



# Culinary Foundations I

*Class 3: Grilling, BBQ & Broiling; Potato and Steak (Beef)  
Cookery*

# Grilling, BBQ & Broiling

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## ▶ Grilling vs. BBQ

- ▶ BBQ is low and slow and usually involves smoke
- ▶ Grilling is cooking foods over high heat, may involve smoke
  - ▶ Identified by cross-marks or *quadrillage*
- ▶ Broiling is cook foods UNDER high radiant heat
  - ▶ Don't Confuse with "Char-Broiled"
  - ▶ As high as 2000°F
  - ▶ Placed on grill or platter

# US Barbecue Styles

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## ▶ **Carolina Style**

- ▶ Usually Pork, Shoulder and Whole Hog
- ▶ Vinegar-Based Sauces (Eastern Carolina)
- ▶ Ketchup-Based Sauces (Western Carolina)
- ▶ Mustard-Based Sauces (Columbia, SC)

## ▶ **Memphis Style**

- ▶ Often Pork, Ribs
- ▶ Tomato-Based Sauces

# US Barbecue Styles, con' t.

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- ▶ **Texas Style**
  - ▶ BEEF! Beef Brisket, Ribs & Sausage
  - ▶ Less Sweet Sauces than Kansas City Style
- ▶ **Kansas City Style (the “Capital of BBQ)**
  - ▶ A Variety of Proteins
  - ▶ Thick, Sweet Tomato & Molasses-Based Sauces

# Other Traditional BBQ's

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- ▶ Hawaiian Luaus
- ▶ Argentina & Peru, Asado
- ▶ Brazil
- ▶ Caribbean Jerk
- ▶ Australia & New Zealand

# The Grilling Procedure

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- ▶ **Mise en Place, Trimmed, Seasoned & DRY**
- ▶ **Water in Spray Bottle to Suppress Flare-ups**
- ▶ **Heat Grill**
  - ▶ Low, Medium and High Heat Zones
    - ▶ To Regulate Cooking Times
    - ▶ Hold Food
    - ▶ Thickness and Type of Foods
- ▶ **Cleaned with Wire Brush**

# Grilling Procedure, Con' t

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- ▶ Lightly Oil Hot Grill
  - ▶ Rolled Up Small Towel Dipped in Oil
  - ▶ Half an Onion Dipped in Oil
- ▶ Place Food *Presentation Side Down* at 45° Angle to Grates
- ▶ Turn Food 90° for Crossmarks & Cook about Halfway
- ▶ Turn Food Over and Finish to Desired Doneness

# Grill Marks...

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- ▶ Only On One-Side (Presentation) Side
- ▶ Looks AND Flavor
- ▶ Technique



# Determining Doneness

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- ▶ Grilling is Highly Variable
- ▶ Timing is the least reliable means to determine doneness
- ▶ Touch, Sight and Temperature are the Most Reliable
- ▶ Takes Practice

# Serve-Safe vs. Cooking Temperatures

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## ▶ Serv-Safe

- ▶ A Serv-Safe New York Strip = 145°
- ▶ A Serv-Safe Hamburger = 155°

## ▶ Chefs

- ▶ *Rare* = 125° - 130°
- ▶ *Medium-Rare* = 130° - 135°
- ▶ *Medium* = 140° - 145°

## ▶ The Disclaimer

- ▶ *“Raw or partially cooked foods...”*

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# Steak

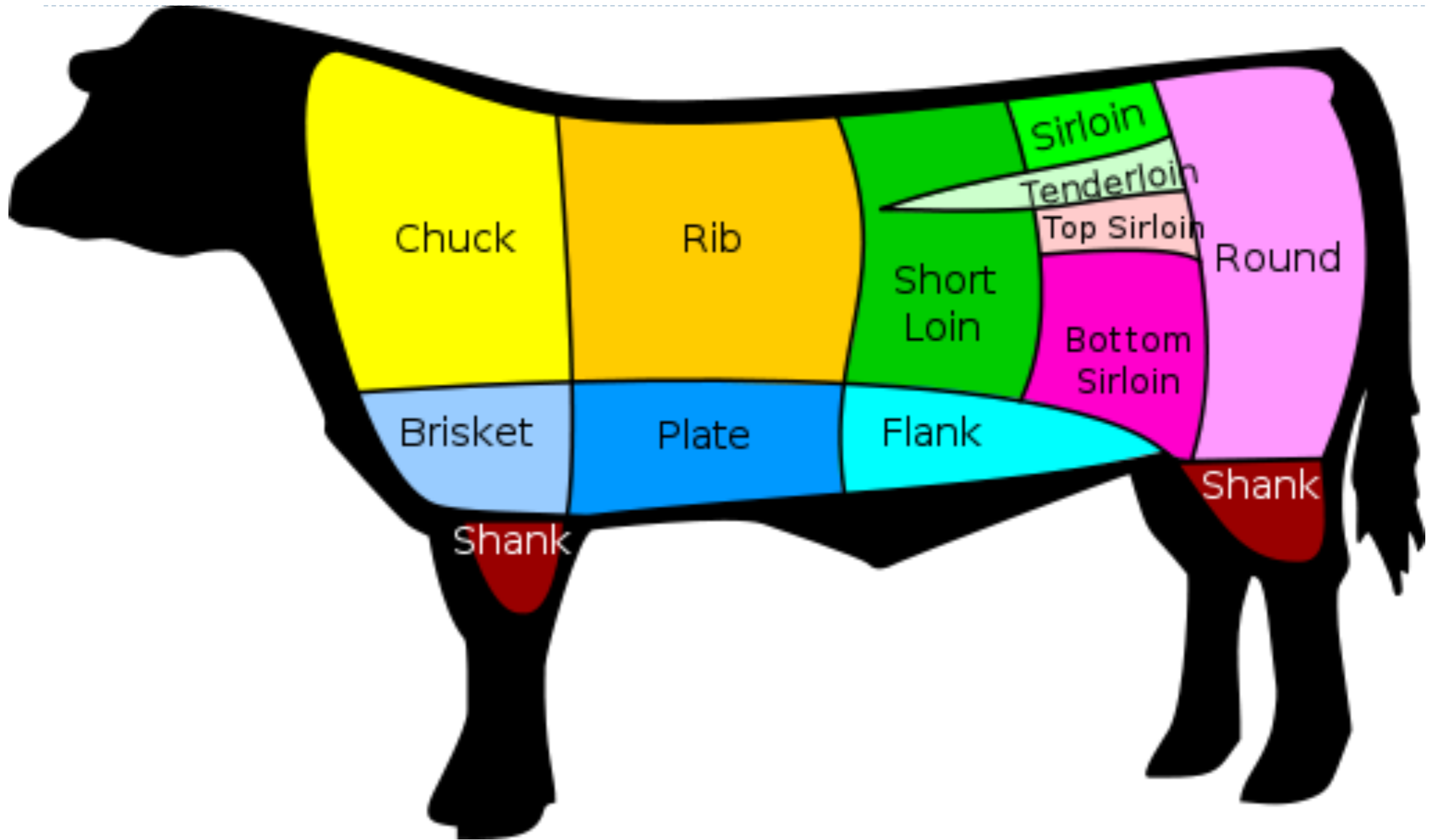


# Steak

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- ▶ From Old Norse *steik*, "roast"
- ▶ In US, usually grilled or pan-fried
- ▶ Usually beef, can be fish "steaks", or some lamb
- ▶ Pork and lamb "steaks" are called "chops"
- ▶ Most tender cuts come from the loin and the rib
  - ▶ Cooked quickly with high heat and low moisture
- ▶ Less tender cuts from the chuck and round
  - ▶ Cooked slowly, lower temperatures & moist heat
- ▶ US considered to have the best

# Steak



# Tempering

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- Tempering steaks speeds up the cooking process, resulting in more juicy steaks.
- The easiest way to temper a steak is to bring them to room temperature for 1-2 hours before cooking.
- Also: placing them in a sealable, plastic bag into warm water for 30 minutes to an hour. preheating your oven to 200° Fahrenheit, turning it off and placing them into the oven for 30 minutes.
- Do not cook steaks straight from refrigeration.
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# Marbling

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- ▶ Amount of inter-muscular fat determines grade/quality.
- ▶ Not fat on perimeter of steak.



# Doneness

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- ▶ **Chef's Doneness vs. ServSafe (145°F)**
  - ▶ Disclaimer
- ▶ **Medium-Rare is the Standard**
  - ▶ Above 135°F steaks get tough, dry and “livery”
- ▶ **Regional Differences**
- ▶ **Learning Doneness**
  - ▶ Touch and Practice!
  - ▶ Thermometer
  - ▶ The Hand

# \*Food Nerd Alert

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- ▶  $18^{\circ}\text{C}/32^{\circ}\text{F}$  above the animals body temperature is the ideal cooking temperature...
- ▶ Beef (and mammals) have a body temperature of  $98.6\text{F}$ ...the ideal cooking temperature =  $98.6+32$  or  $131^{\circ}\text{F}$
- ▶ Chicken (and poultry) =  $108+32$  or  $140^{\circ}\text{F}$
- ▶ Fish are the lowest at  $41^{\circ}\text{F}$  to  $86^{\circ}\text{F}$

# Doneness

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- ▶ **Raw, Uncooked.** Used in dishes like steak tartare, & Carpaccio, Gored.
- ▶ **Very Rare or “Blue”**, barely warm in the center and very red (110°F)
- ▶ **Pittsburgh Rare"** is rare or very rare on the inside and charred on the outside
- ▶ **Chicago Style..."** cooked to the desired level and then quickly charred.
- ▶ **Rare**, red but warm center (120°F)

# Doneness

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- ▶ **Medium-Rare**, (130-135°F) fairly hot pinkish red center, hot throughout entire steak, pink center with brown surrounding
- ▶ **Medium** , (140-145°F) hot throughout entire steak, pink center with brown surrounding
- ▶ **Medium-Well**, (150-155°F) very minimal pink, brown almost completely surrounding
- ▶ **Well-Done**, (160°F) brown in the center, very hot throughout

# Perfect Medium Rare

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# 8 USDA Beef Grades

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- ▶ **U.S. Prime** - Highest in quality and intramuscular fat, limited supply. Currently, about 2.9% of carcasses grade as Prime. (**Do not confuse with Prime Rib**)
- ▶ **U.S. Choice** - High quality, widely available in foodservice industry and retail markets. Choice carcasses are 53.7% of the fed cattle total.
- ▶ **U.S. Select** (formerly "Good") - lowest grade commonly sold at retail, acceptable quality but less juicy and tender due to leanness.
- ▶ **U.S. Standard , U.S. Commercial, U.S. Utility, U.S. Cutter, U.S. Canner**

# Steakhouse Steaks

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# Steakhouse Steaks

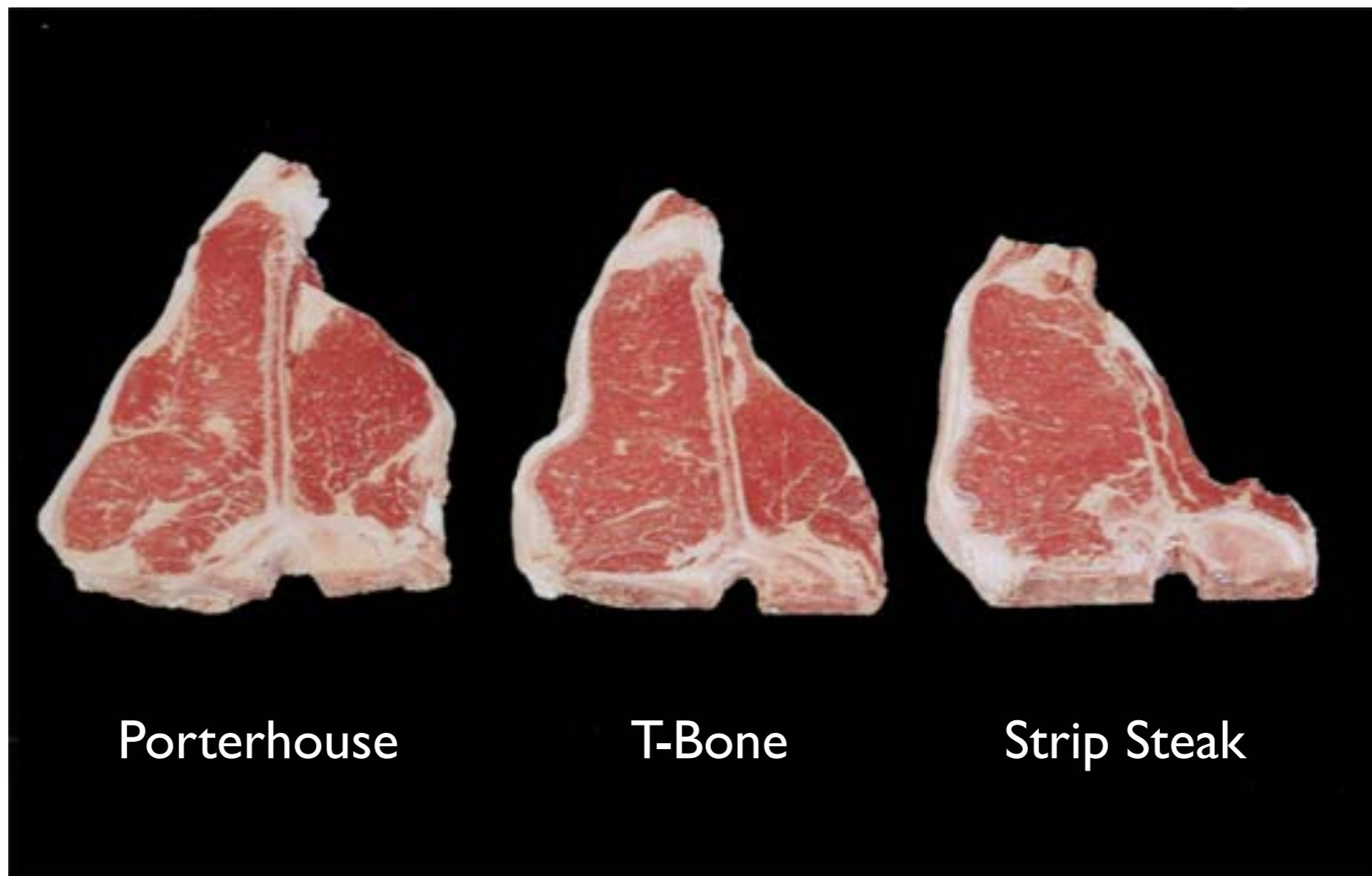
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# T-Bone and Porterhouse

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- ▶ Includes the Strip Loin and Tenderloin



# Chateaubriand

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- ▶ Thick cut from the tenderloin
- ▶ Usually only offered as a serving for two



# Filet Mignon

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- ▶ Thick cut from the tenderloin
- ▶ Tournedos, Filet de Bœuf.
- ▶ Medallions & Filets
- ▶ V. Tender, less Flavor
- ▶ Don't marinate
- ▶ Don't cook beyond medium rare.



# Rib Eye (*Fr. Entrecôte*)

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- ▶ Cut from the Rib Primal
- ▶ Beefy and well-marbled
- ▶ Well suited to dry heat cookery.
- ▶ Bone-in rib eye sometimes called a “Cowboy Rib eye”



# Strip Steak

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- ▶ Cut from short loin or “strip loin”
- ▶ Between Rib eye and filet in flavor and tenderness.
- ▶ Fr. Entrecôte
- ▶ Aka, Shell Steak, Club Steak
- ▶ With bone, “Kansas City Strip Steak”



# Peter Lugers Steak House

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# Other Steaks

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- ▶ **Round Steak** or rump steak, a cut from the round. A true grilling steak with good flavor though it can be tough, if not cooked properly.
- ▶ **Sirloin Steak**, a steak cut from the sirloin. Also tends to be less tough, resulting in a higher price tag.
- ▶ **Flank and Skirt Steak**
- ▶ **Chuck Steak and Cube Steak**
- ▶ **Denver, Sierra, “Delmonico” boneless country-style beef chuck ribs, & Flat Iron**

# Cooking Steak

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1. **Grill**, to cook over flames, embers or heat source on a grate
2. **Broil**, to cook under flames/heat source
3. **Pan Sear**, to sear and cook in a pan on stove top
4. **Pan Roast**, to sear and start cooking in a pan (on a stove top) and finish in an oven

# Grilling (aka “Char-Broiled”) Steak

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1. Steaks should be room temperature, dry and seasoned.
2. Grill should be HOT, clean and “seasoned”
3. Lightly oil steak and place the steak at 10 o’ clock.  
Turn in 30-45 seconds to 2 o’ clock
4. Cook for 2-3 more minutes
5. Turn over and finish to desired level of doneness
6. Rest steak for 5 minutes and serve

# Broiling Steak

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1. Steaks should be room temperature, dry and seasoned.
2. Use a heavy pan or “sizzle plate” ...Preheat the pan and the broiler
3. Cook steak on one side (about 3 minutes) until ½ cooked
4. Turn over and finish to desired level of doneness, about 3 more minutes for Medium Rare
5. Can be finished in the oven
6. Rest Steak for 5 minutes and serve

# Grilling vs. Broiled

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## Grilling

- ▶ More “smoke flavor”
- ▶ Less “crust”
- ▶ Somewhat less Control
- ▶ No Pan sauce
- ▶ The “Grill” as a focal point

## Broiled

- ▶ More “Crust”
- ▶ Better Control
- ▶ Less Smoke Flavor
- ▶ Potential for Pan Sauce
- ▶ Service in Hot Pan (Careful!)
- ▶ Can Gratiné

# Upright Broilers & Salamanders

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▶ **Model AGBU-2**

Shown with optional Casters.



▶ **Model ARSB-36**



# 1800°F Broiler

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# Pan Searing Steak

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1. Steaks should be room temperature, dry and seasoned.
2. Use a heavy pan. Preheat the
3. Cook steak on one side (about 1-3 minutes) until  $\frac{1}{2}$  cooked
4. Turn over and finish to desired level of doneness, about 1-3 more minutes for Medium Rare
5. Rest Steak for 5 minutes and serve
6. Make Pan Sauce if Desired

# Pan Roasting Steak

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1. Steaks should be room temperature, dry and seasoned.
2. Use a heavy pan. Preheat the pan and the oven to 500°F
3. Sear steak on one side for 30 seconds on stovetop
4. Turn over and sear other side for 30 seconds.
5. Move pan to oven and cook 2 minutes
6. Turn steak over and cook 2 more minutes
7. Rest Steak for 5 minutes and serve
8. Make pan sauce if desired

# Pan-Seared vs. Grilled

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**Pan -Seared**



**Grilled**



# Creamed Spinach

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- ▶ Sautéed Spinach with cream sauce and cheese
- ▶ Cream reduced or Béchamel
- ▶ Steak House Staple Side
  - ▶ Peter Luger \$8.95 (For2)
- ▶ Toss with pasta, gnocchi for main
- ▶ Use as dip or hors d'oeuvre
- ▶ Gratiné with bread crumbs
- ▶ Serve with a fried egg



# Caramelized Onion

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- ▶ Julienne
- ▶ Hot Pan – Hot Oil
- ▶ Sauté
- ▶ Season –lightly
- ▶ Stir Occasionally
- ▶ Deglaze as needed
- ▶ 30 -45 minutes or more!
- ▶ Lower the heat



# Potatoes

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*(FR.) Pommes de terre*



# Definition – *Solanum Tuberosum*

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- ▶ Starchy Tubers- the thickened parts of underground stems
- ▶ Starch content varies greatly between varieties
  - ▶ This difference affects their cooking qualities
- ▶ Stems, leaves and flowers are toxic

# History

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- ▶ Originated in Andean region of South America
  - ▶ 10,000 years ago
- ▶ Thousands of varieties native to Peru
- ▶ Introduced to Europe 50 years after Columbus
- ▶ Considered Weird and Poisonous and used for its flowers
- ▶ Potato Famine 1845-1846



# Potato Varieties



## Dry, Floury Potatoes

Aka; "Baking", Idaho, Russet

High in Starch and High in Amylose  
Best for Baking, Frying & Mashed Potatoes ("drinks-up" butter.)

Will thicken a soup or stew



## "In-Between" Potatoes

Aka; Chef, & Yukon Gold

Lower in Starch and Amylose...still mealy  
Best for Baking, Frying & Mashed Potatoes



## Firm, Waxy Potatoes

Aka; Red Bliss, Creamer

Low in Starch and Amylose  
Best for Roasting, Boiling & Potato Salad

20-22% STARCH

18-20% STARCH

16-18% STARCH

# Fingerling Potatoes

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- ▶ An heirloom variety related to original Andean potato variety
- ▶ Low Starch, Good for Roasting
- ▶ Relatively Expensive
- ▶ ***Substitutes:*** new potatoes



# Why are my Potatoes green?

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- ▶ Caused by prolonged exposure to sunlight or improper storage.
- ▶ Increased amounts of chlorophyll and higher levels of a toxic alkaloid called *solanine*.
- ▶ Ingesting solanine can cause illness. Remove any green patches from potatoes before use.



# \*Food Nerd Alert

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- ▶ Solanine is a nerve toxin
- ▶ Water or heat in cooking does not alter
- ▶ Gov' t allows 100ppm of solanine
- ▶ Remove the “eyes” and don' t eat the green parts of the plant
- ▶ Commercial potato salad is treated with sulfur dioxide, to inactivate polyphenoloxidase that darkens potatoes when cut and exposed to light.
- ▶ People who are sensitive to sulfites can suffer allergic reactions, including anaphalactic shock.

# Purple Potatoes

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- ▶ Mealy, Similar to Russets



# Red Potatoes

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- ▶ Thin Skinned
- ▶ Waxy Flesh
- ▶ Boil or Steam



# Russet (Burbank) Potatoes

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- ▶ “Idaho” Potato
- ▶ Baking Potato
- ▶ Mealy Flesh



# White Potatoes

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- ▶ “Chef Potatoes”
- ▶ “All-Purpose Potatoes”
- ▶ Waxy yellow or white flesh
- ▶ Usually cooked with moist heat method or sautéing



# Yukon Gold Potatoes

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- ▶ A type of White Potato
- ▶ Yellow flesh
- ▶ Creamy Buttery Texture
- ▶ All cooking methods



# New Potatoes

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- ▶ Small, immature potatoes (any)
- ▶ Low Starch and waxy
- ▶ High in moisture and thin delicate skin



# Sweet Potatoes

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- ▶ A tuber, different family than potatoes
- ▶ Red to Yellow Flesh
- ▶ Suitable for most cooking methods
- ▶ Erroneously called “yams”



# Yams

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- ▶ A tuber, different family than sweet potatoes
- ▶ White to red flesh
- ▶ Asian Origin
- ▶ Important in Africa and Caribbean
- ▶ Less Sweet



# Nutrition

- ▶ 100 calories
- ▶ 0 fat
- ▶ Fiber
- ▶ Vitamin C (mostly destroyed when cooked in water)
- ▶ Potassium



# Storage

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- ▶ a cool, dark, dry, well-ventilated place
- ▶ DO NOT refrigerate
- ▶ DO NOT freeze
- ▶ HANDLE carefully - potatoes can bruise
- ▶ DO NOT wash potatoes until ready to peel or prepare
- ▶ No sunlight



# Sizes

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- ▶ Russets come in ten sizes, ranging from 35 count to 120 count per 50 pound box.
- ▶ The most popular sizes for foodservice are 70s and 80s.
- ▶ Reds, yellows and blues come in three sizes - A, B, and C, measured by diameter. A being the largest



# Grades

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- ▶ Determines varietal characteristics (skin color and thickness), firmness, cleanliness, maturation and shape
- ▶ Free from freezing, blackheart, diseases and injury
- ▶ **US No. 1** for baking, where appearance and shape is important
- ▶ **US No. 2** Potatoes which will be peeled and cut, for mashing



# Discoloration

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- ▶ Uncooked cut or peeled potatoes will discolor due to exposure to the air.
- ▶ keep cut potatoes covered with cold water until ready to use - up to two hours
- ▶ Longer soaks lose water soluble vitamins



# Cooking Potatoes

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- ▶ Select proper type for cooking method
- ▶ Keep cuts and sizes similar
- ▶ Keep covered in water when slicing or peeling



# Baked Potatoes

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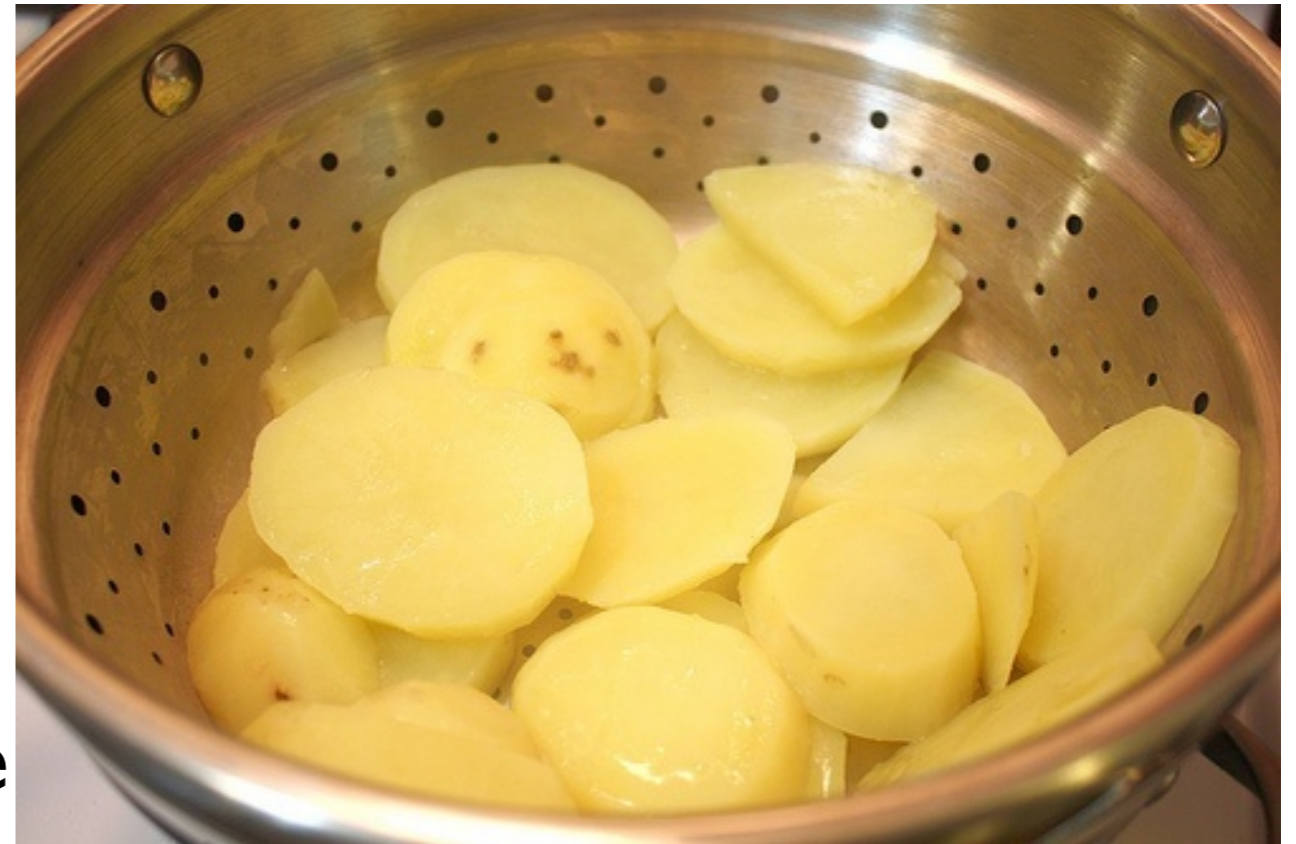
- ▶ Russets
- ▶ No Foil!
- ▶ Scrub well. Rub each potato lightly with cooking oil.
- ▶ Pierce several times with a fork so steam can escape.
- ▶ 325°F for 70-90 minutes



# Steamed Potatoes

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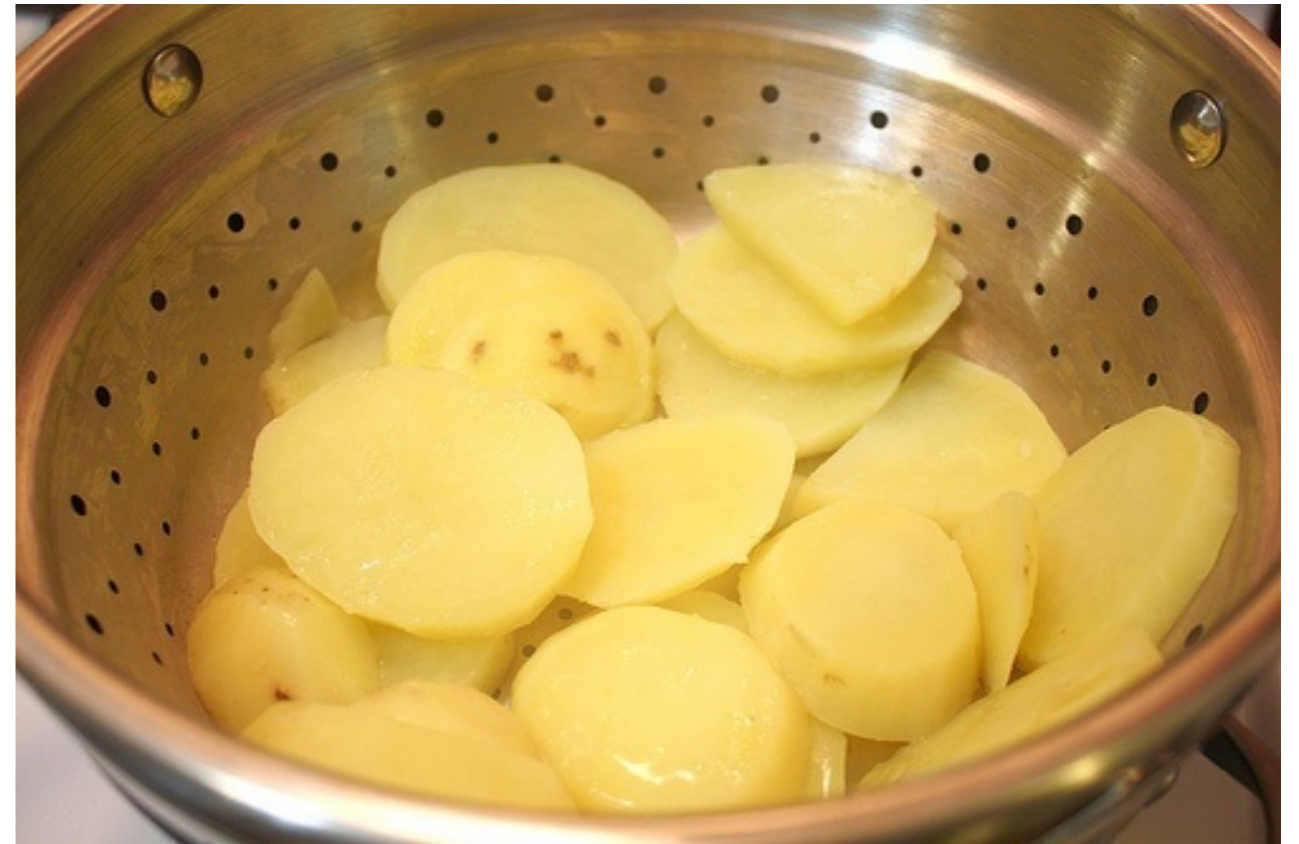
- ▶ Reds, Whites, Yellows, Blues
- ▶ Scrub well.
- ▶ Steam until tender.
- ▶ Pressure Steamer - 25 to 30 minutes for 6 pounds.
- ▶ Convection Steamer - 40 to 45 minutes for 6 pounds.
- ▶ Potatoes to be steamed can be peeled before or after cooking.



# “Boiled” Potatoes

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- ▶ All Varieties
- ▶ Scrub well
- ▶ Cut into quarters or even-sized pieces
- ▶ Simmer not Boil



# French Frying

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- ▶ Russets
- ▶ Scrub well, peeled or not
- ▶ Cut Uniform
- ▶ Soak
- ▶ Fry at 375°F
- ▶ Drain, Season & Hold (5 min. max.)
- ▶ Double Fry by blanching at 275°F first, then at 375°F
- ▶ Do not salt over fryer



# Roasted Potatoes

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- ▶ Russets, Reds, Yellows, Whites, Blues
- ▶ Scrub well, peeled or not
- ▶ Cut Uniform
- ▶ Toss with oil, (and Herbs) and seasoning
- ▶ Roast at 425°F , 1 hour



# Mashed Potatoes

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- ▶ Russets, Reds, Yellows, Whites,
- ▶ Scrub well, peeled or not
- ▶ Cut Uniform (or whole)
- ▶ Start in cold water
- ▶ Cook (and peel?) and then dry
- ▶ Mash, Rice, Food Mill, etc.
- ▶ Fold in cold butter, warm milk
- ▶ Season & Hold



# Mashed Potatoes, con' t.

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**For Chunkier,  
"Smashed" Potatoes**



**Smooth Potatoes,  
Larger Quantities.**



**The Smoothest, and  
Lightest.**

# Sautéed Potatoes

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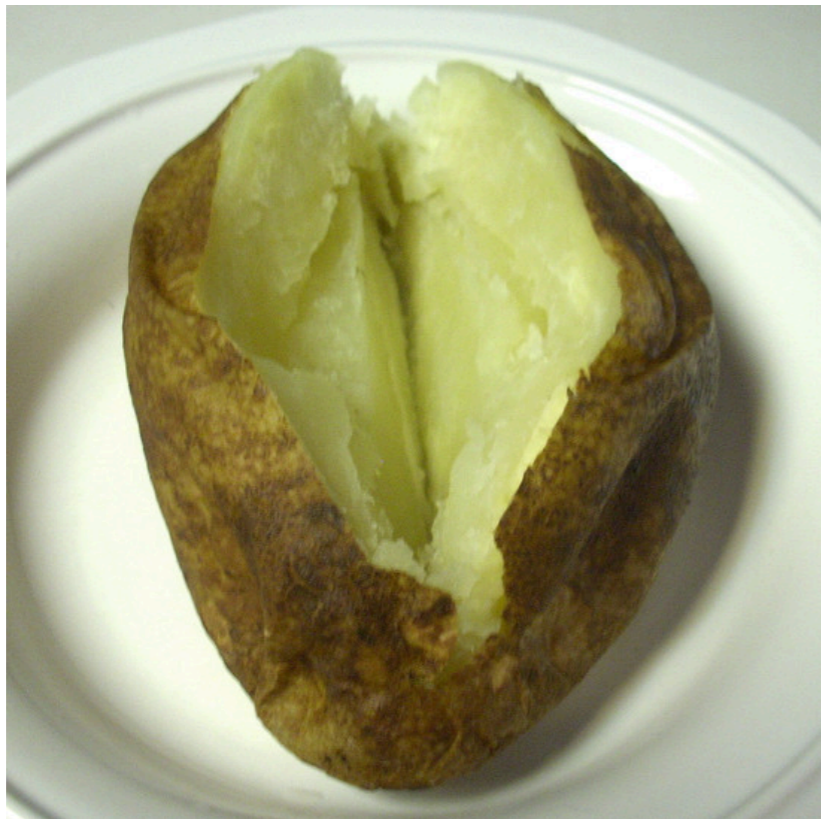
- ▶ Home Fries, Hash browns, Pommes Anna
- ▶ Whites, Yellows, Reds
- ▶ Scrub well
- ▶ Cut Uniform (or whole)
- ▶ Hold in cold water
- ▶ Par cook (or use baked potatoes)



# Other Cooking Methods

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- ▶ Microwave
- ▶ Scalloped, Au Gratin
- ▶ Grilled



# Class 3 Lab

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## Each Student will Demonstrate to Standard:

Proper Work-Station Set-up & Mise en Place

Julienne

Brunoise

Bâtonnet

Macédoine

½ Onion (Julienned)

½ Onion (Diced)

Rondelle & Bias

Grilling Procedure

Broiling Procedure

## Each Student will Prepare to Standard (*one each*):

Steak Marked and Grilled Medium-Rare

¼ Chicken, Grilled

Potato, Baked

Potato, Mashed

Potato Rosti or Hash Browns