

Onions - Layers of Flavor

A Culinary Curriculum from
The National Onion Association

Lesson 1

Onion History, Production, Availability and
Consumption

Introduction to Onions

- ▶ Onion is part of the Allium genus which includes chives, garlic, leeks and shallots
- ▶ Onion is a bulb vegetable



Onion History

- ▶ Onions were a staple in prehistoric diets
- ▶ Unsure where onions originated
 - ❖ some say central Asia while others believe Iran/West Pakistan
- ▶ May be one of the earliest cultivated crops
 - ❖ onions are referenced in ancient documents up to 5000 years ago

Onion Production

- ▶ World production = 105 billion pounds
- ▶ 175 countries grow onions
 - ❖ Leading production countries:
China, India, United States, Turkey, Pakistan
- ▶ U.S. onion production - 6.2 billion pounds
- ▶ From coast to coast, 20 states grow onions
 - ❖ Leading production areas are California, Idaho-Eastern Oregon and Washington

Onion Production



- ▶ Most commercial onions grow from seed
- ▶ About 2/3 of an onion bulb grows above ground
- ▶ Onions typically grow for about five to six months
- ▶ Onions are harvested when tops begin to fall over

Onion Production



Bulbing is triggered by day length and latitude

Onion Consumption

- ▶ World per capita consumption - 13 pounds
- ▶ U.S. per capita consumption - 20 pounds
- ▶ Highest per capita consumption
Libya - 66 pounds



Onion Consumption



- ▶ Onions are the most commonly mentioned vegetable on today's menus
- ▶ 92 percent of foodservice operations mention onions on their menu

Onion Consumption

- ▶ Diverse menu items
- ▶ Diverse cuisines - Thai, Greek, Indian, Tex-Mex, Italian, Mediterranean, African, Middle Eastern, Mexican, French and American



Lesson 2

Onion Types, Colors, and Sizes

Onion Types

- ▶ Spring/Summer (fresh onions)
 - ❖ Available - March through August
 - ❖ Skin - one or two thin layers, lighter
 - ❖ Water content - high
 - ❖ Flavor - sweet to mild

Best uses: raw, pickled, lightly cooked, or grilled

Onion Types

- ▶ Fall/Winter onions (storage onions)
 - ❖ Available - August through May
 - ❖ Skin - multiple, thick, paper-like layers, darker
 - ❖ Water content - lower (longer shelf life)
 - ❖ Flavor - mild to pungent

Best uses: raw, caramelized, roasted, grilled, fried or any dish with a long cook time

Onion Colors

▶ Percent of US Production

Yellow = 85% Red = 8 to 10% White = 5%

spring/summer
(sweet) onions



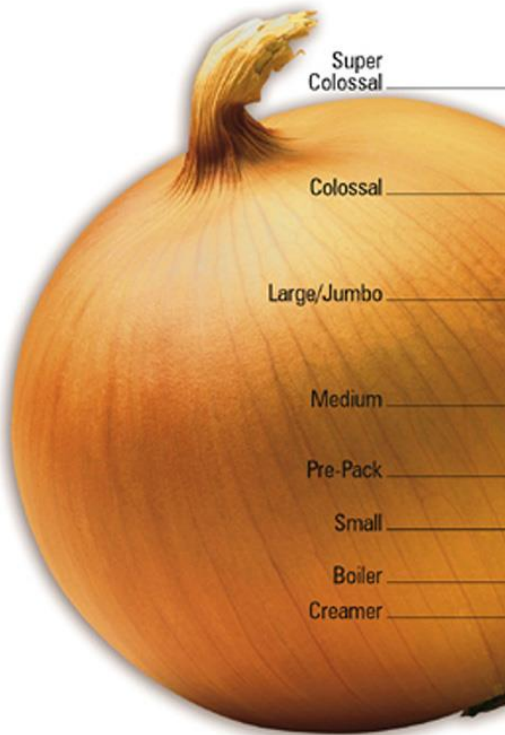
fall/winter
onions



COLORS OF ONIONS

Bulb onions can be yellow, red or white.

Onion Sizes



Super Colossal - 4 to 4-1/2" and up

Colossal - 3-3/4" and up

Jumbo - 3" and up

Medium - 2" to 3-1/4"

Pre-pack - 1-3/4" to 3"

Small - 1" to 2-1/4"

Boiler - 1" to 1-7/8"

Creamer (Pickler/Pearl) - Under 1"

Lesson 3

Onion Receiving and Handling, and Storage

Receiving and Handling

- ▶ Onions should feel firm and dry
- ▶ Onions should be free of gray or black mold
- ▶ Onions should not show signs of sprouting
- ▶ Do not drop onions as this will cause bruising

Storing Onions

- ▶ Dry, cool
- ▶ Well ventilated
- ▶ To avoid sprouting, keep onions out of direct sunlight
- ▶ Do not store onions near other produce such as apples, celery and pears
- ▶ Other produce can absorb onion odor and likewise, onions can take on odor of other produce

Packaging for Dry Bulb Onions

- ▶ Bags



- ▶ Industrial totes



- ▶ Cartons



Fresh-cut Options

▶ Common Cuts Available

- ❖ Diced
- ❖ Rings
- ❖ Whole sliced
- ❖ Whole peeled
- ❖ Ready-to-bloom
- ❖ Slivered
- ❖ Pureed



IQF Onions



► Individual Quick Frozen (IQF)

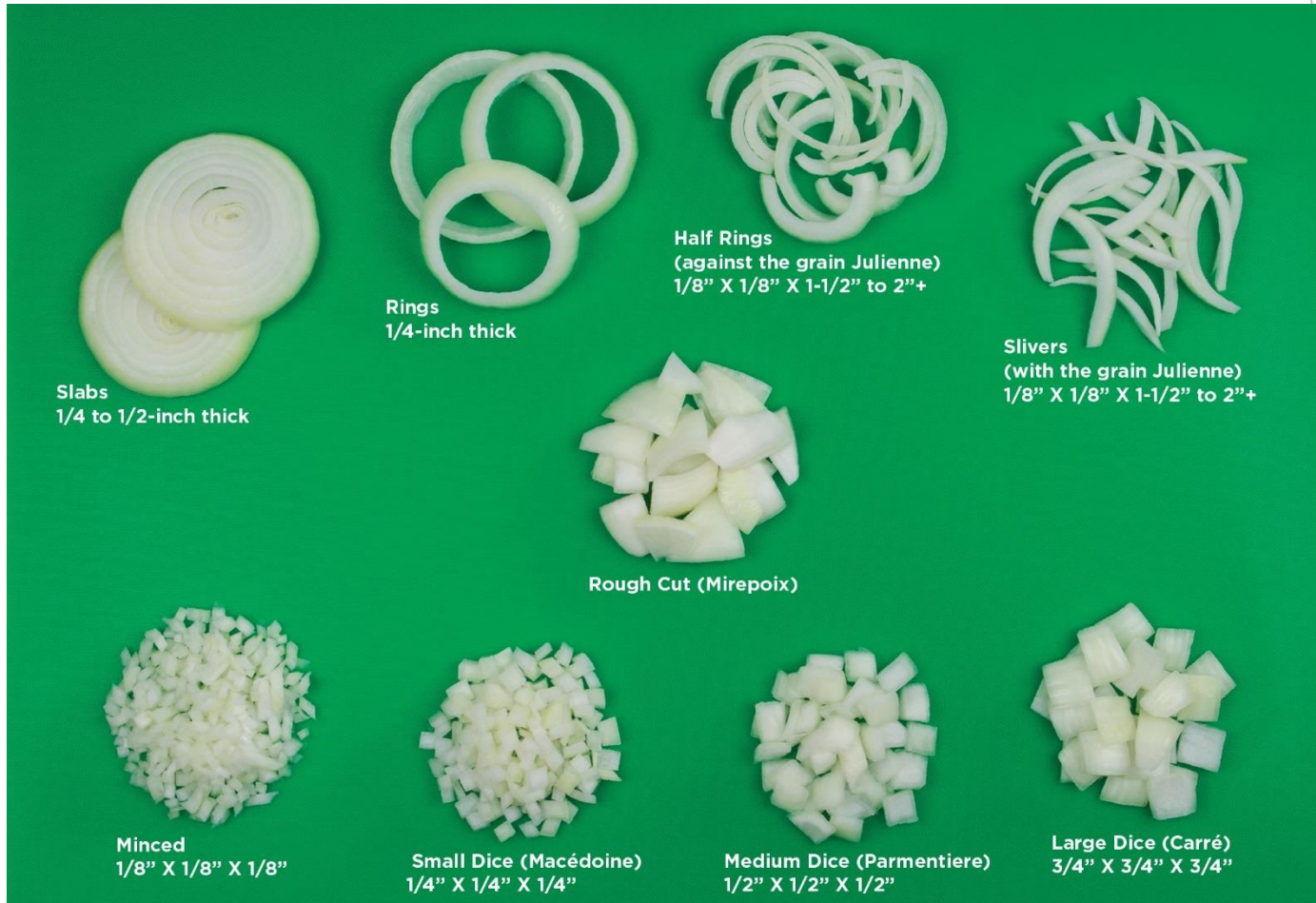
- ❖ Diced
- ❖ Rings
- ❖ Strips

Roasted, caramelized and custom seasoning formulas may be available

Lesson 4

Cutting Onions and Onion Yields

Onion Cuts



How To Reduce Tearing

- ▶ Always use a sharp knife
- ▶ Chill for 30 minutes before cutting
- ▶ Begin cutting at the stem; leave the root end uncut as long as possible as it contains the highest concentration of sulfuric compounds

Onion Yields

ONION YIELD CHART

The following chart shows the approximate measurements for onions:

Onion Size	2-1/2"	3"	3-1/2"	4"	4-1/2"
Raw Onion Average Weight	4.34 ounces	7.27 ounces	11.09 ounces	16.17 ounces	21.62 ounces
Raw Onion Weight Range	3.71-5.33 ounces	6.26-9.23 ounces	10.06-12.32 ounces	15.00-18-06 ounces	20.85-22.07 ounces
Usable Peeled Onion Per Raw Onion Peeled Weight	73.54%	77.72%	78.54%	80.77%	81.64%
Peeled Onion Weight Range	2.47-4.86 ounces	4.81-7.84 ounces	7.7-10.11 ounces	11.46-15.64 ounces	15.90-18.96 ounces
Usable Onion Slabs (7/16") Range	3 -4 slabs	4 -5 slabs	4 -5 slabs	5 - 6 slabs	6 - 8 slabs
Usable Onion Rings (7/16" slabs separated into individual rings with diameter of more than 1") Range	12 - 19 rings	16 - 27 rings	24 - 38 rings	20 - 49 rings	38 - 59 rings
Usable Onion Slivers (1/8" horizontal slices) Per Raw Onion Weight	72.65%	72.36%	76.49%	79.55%	79.41%
Measure Diced Onions (3/8" pieces) Per Raw Onion Weight	2.47 cups per pound	2.71 cups per pound	2.74 cups per pound	2.79 cups per pound	2.82 cups pr pound
Measure Minced Onions (1/8" pieces) Per Raw Onion Weight	4.38 cups per pound	4.80 cups per pound	4.88 cups per pound	4.78 cups per pound	4.93 cups per pound

Source: Idaho Eastern Oregon Onion Yield Data/Menu Doctor LLC

Lesson 5

Onion Nutrition and Health Benefits

Onion Nutrition



- ▶ Only 45 calories per serving (one medium onion)
- ▶ Naturally fat free
- ▶ They are a source of dietary fiber, Vitamin C, Vitamin B6, Potassium and other key nutrients including Folate, Calcium and Iron.

Health Benefits

Health-Promoting Phytochemicals

▶ Flavonoid Quercetin

- ❖ Initial findings indicate anti-inflammatory
- ❖ Anti-inflammatory foods protect against cardiovascular disease, cancer, diabetes, obesity and other chronic conditions

▶ Sulfides/Thiols

- ❖ Support heart, immune and digestive health

The Greeks used onions to fortify athletes for Olympic Games.

Lesson 6

Preparation Methods for Onions

Preparation Method: Raw

- ▶ Sliced, diced or minced
- ▶ Used in salsa, salads and as condiments



Preparation Method: Sweat

- ▶ To heat in a small amount of fat over low heat until softened but not browned
- ▶ Cover to retain moisture
- ▶ Results in tender translucent pieces



Preparation Method: Sauté

- ▶ Quickly cooking in a small amount of hot fat over high heat
- ▶ Toss to cook evenly and prevent burning



Preparation Method: Caramelize

- ▶ Slowly cooking in a small amount of fat
- ▶ Browning occurs when naturally present sugars are heated, resulting in a rich, more complex aroma and flavor
- ▶ Caramelization takes time
 - ❖ exactly how much time will vary based on water content, cut of the onion and the volume

Fact: A recent menu study showed entrees with caramelized onions averaged \$1.80 more per item than onions menued without a noted preparation method

Preparation Method: Broiling/Grilling

- ▶ Dry heat method where onions are cooked under or over heat source



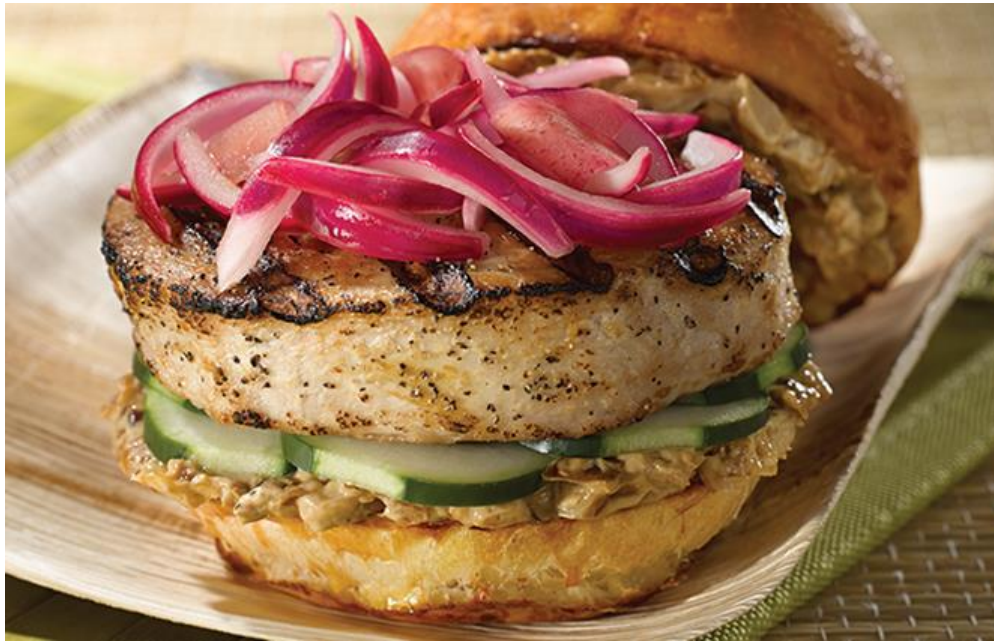
Preparation Method: Marinate

- ▶ Soaking onions in seasoned, often acidic liquid before cooking adds flavor



Preparation Method: Pickle

- ▶ Saturation of onions with acid, usually vinegar, in order to preserve them



Preparation Method: Roast

- ▶ Dry heat cooking method where onions are surrounded by hot air
- ▶ May be placed beside other vegetables or a large cut of meat while roasting



Preparation Method: Stuff



- ▶ Onions may be hollowed and used to hold a variety of ingredients

Preparation Method: Deep Fry

- ▶ From rings to blooms, deep fried onions remain a popular appetizer and side dish
- ▶ Deep fried onions are coated with a breading or batter before frying - this helps seal in moisture and keeps them from becoming too greasy
- ▶ Water content in the onion affects fry time
 - ❖ Higher water content onions (Spring/Summer) will require a longer frying time

Preparation Method: Deep Fry Bread vs Batter



- ▶ Breading - dredged in flour and then dipped in a combination of beaten eggs and a liquid, then dipped in bread crumbs
- ▶ Battering - dredged in a flour mixture, then dipped into a liquid batter

Preparation Method:

Terms to Know

- ▶ Mirepoix - roughly cut mixture of 50 percent onions, 25 percent celery and 25 percent carrots
 - ❖ Mirepoix (raw, roasted, sautéed) is the flavor base for a wide variety of dishes
- ▶ Onion Pique - half an onion studded with cloves and a bay leaf
 - ❖ Traditionally used in béchamel sauce and sometimes found in other traditional French recipes
- ▶ “Holy Trinity” - a term sometimes used to describe Creole version of mirepoix - a chopped mixture of onions, celery and bell pepper

Why Menu Onions?

Color, Texture and Flavor

So many great dishes begin with the peeling, slicing and dicing of an onion.



Why?

Because they add color and texture with a punch of flavor to many menu items.

Or as we say . . . layers of flavor.

For More Information



NATIONAL ONION
ASSOCIATION

www.onions-usa.org