



Culinary Institute
of America

Stocks/ Broths
Dry Heat Cookery
Grain Cookery



Learning Objectives

- Identify and evaluate the characteristics and quality indicators of white and brown stocks.
- Select and prepare ingredients, aromatics, and equipment for white and brown stock production.
- Prepare, properly cool, hold, and reheat brown stock and basic broth to maintain flavor, body, clarity, and color.
- Define classical stocks and related preparations.
- Prepare a clear chicken consommé with a brunoise garnish and evaluate quality using established standards.
- Describe and apply the sauté method using proper heat control and pan management.
- Prepare a sautéed protein or vegetable with appropriate seasoning and garnish.
- Broil or grill an appropriate vegetable or cut of meat using correct technique.
- Apply standard culinary guidelines to determine doneness in meats, poultry, and vegetables.
- Explain differences among common grains and appropriate cooking methods.
- Identify quality indicators of properly prepared pilaf and risotto.
- Prepare a rice or grain using the pilaf or risotto method to proper doneness and texture.
- Prepare a variety of dishes using standardized recipes.



Stocks

- Stocks = flavorful liquids
- Prepared by simmering meat, poultry, seafood and/or vegetables in water until flavors, color, and gelatin (proteins) are extracted
- Used for soups, sauces, and other culinary preparations



Basic Methods

- White/ straight stock
- Brown stock
- Rémouillage
- Fumet (*Essence*)
- Broth (*Bouillon*)
 - Consommé



White Stock

- Uncooked main ingredient + uncooked mirepoix
- Exception to rule above:
 - When using previously frozen bones, blanch bones to remove impurities
- Finished product is light in color, mild flavor



Ratios for 1 Gallon

Broth

- Meat/bones: 11#
- Cool liquid: 5 qt.
 - If using stock, reduce the amount of meat/bones to 3#
- *Sachet d'èpices*: 1 ea.

Stock

- Meaty bones: 8#
- Water: measure as required by cooking time
- *Mirepoix*: 1#
- *Sachet d'èpices*: 1 ea.



Key Characteristics

- **Temperature:** hot
- **Color:** color dependent on main ingredient, chicken is golden yellow
- **Clarity:** clear, little to no particulates
- **Texture:** thin when hot, viscous when chilled
- **Aroma:** intensely pleasant of main ingredient
- **Flavor:** strong of main ingredient, clean



General Stock: Method

1. Use bones, joints to add body and flavor.
2. Simmer ingredients to extract their flavors.
3. Skim out ingredients.
4. Add mirepoix/sachet.
5. Strain the stock to remove solids.
6. Cool stock in ice bath.



Brown Stock

- Coloration from roasted bones and aromatics
- Stronger flavor than white stock
- Used for brown-colored sauces, soups, etc.



Brown Stock Ratio



- Meaty bones: 8#
- *Mirepoix*: 1#
- Tomato paste: 6 oz.
- *Sachet d'èpices*: 1 ea.
- Water: 6 qt.

Brown Stock: Method

1. Condition the roasting pan in a 425°F oven.
2. Add a small amount of oil just to skim the bottom.
3. Spread the bones into the hot pan and return to the oven.
4. Roast the bones stirring and turning from time to time until they are deep brown, 30-45 minutes.
5. Place the bones in a stock pot with measured cool water.



Remouillage

- Often referred to as “second stock”, weaker and more diluted
- Made by re-wetting bones that have already been used to make a primary stock
- Leftover bones and mirepoix are covered with fresh water and simmered again to extract remaining gelatin.
- Can be made from either white or brown bones
- Used for making soups, braises, or as a replacement for water in new stocks



Cooking Times for Stocks

Fish Stock	35 – 45 minutes
Vegetable Stock	45 minutes – 1 hour
Chicken Stock	3 – 4 hours
Brown Veal Stock	6 – 8 hours
Beef Stock	8 – 10 hours
Meat Broth	Minimum 3 – 4 hours

Tips for Quality Stock

- Use only good quality ingredients
- Use cool water, measure volume
- Simmer gently
- Skim away scum and degrease
- Add aromatics during last hour
- Strain carefully
- Chill rapidly
- Reheat properly



Fish Fumet

- Style of stock where bones of white flesh protein and *mirepoix* sweat with wine (*optional*) and aromatics, then cold water is added
- Rich flavor
- Cloudy or milky in appearance
- Best for thickened soups, cream style sauces and stews
- "Fumet" = essence



Fumet

vs.

Stock

- Sweat bones and mirepoix in fat before water is added
- Simmered briefly
- More flavorful
- Less clear, used for thickened sauces and poaching liquid

- Do NOT sweat bones/ aromatics
- Water is added and then stock is simmered briefly
- More clear
- Used for consommé/ clear soups



Fish Fumet Ratio



Yield: 1 Quart

- Clarified butter
- Onions: 2 oz.
- Celery: 1 oz.
- Leeks: 1 oz.
- Mushrooms: 1 oz.
- White wine: 2 oz.
- *Sachet d'èpices*: 1 ea.
- Fish bones: 2.5#, low activity fish bones only
- Water: 32 oz.

Consommé



- A perfectly clear stock or broth
- Exceptionally rich in flavor
- Fat free
- Amber colored or color appropriate to the protein

Basic Consommé Ratio

Yield: 1 Quart

- White stock: 40 oz. (5 cups)
- *Mirepoix*: 4 oz.
- Egg whites, clean: 3 ea.
- Acid (chopped tomato): 2 oz.
- *Sachet d'épices* (clove, no garlic): 1 ea.
- Onion brulee: 1 ea.
- Lean ground protein: 12 oz.
- Salt: to taste

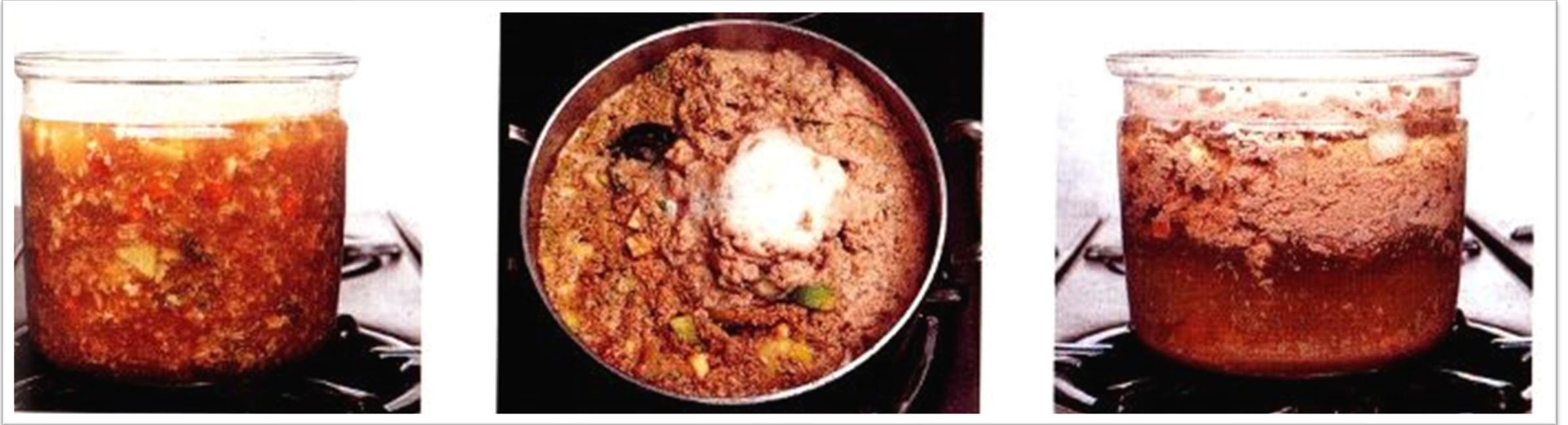


Key Characteristics

- **Temperature:** very hot
- **Color:** amber from golden to deep brown depending upon main ingredient
- **Clarity:** crystal clear with little to no fat
- **Aroma and flavor:** savory of main ingredient, and aromatics, umami
- **Garnish:** must be precisely cut and fit neatly on a soup spoon
- Consommé may also be served cold



Inside The Consommé Process



Garnishing A Consommé

- 1 Tbsp. per 8 oz. cup
- Cut all to fit neatly in a spoon
 - Julienne: shortened to 1-in. length

Classic garnishes

- Thickened with tapioca and garnished with julienned crêpes mixed with chopped truffles and herbs (*Consommé Célestine*)
- Balls of carrot, turnips, peas, chervil (*Consommé Printanier*)



Sautéing

- Cook quickly, using relatively high heat in a small amount of pure fat in a sauté pan
- Done entirely on top of the stove
- Cooked à la minute (to order)
- Sauce created in the pan, using fond to develop flavor/ color
 - Quickly cook aromatics, deglaze with wine, add either a grand sauce or stock
 - Finish with additional ingredients to garnish and enrich (butter, herbs, cream, glace)



Sautéing Prep Tips

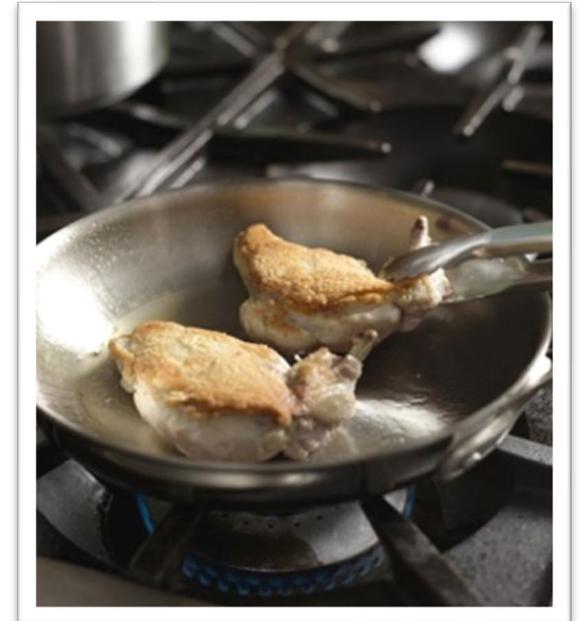


- **Ideal pan:** wide shallow surface to hold items comfortably and allow for rapid evaporation to create a sauce
 - Too deep: items will not brown
 - Too small: protein will steam, not brown, and dry out/toughen
 - Too large: the empty surface burns
- **Suitable items:** lean, tender, trimmed, quick cooking, single portion (chicken), multi-piece portions (shrimp)

Sautéing Protein: Method

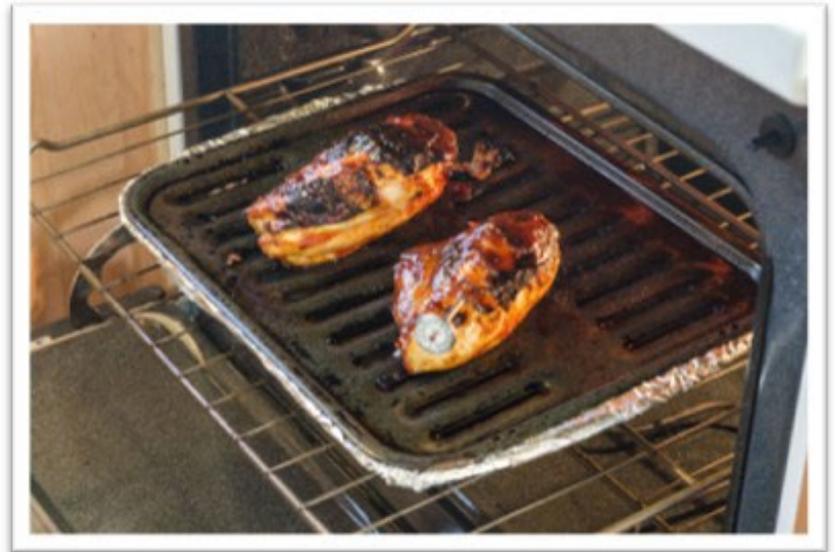
1. Portion, trim, remove excess fat.
2. Pound with mallet to even thickness.
3. Dry, season, dredge in flour (white meats).
4. Preheat with small amount of fat.
5. Add meat to hot pan, presentation (skin) side down, and sear.
6. When skin is golden (*doré*), turn and cook to desired internal temperature.
7. Transfer to a rack to rest; prepare sauce in the same sauté pan.

Note: Always control heat to prevent burning fond.



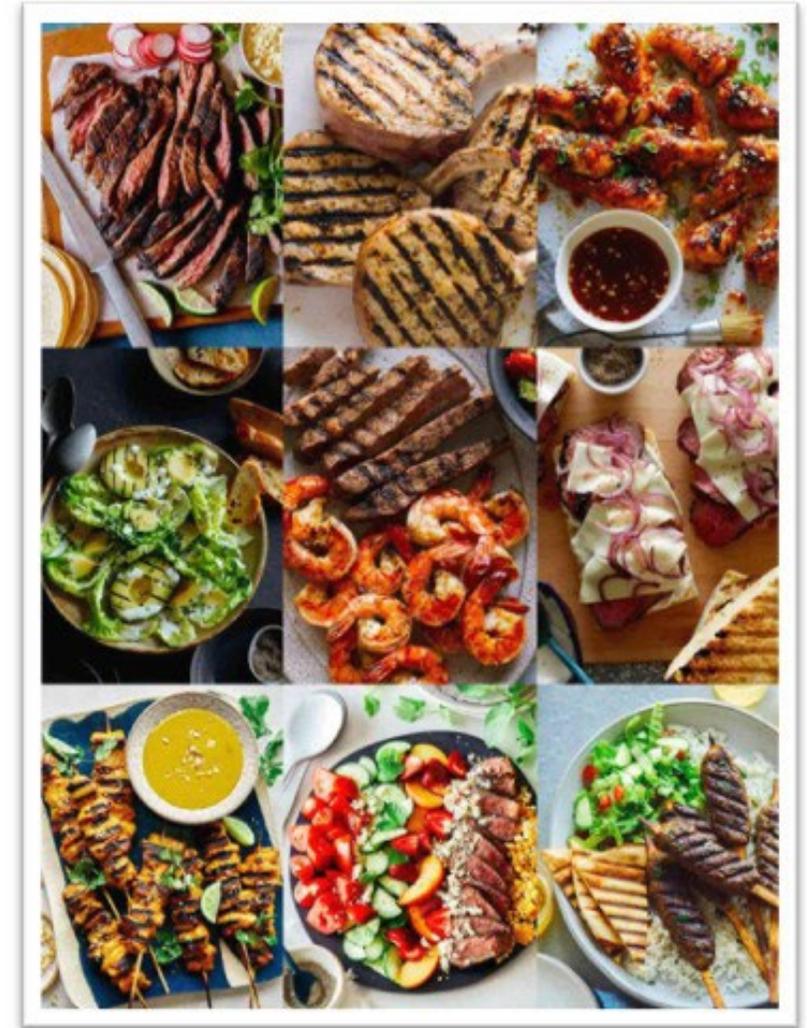
Grilling/Broiling

- Dry, high-heat cooking method
- Uses naturally tender portion cuts
- Produces well-browned grill marks and a flavorful, well-defined crust
- Red meat doneness is determined by degree (rare, medium rare, medium, well done), based on guest preference
- Moisture can be easily lost during cooking
- Often marinated, rubbed, aged, or brined before grilling
- Sauce is prepared separately



Suitable Items For Grilling

- Tender cuts of meat from less-active muscles
 - Swordfish, tuna, mahi-mahi, salmon
- Fillets of firm flesh, high-activity fish
 - Flounder, snapper, sea bass
- Whole fish
 - Flounder, snapper, sea bass
- High-moisture vegetables
 - Summer squash, peppers, eggplant, mushrooms, onion, tomato
- Low-moisture, blanched vegetables
 - asparagus, scallions, beans, corn cobs



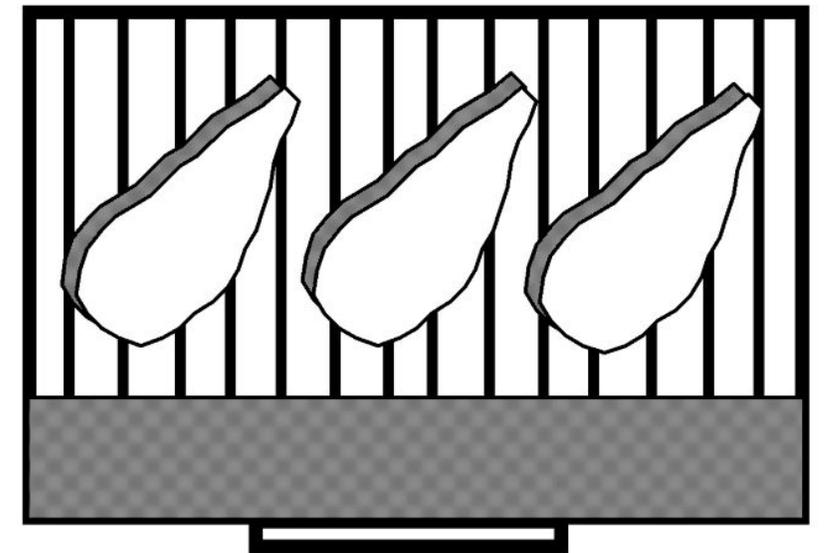
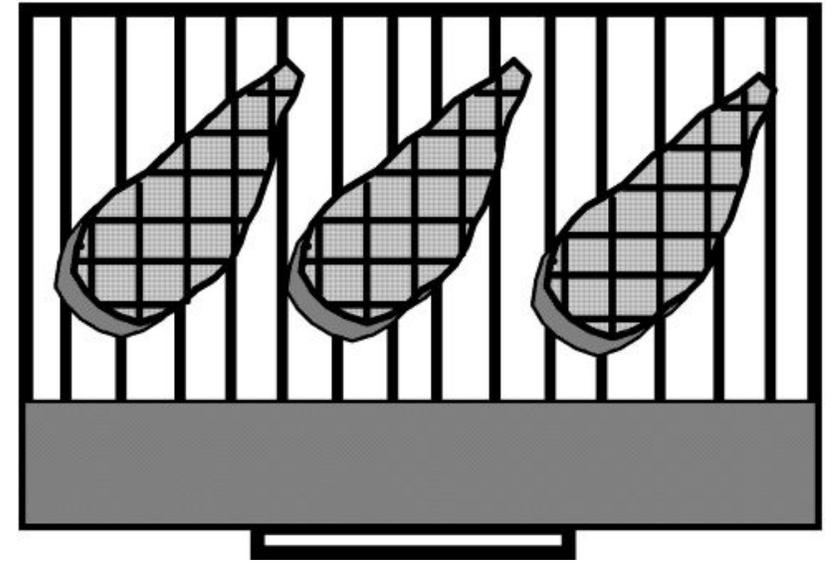
Setting Up a Grill Station

- Pre-heat grill
- Clean grill with a metal grill brush/ lightly oiled cloth
- Separate holding and resting pans for different items
- Seasoning, oil, and brush if needed
- Tongs or spatula - no forks!
- **Zones:** high, medium, medium low heat
- Use caution when grilling, avoid cross contact
 - Allergies, dietary preferences



How to Mark an Item

1. Place item on hot, clean, lightly oiled grill at a 45° angle.
2. Rotate item 45°.
3. Flip, repeat on second side.
4. Thicker items can be finished in oven.
5. With experience, doneness of red meat items can be judged by touch.



Cook to Proper Internal Temperature

Product	Temperature in Fahrenheit
Poultry	165°
Pork	145°
Red Meats	
Rare	125°
Medium Rare	130°
Medium	135°
Medium Well	145°
Well Done	150°

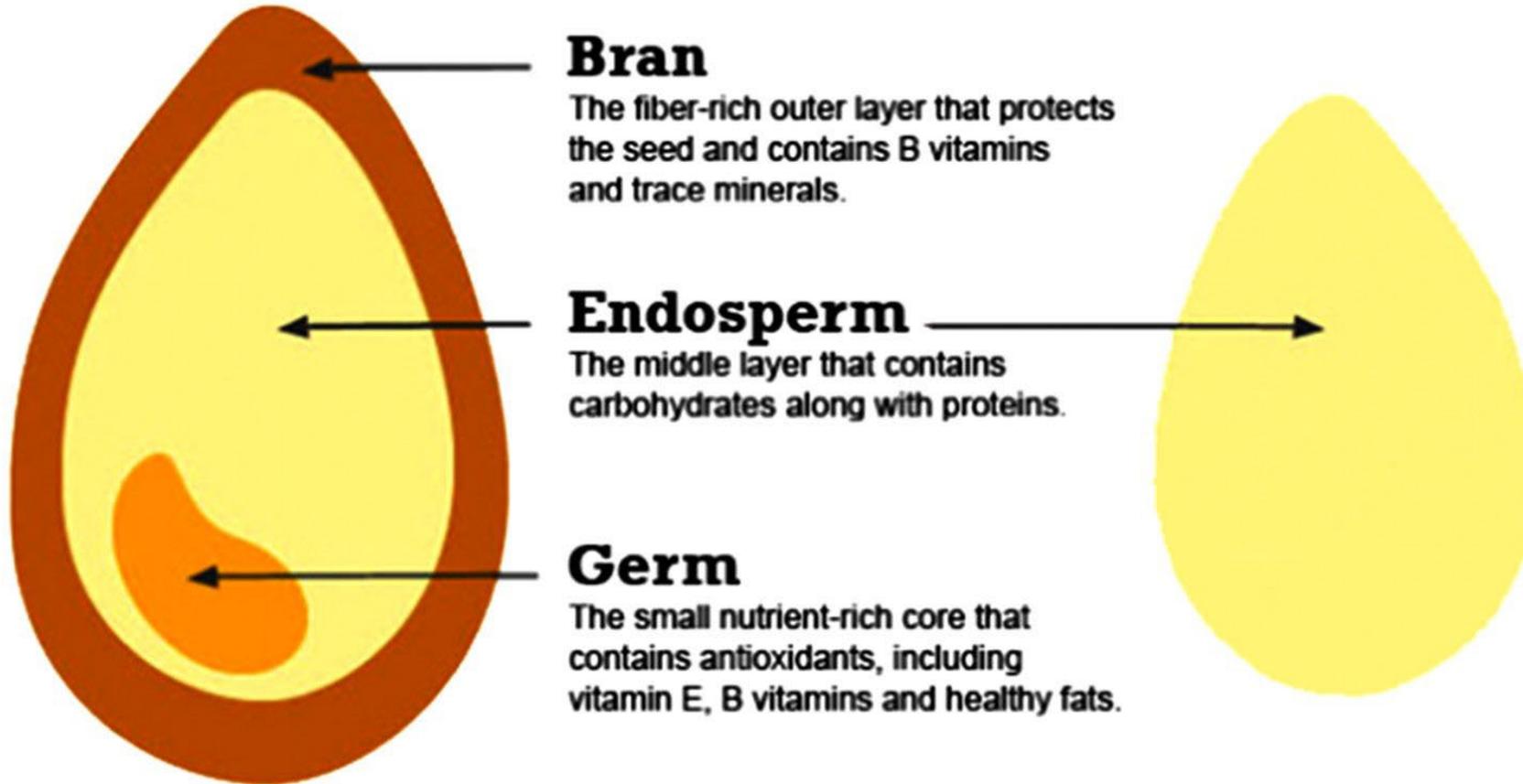
Rice

- A staple food to at least half of the world's communities
- An invaluable and versatile ingredient
- Two main types
 - White rice: milled
 - Brown rice: un-milled
- Rice is commercially classified by size
 - Long-grain
 - Medium-grain
 - Short-grain



Anatomy of a Grain of Rice

Whole Grain vs. "White" Grain



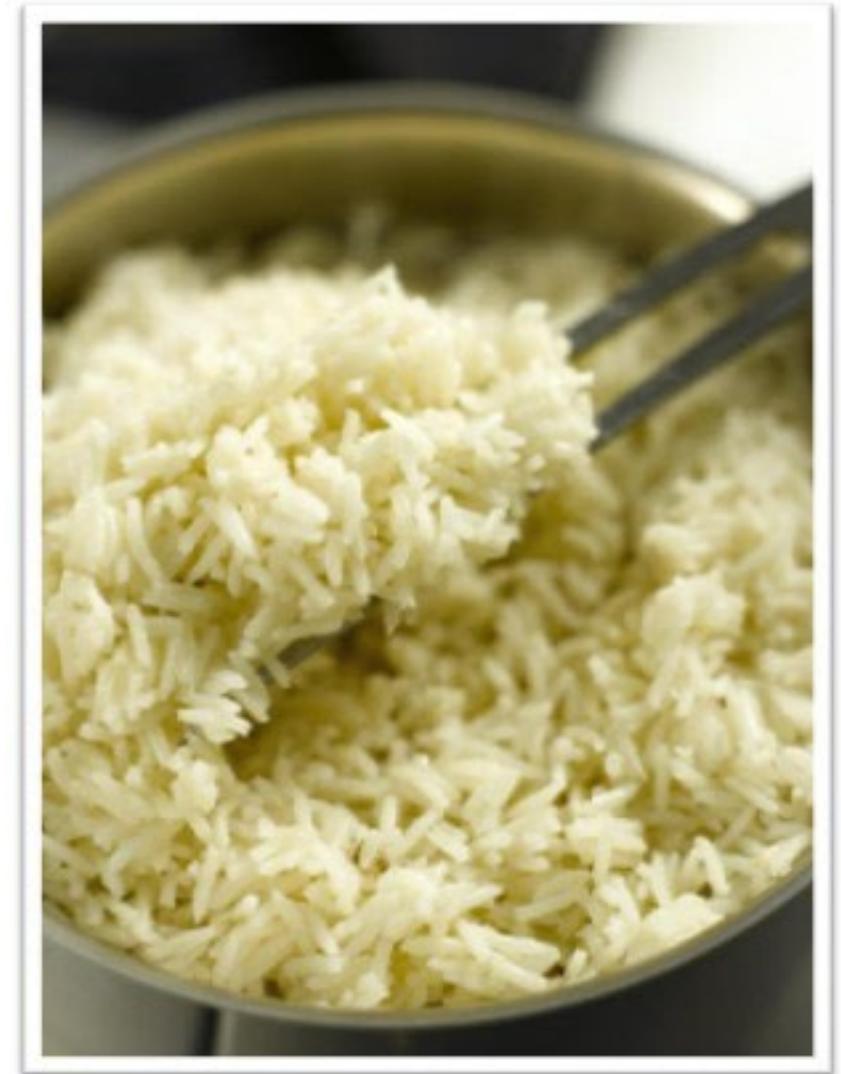
Converted/Par-boiled Rice

- Un-hulled grain soaked and steamed before the husk, bran, and germ are removed
- Very light brown color
- Fluffy, separate grains when cooked
- Used in pilafs and salads



Aromatic Long-Grain Rice

- **Types:** Basmati and Jasmine
- Extra long grain
- Fine delicate texture
- Aromatic delicate nutty flavors
- Available as brown or white
- Used in pilafs, salads, steamed, and rice pudding



Superfino Rice Varieties

- **Types:** Carnaroli, Arborio, Vialone Nano
- Very short, fat grain
- Off white
- High starch content
- Creamy when cooked
- Used in risotto and pudding



Basic Rice Ratios

Type of rice	Parts liquid	Parts rice	Cooking time
Par-boiled	2	1	18 - 20 minutes
Carolina	1.5	1	15 minutes
Jasmine/ Basmati	1.5	1	12 - 15 minutes
Brown	2.5	1	30 - 35 minutes
Arborio/ Carnaroli	3+	1	18 - 22 minutes (risotto)
Wild rice	4	1	40 - 45 minutes

*Measurements are in volume

Pilaf

- Originally from the Middle East
- Grains (usually rice) are heated in a pan that can be either dry or has melted fat (*parching*)
- Grains are combined with hot liquid
- Cooked while covered over direct heat or in the oven



Pilaf: Method

1. Heat fat. Add minced onions and sweat.
2. Add grain and parch.
3. Add near-boiling liquid and aromatics.
4. Bring to a simmer.
5. Season with salt and pepper.
6. Cover and place in a 375°F oven.
7. Cook until grains are tender and liquid is fully absorbed.
8. Uncover, dot with butter, re-cover, and rest 5 minutes.
9. Fluff with a fork and adjust seasoning.



Risotto

- A rich, creamy dish with nearly a porridge like consistency, yet each grain retains a distinct bite
- Rice is parched as in pilaf, but the liquid is added and absorbed gradually
- Grains are stirred throughout the cooking process as the starch slowly releases, producing a creamy texture





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Any Questions?