



Culinary Institute
of America

Day 3: Pan Frying, Deep-Fat Frying, Potatoes

RCA Culinary Fundamentals
for Food Technologists

May 6-10



Learning Objectives

- Define pan frying and deep-fat frying.
- Identify foods appropriate for frying.
- Select the correct equipment for frying.
- Explain the roles of coatings.
- Prepare and organize the mise en place for breading and batter-dipping.
- Identify oils appropriate for frying.
- State the importance of correct fat temperature to these techniques.

Learning Objectives

- Understand the correct internal temperatures of fried foods.
- Plate pan fried food items.
- Apply sanitation concepts to egg batter and eggwash.

Key Terms

- Bacterium
- Basket method
- Batter
- Breading
- Coating
- Cross-contamination
- Deep-Fat frying
- Pan frying
- Pasteurized
- Salmonella
- Smoke point
- Swimming method

Pan Frying

- Items usually coated with breading or batter
- Partially submerged in fat/ oil at about 325°F
- Fat covers the bottom 1/3 to 1/2 of items
- Only exterior crust is browned
- Can be completely cooked in pan or finished in oven
- Best choice for items that warp when cooked



Deep-Fat Frying



- Almost always coated with breading or batter
- Fully submerged in fat/oil at about 350°F
- Fry until completely cooked
- Best served immediately

Deep-Fat Frying: Method

- **Basket:** for breaded items or food that will not stick together.
- **Double Basket:** contains food that floats.
- **Swimming:** For battered items or food that sticks together.



Pan Frying and Deep-Fat Frying

- **Fish and Seafood:** bones, skins, shells removed
- **Poultry:** skin, bones removed (except fried chicken)
- **Pork, Veal, Beef:** trimmed of fat and gristle
- **Beef and Calf Liver:** pan-frying only
- **Vegetables:** High moisture percentage
- **Other Foods:** croquettes, crab cakes, fritters

Frying: Coating

- Creates a barrier between the fat/ oil
- Seals in juices
- Contributes to flavor
- Provides textural contrast
- Creates a moist interior, golden brown, crisp yet tender exterior



Frying: Equipment

- **Pan-Frying**
 - Heavy pans with straight sides, flat bottoms
 - Tilting skillet
- **Deep-Fat Frying**
 - Thermostat-controlled deep-fat fryer

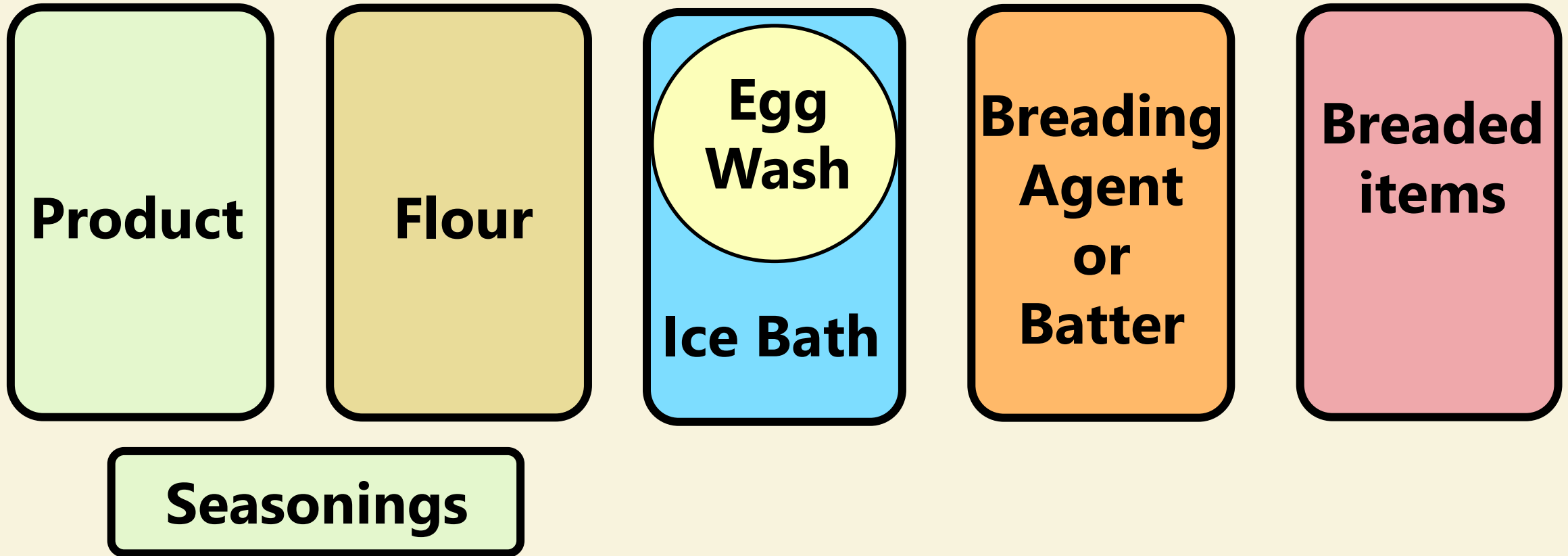


Deep-Fat Frying: Method



Item	Basket	Swimming
Breaded/ dry coating	Yes	No
Battered	No	Yes
Many small pieces	Yes	No
Large items	Yes	Yes

Breading Method: Mise en Place



Deep-Fat Frying: Battering Method

**Product
to be
Battered**

Flour

Batter

Fryer

Deep-Fat Frying: Method

- Fabricate and season items.
- Organize ingredients in order of use.
- Set potentially hazardous items (meat, poultry, egg, seafood) over ice.
- Mix batter (avoid overmixing), rest for 30 minutes.
- Flour items, lightly covering all surfaces.
- Coat items in batter, drain off excess.
- Submerge into hot fat/ oil. Turn if necessary.
- Cook to correct internal temperature.
- Drain on absorbent material or rack.

Frying: Fats and Oils

- High smoke point
- Neutral flavor
- Vegetable and seed oils
- Rendered animal fats



Deep Fat-Frying: Oil Temperature

- Standard fat/ oil temperature: **350°F**
- Varies depending on food thickness
 - Higher temp. for thin items (1/4 inch)
 - Lower temp. for thick items (1/2 inch)



Minimum Internal Temperatures



Food	Temp
Fish/ Seafood	145°F
Poultry	165°F
Pork	145°F
Veal	145°F
Beef	145°F
Vegetables	140°F

Deep Fat-Frying: Maintenance

- Use high-quality cooking fat/ oil.
- Filter fat/ oil frequently to remove food particles and debris.
- Avoid overloading, which causes the oil temperature to drop rapidly and affects food quality.
- Maintain correct temperature for different foods.
- Wipe down fryer exterior.
- Deep-clean fryer at least once a month to ensure hygiene and optimum efficiency

Fried Food: Plating / Panning

- **Plating**
 - Fit food to the plate
 - Shingle same direction toward guest
 - Serve sauce separately
- **Panning**
 - Rack under items
 - Avoid shingling
 - Vent lid to avoid steaming
 - Serve sauce separately



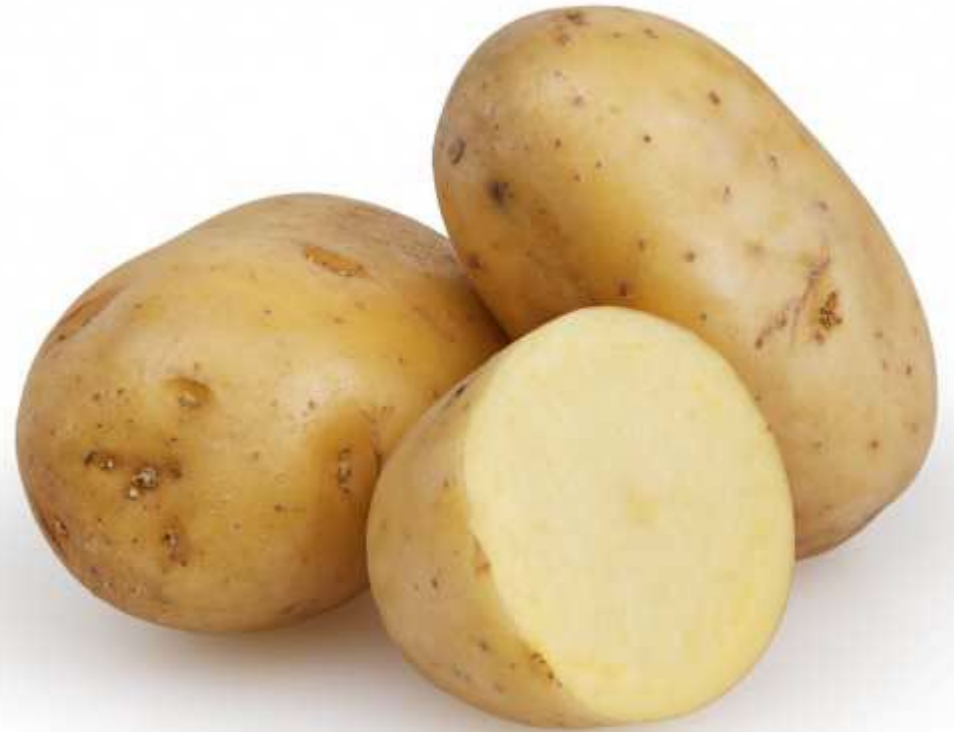
Eggs: Sanitation



- A clean and sanitized work area avoids cross-contamination.
- Eggs are potentially hazardous (salmonella).
- Use an ice bath for egg batter and wash to limit the growth of bacterium.
- Consider pasteurized eggs.
- Use egg batter and egg wash within a 2-hour period.
- Never add old egg batter or wash to a new batch.

Potatoes

- Yields the most energy out of a given acreage of field of all crops
- Native to Central and South America, but came to the US via Ireland
- 4,000 native varieties
- Very important food crop for a big part of the world



Potatoes: Classification

	Waxy	Mealy
Characteristics	High moisture High sugar Low starch Does not retain shape	Low moisture Low sugar High starch Retains shape
Best Uses	Chunky soups, Gratin, Home fries, Scalloped, Stews, Salads	Boiling, Mashing, Creamy soups, French fries, Hash browns, Potato chips
Examples	Red, Yellow, Petite, Fingerling, New	Russet, Idaho, Sweet Potato

Waxy Potatoes

Characteristic	Result
Stand firm, retain bite, shape and texture after cooking	Ideal for potato salad, curry, stews, and casseroles
High sugar content causes poor texture	Not suitable for deep-frying
retain bite and structure after cooking, so cubes or slices hold their shape well	Great for potato salad, pan fried potatoes, gratin, or Spanish potato tortilla
Not as creamy, does not dissolve as well when boiled	less suited to creamy mash or purée, unless a chunkier result is desired

Mealy Potatoes

Characteristic	Result
Starchy flesh breaks apart easily, skins split when cooked	Makes fluffy, soft mashed potatoes
Tender, dry insides	Soaks up butter, sour cream, dressings, and sauces well
Mealy, crumbly texture dissolves when boiled	Useful for thickening soups without the need for added milk, cream, or flour
High starch results in crispy exterior	Excellent for roasting, frying

Potatoes: Storage

- Dark
- Cool (50°F to 65°F)
- Dry
- Elevated
- Do not freeze
- Store peeled potatoes in water in Refrigeration



How to

Store

Potatoes



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Any Questions?