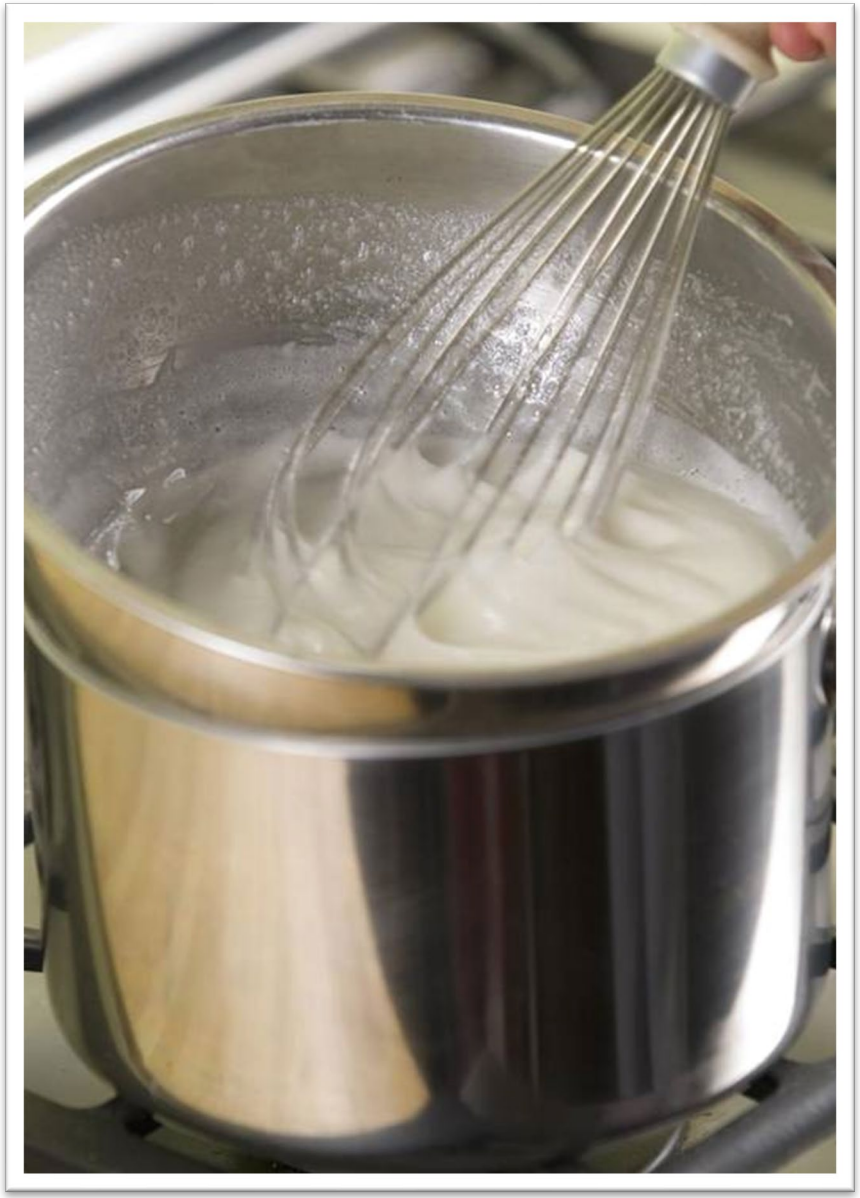
- Whipped egg whites + sugar
- Short working life
- **Types:**
  - **French** (common)**:** least stable, raw
  - **Swiss:** more stable, egg safe
  - **Italian:** most stable, egg safe

French Meringue

1. Egg whites are beaten until opaque, no viscous egg white visible.
2. Sugar is slowly added as the whites continue to whip to the desired consistency (soft, medium, stuff peaks).
   - Be aware of over-mixing
3. Finished meringues begin to degrade quickly—act fast.

Swiss Meringue

1. Warm egg whites and sugar over a hot water bath to 140ºF.
2. Once sugar dissolves in the whites; remove from heat and whip to desired consistency (soft, medium, stiff peaks).
3. More stable than French meringue.



Italian Meringue

1. Cook sugar to soft ball stage. (240°F).
2. Add hot syrup to whipping egg whites.
3. Continue whipping until the meringue is cool. Italian Meringue is the most stable, but the most difficult.

Meringue: **Things to Keep In Mind**

- What happens if we pour the sugar in too fast?
- What happens if the whites do not have enough volume when we pour in the sugar?
- What happens if the whites are over whipped when we add our sugar?

Sugar Cooking

- How do I keep my sugar from crystalizing?
  - Use a clean, small pot
  - Use clean sugar
  - Use clean tools
  - Cook on high, even heat
  - Brush down the sides with clean water using a clean brush
- Gently stir until the syrup boils to dissolve the sugar
  - Once it boils – stop stirring!
  - Agitation promotes crystallization

Cleaning Up After Sugar

- **Success:** fill pot with water, bring back to a boil, pour down the drain, wash
- **Burnt:** do not fill the pot with water, put pot under station, let cool. When cool fill with water, bring back to a boil, pour down the drain. Repeat as necessary.
- Never return dirty or burnt pots

Sabayon

- Yolks + sugar heated over a water bath to 140°F, then whipped to cool
- Sometimes alcohol (traditionally Champagne)
- Sometimes it is made with whole eggs in addition to egg yolks

Pâte à Bombe

- Whipped egg yolks with soft ball sugar streamed in, then whipped to cool
  - Like Italian Meringue
- Sometimes alcohol (traditionally Champagne)
- Sometimes it is made with whole eggs in addition to egg yolks

Got
Heavy Cream?

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Pasteurized and Ultra-Pasteurized

- **Pasteurized:** heating milk to 165’F for at least 15 seconds
- **Ultra-pasteurized:** heating milk to at least 280°F for 2 seconds
  - Affects flavor
  - Damages fat, won’t trap air
  - Starches & gums may be added for aeration—affects milk/ cream

Heavy Cream

- Whips by air getting trapped in butterfat
- **Heavy cream:** US minimum fat content is 36% butterfat
- **Whipping cream:** less fat (30% butterfat), less able to trap and hold air
- **Whole milk:** 4% butterfat

Whipped Cream

- Keep it cold, in the refrigerator or on an ice bath
- Whip to soft peak at the mixer, tighten to desired peak by hand when ready to use
  - Ensures that air and water are in suspension
- Do not overwork

Daily Plan: **Day 4**

Chef Demos

- Puff Pastry Assembly
- Cinnamon Roll Assembly, Proofing, and Baking
- Dividing, Shaping, Proofing, and Baking Milk Bread
- Cutting and Baking Biscuits
- Chocolate Mousse and Simple Syrup

Production Assignments

- Team 1: Biscuits
- Team 2: Milk Bread
- Team 3: Cinnamon Rolls
- Team 4: Mountain Apple Chausson, Goat Cheese and Roasted Tomato Tart
- All Teams: Chocolate Mousse, Simple Syrup

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Any Questions?