

# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Tahoe Basin Master Gardeners

Trained through the UC Davis Co-operative Extension Service

Science based training

Program designed to assist local gardeners

Food Production and landscape pest issues

Fire wise landscaping

Water conservation landscaping

### Workshop topics covered:

1. Project overview
2. Anatomy
3. Planting and care
4. History and culinary aspects
5. Nutrition
6. Varieties being evaluated
7. Distribution of plant materials

Co-operative Extension Tahoe Basin Master Gardeners



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Master Gardeners



### Work with School Gardens



### Work with Community Gardens

### Do workshops

Co-operative Extension Tahoe Basin Master Gardeners



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Project Overview –

- Provide selected varieties of Onions to project participants
- Discuss a bit of the background and history
- Provide information on planting methods and maintenance
- Provide nutritional information
- Obtain feedback on the success of your plantings.



Wethersfield Red  
Onion

Baker Creek Rare Seeds Image



Texas Yellow  
Granex

Dixondale Farms Image

# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Onions

This is the fourth series of onion trials, second spring planted and first stand alone workshop

Like many plants onions are affected by length of day

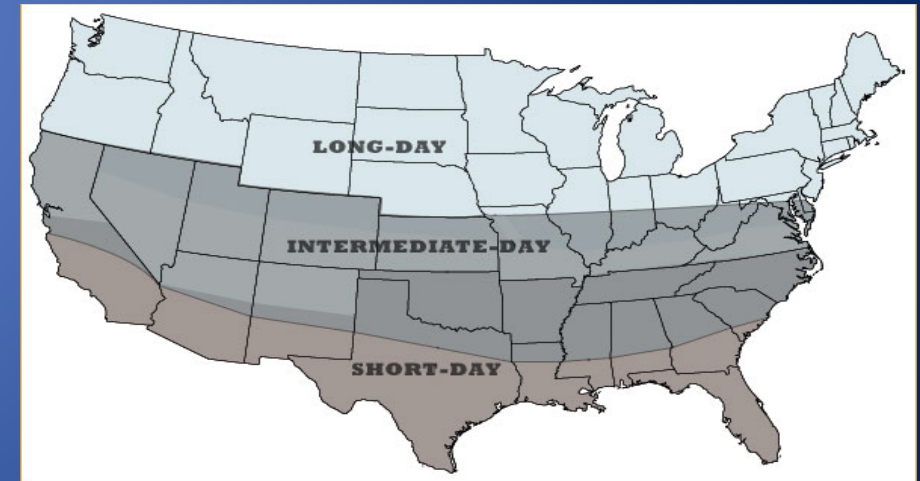
Onions can be categorized based on day length's affect on bulbing



Borettana Cipollini

Tahoe is between the short/long day zones and in the middle of the intermediate zone

Dixondale Farms Images

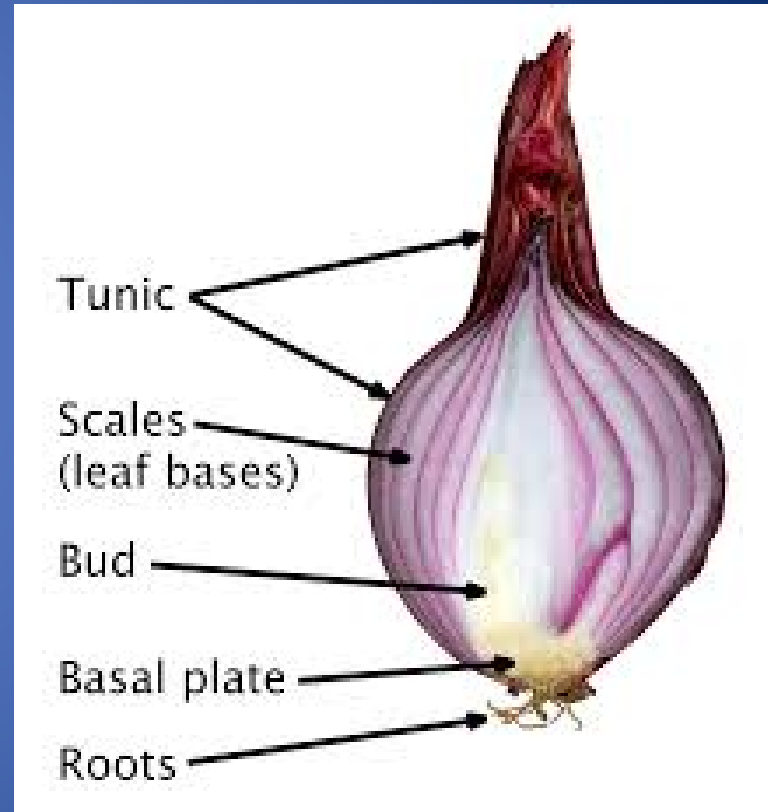
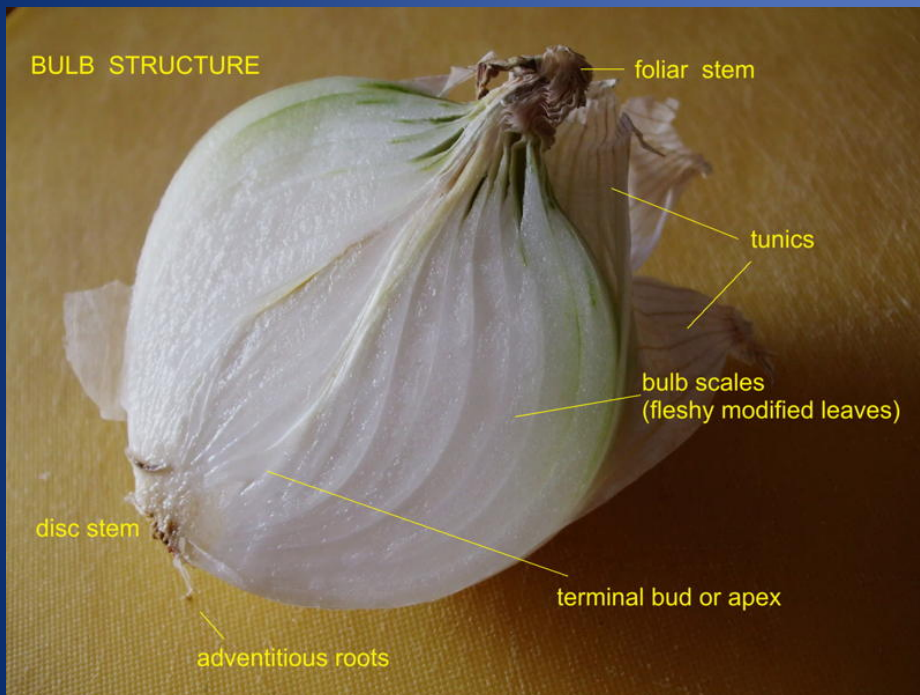


University of California  
Agriculture and Natural Resources

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## Spring Planting of Onions

### Anatomy of the Onion





# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Garden Preparation - Onions



Sierra Blanca white onion

Dixondale Farm Image

Onions do best in raised beds or hilled furrows  
Soil should retain moisture but drain well, having good tilth  
Soil pH of 6.0 - 7.0  
Area free of weeds.  
Consider incorporating a 5-10-5 fertilizer prior to planting  
Direct sunlight based on day length needs  
Onions can be grown in containers – Watch moisture fluctuation

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## Spring Planting of Onions

### Onion Cultivation

1. Plant 3-6 weeks prior to last frost
2. Plant so that the top of bulbs, 1-2 inches below ground surface
3. Plant 4-6 inches on center.
4. Insure good contact between plant materials and soil.
5. Do not allow soil to dry out.
6. Side dressing of manure, blood meal or nitrogen fertilizers every few weeks.
7. Do not cover emerging bulbs with soil
8. Remove any flower stalks (unless seed production is desired) and harvest.
9. Stop watering when leaves start to yellow, or when bulbing is obvious.
10. When ½ leaves yellow and droop, rake over remaining leaves.
11. After 1 week harvest, dry and store.



A Tahoe native - Swamp Onion

US Park Service Image

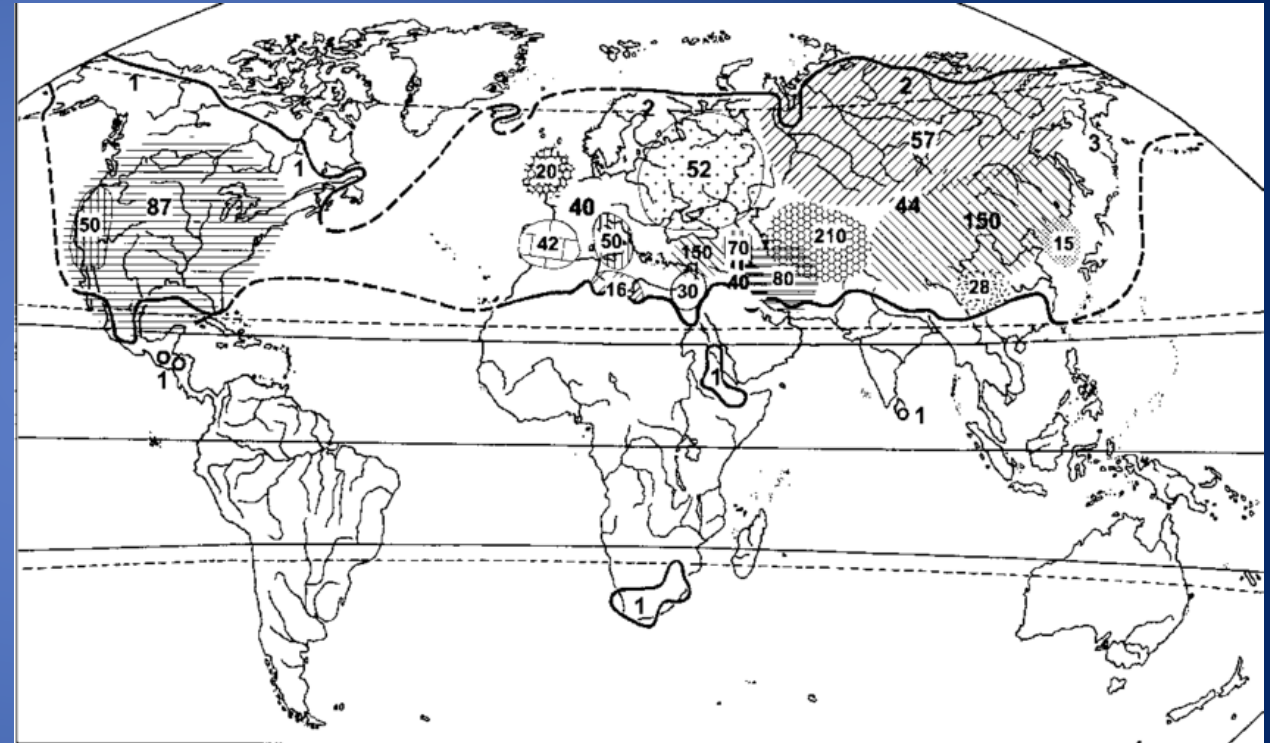
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## Spring Planting of Onions

### History of the Onion

The genus *Allium* consists of approximately 750 species, many used by indigenous peoples as a food or herbal component. The bulb onion, *A. cepa*, is thought to have evolved in Iran or central Asia. No ancestral form of *A. cepa* has been found in the wild.

It is thought by many anthropologists that the onion was domesticated by multiple peoples at least 5000 years ago.



From: Evolution, Domestication and Taxonomy of the Genus *Allium*  
R. M Fritsch and N. Friesen. 2002. *Allium Crop Science: Recent Advances*



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## Spring Planting of Onions

### Culinary Alliums

**Chives** - *Allium schoenoprasum*

**Scallions or Green onions** - *Allium fistulosum*

**Bulb Onions**- *Allium cepa*

**Shallots** - *Allium oschaninii*

**Leeks** - *Allium ampeloprasum*

**Garlic Chives** - *Allium tuberosum*

**Elephant Garlic** - *Allium ampeloprasum*

**Softneck Garlic** - *Allium sativum ssp. sativum*

**Hardneck Garlic** - *Allium sativum ssp. ophioscorodon*



[www.heirloomorganics.com](http://www.heirloomorganics.com)

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## Spring Planting of Onions

### History of the Onion

The onion became an important dietary staple, but also was important in herbal remedies, and religious rituals.

In Egypt it was used extensively in the mummification process (small onions replaced eyes). It was also used as an antiseptic ointment (including the Russian Army in WWII).

It was a key food staple in Egypt during both the old and new kingdoms.



Universal International Image



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## Spring Planting of Onions

### History of the Onion

Columbus planted onions on Isabella in 1493. By 1634 the Pilgrims were raising onions both for food and trade. The Iroquois tribes were growing onions (Native and European) in New York by 1640.



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## Spring Planting of Onions

### History of the Onion



The Wethersfield Red Onion – America’s First Famous Onion  
The town of Wethersfield Connecticut is arguably home to America’s first famous onion variety. The Wethersfield Red Onion, also referred to as Wethersfield Red or Large Red was developed from onion stocks brought over from Europe with the earliest Massachusetts Bay colonists, and grown in local gardens throughout the region.

Wethersfield itself has an interesting founding by John Oldham, who was banished from the Massachusetts Bay Colony for drawing a knife on Miles Standish.

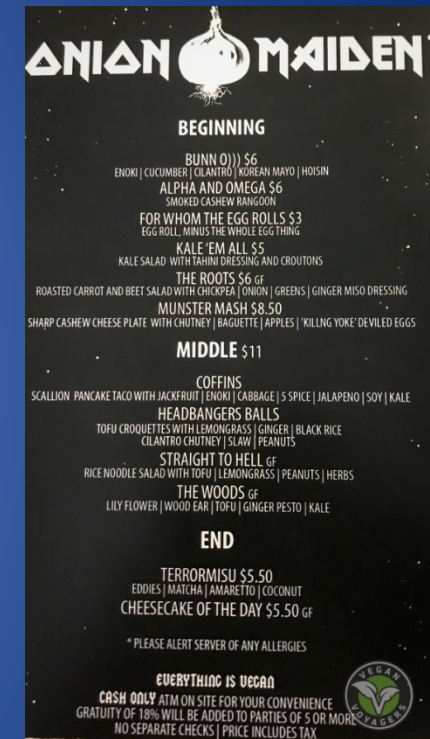


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## History of the Onion

The early cultivation of these onions was generally undertaken by women, as a supplement to the family's income, either through extra production from the family garden or as contract labor in commercial farming operations. Stories arose around the onion maids, or maidens and their purchasing of fine fashions, gloves and bonnets with money earned. The alternate story was that much of the money earned went for snuff or tobacco (also a Connecticut export).

## Spring Planting of Onions

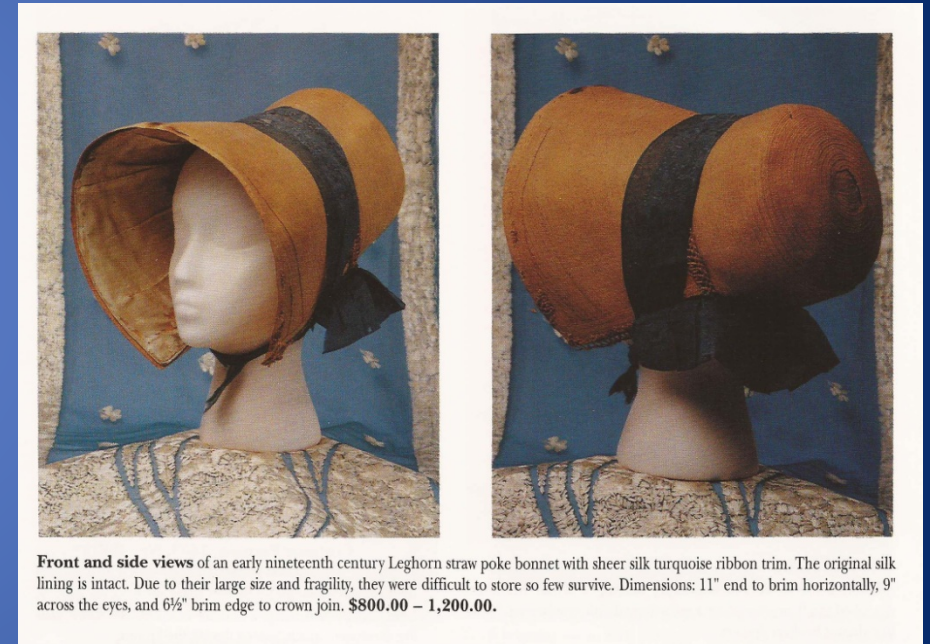


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## Spring Planting of Onions

### History of the Onion

Wethersfield resident, and possibly an onion maid herself, Sophia Woodhouse developed and patented (1821), at age 19, a method of preparing, plaiting and weaving a local spear grass into a bonnet. This poke type straw bonnet was worn by first ladies Dolly Madison and Louisa Adams (John Quincy Adams). Simpler versions were made and worn by generations of the onion maids.



carla-at-home Image



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## Spring Planting of Onions

### History of the Onion

#### Bermuda Onion

Changing tastes, plus disastrous harvests for a series of years, the Wethersfield onion slipped into near obscurity. The rise in popularity of the Bermuda Onion from the 1880s forward was in part due to improved transportation that allowed shipping of short storage onions.

Seeds from the Canary Islands were grown in Bermuda as Bermuda Onions.



Seed Kingdom Image

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## Spring Planting of Onions

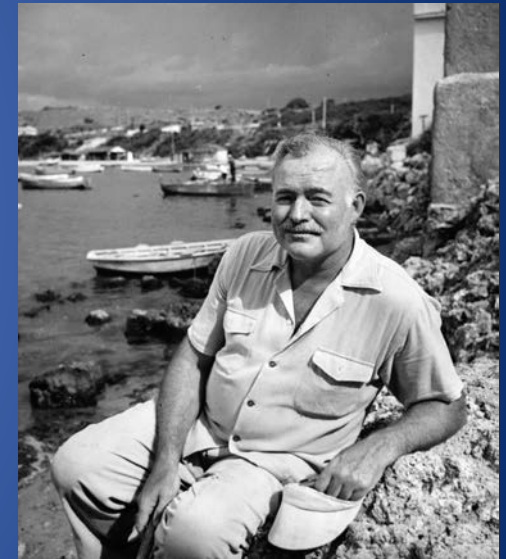
### History of the Onion



### Bermuda Onion

The love affair with the Bermuda Onion continued until WWI when shipments were limited. Problems with seed availability further limited access.

Hemingway's Santiago (Old Man and the Sea) was based in part on Gregorio Fuentes, who he met while looking for Bermuda onions.



Time Warner Image



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## Spring Planting of Onions

### History of the Onion



Del Mar Historical Society Image

**“Colonel” Jacob Shell Taylor 1885  
acquires land to build town of Del Mar  
in San Diego County**

**Casa Del Mar Hotel 1889 burned down**

**By 1899 Taylor was in Demmit County Texas  
building a dam across the Nueces River to  
Irrigate 2000 acres he hoped to sell to new farmers**

**By 1902, 8000 acres of the county was planted with  
onions – Name changed to Bermuda Texas**

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## Spring Planting of Onions

### History of the Onion

The problems in obtaining seeds from the Canary Islands caused great concern for the Texas farmers, which by the depression years was the major vegetable crop in Texas. Roosevelt (and Hoover before him) charged the land grant universities to work with local farmers to develop crops to sustain the nation.

In 1933 the Grano 502, parent of nearly all short day sweet onions is trialed by Texas A&M and US Department of Agriculture.

Co-operative Extension Tahoe Basin Master Gardeners



Texas Farm Bureau Image



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## History of the Onion

Onion Johnnies – From after the Napoleonic Wars through to WWII Frenchmen from the north coast of Brittany would cross the Chanel to sell their pink onions door to door.

The pink onion is now a protected designated variety in France and the European Union



## Spring Planting of Onions



Maison des Johnnies et L'Oignon Rose Muséum, Roscoff Brittany

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Onion Nutrition Facts	Serving Size 1 Medium Onion (148g)	Percent Daily Values*
Calories	64	3%
Total Carbohydrate	11 g	4%
Total Fat	0	0%
Cholesterol	0	0%
Dietary Fiber	3 g	12%
Sugars	9 g	
Protein	1.6 g	3%
<b>Vitamins</b>		
Vitamin A	3 IU	0%
Vitamin C	11.8 mg	20%
Vitamin B6	0.2 mg	9%
Folate	28.5 mcg	7%
<b>Minerals</b>		
Calcium	36.8 mg	4%
Iron	.3 mg	2%
Magnesium	15 mg	4%
Phosphorus	43.5 mg	4%
Potassium	190 mg	5%
Sodium	6.4	0%
Zinc	.3 mcg	2%
Copper	0.1 mg	3%
Manganese	0.2 mcg	10%
Selenium	0.7 mcg	1%
Fluoride	1.8 mcg	

## Spring Planting of Onions

Raw onions are primarily water(85-95%), are a good source of fiber vitamin C, and manganese. They have no fat, cholesterol or sodium (how you prepare them is important). Raw or cooked onions are good for you.



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## Spring Planting of Onions

### Nutrition

How are sweet or strong onions determined?

The Pyruvate Scale was developed around 1960 (?) and is designed to measure the pungency of onions and garlicks. The scale measures pyruvic acid and alpha-keto acid as measured in micromoles per gram fresh weight ( $\mu\text{mol}/\text{gm}_{\text{fw}}$ )  
The lower the score the more sweet the onion is considered. Most sweet onions are rated in the 1-3 range though Valdalias can be marketed with a Pyruvate Scale rating of 5.0 or less. According to the South Texas Onion Association sweet onions should have a value of 4.5 or less. A standard yellow Spanish onion will have a 6-7 score.

The soil conditions and fertilizer use greatly affect values

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## Spring Planting of Onions

### Trial Varieties

#### Intermediate Day Varieties

- Red Candy Apple
- Candy
- Sierra Blanca
- Red Torpedo Tropea\*

#### Long Day Varieties

- Walla Walla Yellow Onion
- Sterling
- Redwing
- Borettana Cipollini
- Wethersfield Red



Candy yellow onion  
Burpee Image

Walla Walla Yellow Onion  
Dixondale Farm Image



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### 2018 Onion Trials

#### Intermediate Day Varieties

Red Candy Apple – Deep red coloration with slightly flattened globe shape. 85-95 days to maturity. This onion may only get to 3 inches in diameter but is loaded with flavor. Contains a higher concentration of quecetins, an antioxidant compound that helps delay or slow damage to the cells and tissue of the body.



Dixondale Farms Photo

# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### 2018 Onion Trials

#### Intermediate Day Varieties

Candy Apple – An excellent onion for beginner growers. Productive over a wide range of soil conditions. Disease resistant. When grown in Pennsylvania using specified techniques this becomes a Pennsylvania Simply Sweet Onion.

Matures in 90 to 100 days in areas other than Tahoe



Dixondale Farms Photo



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### 2018 Onion Trials

#### Intermediate Day Varieties

Super Star White (Sierra Blanca ) – This F1 hybrid onion is an All American Selection from 2001. A very mild white globe onion, that is often eaten raw. 95-110 days to maturity. Responds well to additional nitrogen fertilizer. 4-5 inch bulbs. Resistant to bolting. Easily grown in containers.



All American Selection Photo

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## Spring Planting of Onions

### 2018 Onion Trials

#### Intermediate/Long Day Varieties

**Red Torpedo Tropea (Lunga de Firenze — Long of Florence)**

This oblong onion is an heirloom from Italy. Classified as either a intermediate or long day variety.

Often picked early and used as chives, or scallions.

100-110 days to maturity. Pungent when mature.

Should be planted deeper than other onions. Mentioned in cooking recipes to the early 1800's

From day length standpoint Lake Tahoe is ideally suited for this onion



Dixondale Farms Photo

Co-operative Extension Tahoe Basin Master Gardeners



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## Spring Planting of Onions

### 2018 Onion Trials

#### Long Day Varieties

Wethersfield Red Onion – An American classic onion. Can be strong tasting. Stores well. Slightly flattened shape to about 4 inches in diameter.

May take up to 120 days to mature. A good container onion.

Tahoe may be too far south for good bulb production.



Seed Savers Exchange Photo

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## Spring Planting of Onions

### 2018 Onion Trials

#### Long Day Varieties

Sterling – This is an F-1 hybrid onion noted for long storage properties and disease resistance. Globed shaped bulbs can get to 5 inches in diameter. Responds well to additional nitrogen applications. Known to bolt with changes in watering or weather.  
95 days to maturity.



Dixondale Farms Photo



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### 2018 Onion Trials

#### Long Day Varieties

Redwing – This is a true long day variety that might not do well here in Tahoe, but we'll try. It needs about 15 hours of daylight for best bulb production.

A red globe type known for being pungent with bite. One of the most popular commercial type red onions. Can reach 4 inches in diameter. Up to 120 days to maturity.



Dixondale Farms Photo

# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### 2018 Onion Trials

#### Long Day Varieties

Walla Walla – The famous sweet onion from Washington State.

Considered a Sweet yellow globe onion that can grow to 6 inch diameters and have foliage to 24 inches. Sweetness attributed to low sulfur content in soil. About 90 days to maturity.



Bonnie Plants Photo



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### 2018 Onion Trials

#### Long Day Varieties

Borettana Cipollini – This is a small long day onion, with its origins in northern Italy. Traditionally cooked or pickled whole. Mild taste and long storage are attributes.

1-3 inches in diameter with very distinct flattened shape. May take 120 days to mature.



Dixondale Farms Photo

# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Our Onion Suppliers (and photos)

**Dixondale Farms  
have been growing  
onions in Dimmit  
County Texas since  
1913.**



*Wallace Martin and Bruce Frasier –  
Owner Managers of Dixondale Farms*

**[Dixondalefarms.com](http://Dixondalefarms.com)**



# Tahoe Fruit & Vegetable Workshop Series

## Spring Planting of Onions

### Onion Production

#### By Country (2015) in tonnes

China – 22,300,000

India – 19,299,000

USA – 3,159,400

Iran – 2,426,050

Russia – 1,984,937



#### By State (2016) Acres in Production

Washington – 34,110

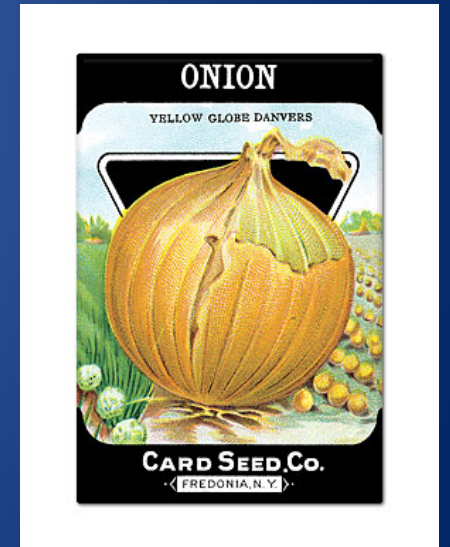
Idaho/Eastern Oregon – 22,800

California – 17,170

Georgia – 12,400

New York – 9,150

Texas – 7,600



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## Spring Planting of Onions

### Onion Festivals –

Texas Onion Fest – March 24, Weslaco TX

Vadalia – April 26-29, Vadalia GA

Imperial Market Days – April 28, Imperial CA

Glennville Onion Festival – May 11, Glennville GA

Walla Walla Onion Festival - June, Walla Walla Washington

Newent Onion Fayre – September, Newent United Kingdom

Zwiebelmarkt Weimar – October, Weimar, Germany



Texas Onion Fest Image



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## Spring Planting of Onions

Dehydration of onions became commercially viable in the 1850s



