

Tahoe Fruit & Vegetable Workshop Series

Potatoes

Tahoe Basin Master Gardeners

Trained through the UC Davis Co-operative Extension Service

Science based training

Program designed to assist local gardeners

Food Production

Landscape & pest issues

Fire wise landscaping

Water conservation landscaping



UC Cooperative Extension
Master Gardeners of Lake Tahoe

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Potatoes

Master Gardeners



Work with Community Gardens

Work with School Gardens



Do workshops

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Spring planting of Potatoes

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



Nyeater.com photo

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Spring planting of Potatoes

Project Overview –

Provide selected varieties to project participants

Discuss a bit of the background and history

Provide information on planting methods and maintenance

Discuss nutritional value of potatoes

Obtain feedback on the success of your plantings.



Cobbler, a smaller white flesh potato

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Spring planting of Potatoes

Why Potatoes

The earliest referenced vegetable grown by pioneers in Tahoe.

The first toy ever advertised on TV? **Mr. Potato Head!**

One of the first vegetables grown, harvested and eaten in space.

Vegetable with the highest total caloric value on a per acre basis.

Why are potato pancakes associated with Hanukkah?



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Spring planting of Potatoes

The first freeze dried vegetable.

(Chuño was used as a potato storage method by Andean peoples since before 1000 AD)

The most important non grain/grass food crop in the world.

The focus of 2 of the top 11 food museums in the world.

And lastly, the potato was the springboard for the industrial revolution.

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Potato Gathers
August Wilhelm Nikolaus Hagborg

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Spring planting of Potatoes

About Potatoes

Potatoes are a cool weather crop that usually grows well in Tahoe/Truckee

Potatoes are native to South America's Andes Mountains

Cultivation by indigenous peoples goes back perhaps 10,000 years.

A member of the nightshade family, Solanaceae, as are tomatoes and eggplants.

Potato's slow acceptance was due in part wide belief in the Doctrine of Signatures

The bottom line being when people are close to starving they are by necessity open to trying new foods

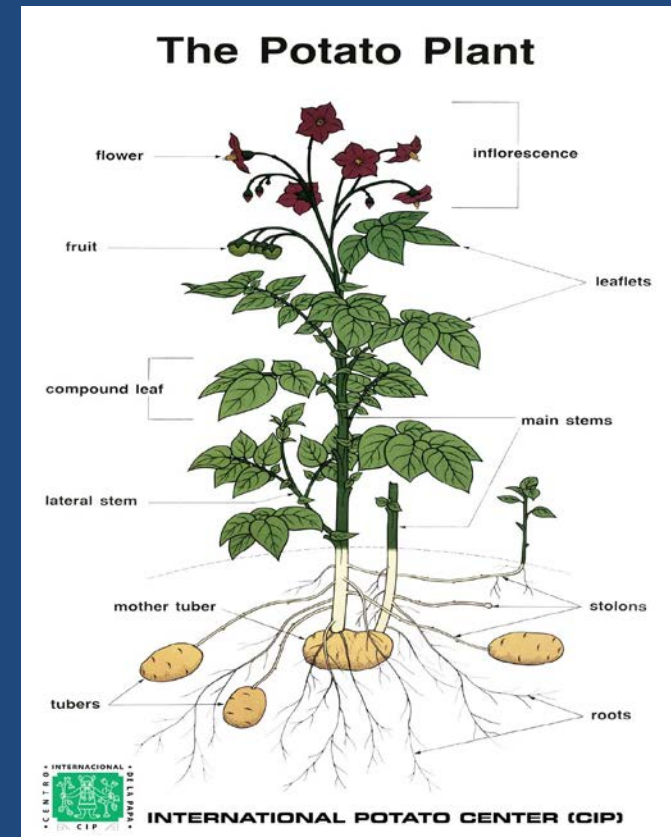
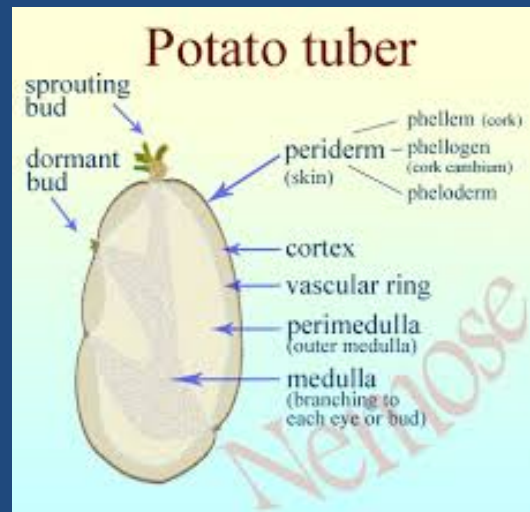
Good nutrition and storage aspects helped in acceptance

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Potato Anatomy

Potato tubers are modified stems that develop at the terminal ends of stolons
The eyes are actually buds



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Preparing Potatoes for Planting

Use quality seed potatoes

To maximize production it is necessary to prepare potatoes for planting

Consider chitting your potatoes (allow spouts to form before planting)
Chitting may take up to 3 weeks. Cut into sections, wait 24 hours, plant

Consider callusing tuber sections prior to planting

Cut potato into sections that contain at least 2 eyes

Let stand in a dry area for 24-48 hours for the cut end to dry

Plant with eyes towards surface.

For small potatoes plant whole



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Garden Preparation - Potatoes

Decide the method of growing

Hills

Furrows

Raised Beds

Grow Bags

Containers

Straw piles



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Garden Preparation - Potatoes

Soil

Slightly acidic 5.0 – 6.8 (most Tahoe/Truckee native soils)

Well drained soils with good tilth

Should not have grown eggplants or tomatoes previous year

Consider incorporating some potassium and phosphorous fertilizers prior to planting

Avoid manures and composted materials unless well aged and decomposed

Avoid applications of high nitrogen compounds



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Potatoes

Tuber formation begins when the plant is about 10 inches tall
Tuber size is determinant based on variety and environmental conditions
Once full size, the tubers stop growing
New tubers form on a regular basis during the growing season

When plants begin to turn yellow (or after a hard frost)
rake over plant tops and stop watering.
Harvest after 1-2 weeks. Be careful digging out tubers to avoid injury
Allow spuds to cure on ground for a day, move to dark dry cool
place before long term storage.

Common issues with growing and harvest: Scabbing



Photo by Bonnie Plants

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Planting Potatoes

Tubers typically form above or at the level of the parent section

For container type plantings keep at least 3 inches soil at bottom of container

Dig trench 8-12 inches deep plant tuber sections 12 inches apart

Place 3-4 inches of soil on top of planted tuber sections

Fill in trench as plant emerges – never cover plant completely

Hill soil above top of trench 2-4 inches as plan grows

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Potato History

The European 'discovery' of the potato is first recorded in 1536 by the Conquistadores who found these tubers in the markets throughout the Incan Empire.

The potato started to be used as ship stores and rations, in part due to its storage attributes but was soon found to be highly nutritious. The Canary and Azores Islands, key provisioning stops for Spain's long voyage ships started growing potatoes for islander consumption and for ship stores.

Basque cod fishermen included potatoes in their ship stores during their long fishing trips to the Grand Banks off of Canada. Many stopped along the coast of Ireland on their return to salt and/or dry their catch, planting potatoes in Ireland for their subsequent use, which was possibly the initial introduction to Ireland, though secondary introductions to Ireland by the English (Raleigh, or Francis Drake working for Raleigh) also occurred.

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Potato History II

Beyond use as ship's rations the potato languished throughout Europe, used primarily as animal fodder and food of last resort to stave off famine.

In the Americas the potato's range was expanded as a valuable (and cheap) food source for Indian slaves from Chile to Mexico. It has been reported that because of the potato the diet of the slaves was actually better than their overseers who had a distain for the tuber.

Somewhat similarly in Ireland the potato took hold as an inexpensive food for the landless tenet farmers. Throughout Europe the potato was championed by the aristocrats looking for a satisfactory food to feed the masses. Slowly the potato was added as a staple to the diets of much of Europe. The potato was the single food that allowed Europe to escape the periodic famines related to grain based economies

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Potato History III

More food was produced by fewer people allowing the migration of people from farms to urban areas where new industrial jobs were being created. It has been postulated that the potato was the foodstuff that initially powered the Industrial Revolution. And it has been argued that the potato crop failures in the 1840s and 50s accelerated the mechanization of industry as populations decreased or stagnated.

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Potato History IV

Gorta Mór - The Irish Potato Famine

1845-49 (52) the vast majority of the potato crop in Ireland failed, leading to wide spread starvation, displacement of many families from rural to urban areas and immigration from Ireland.

The direct cause for the crop failure was a late blight from a fungus-like organism

Phytophthora infestans

Irish Lumper Potato



Mike Peppard
Department of Plant Agriculture
University of Guelph.

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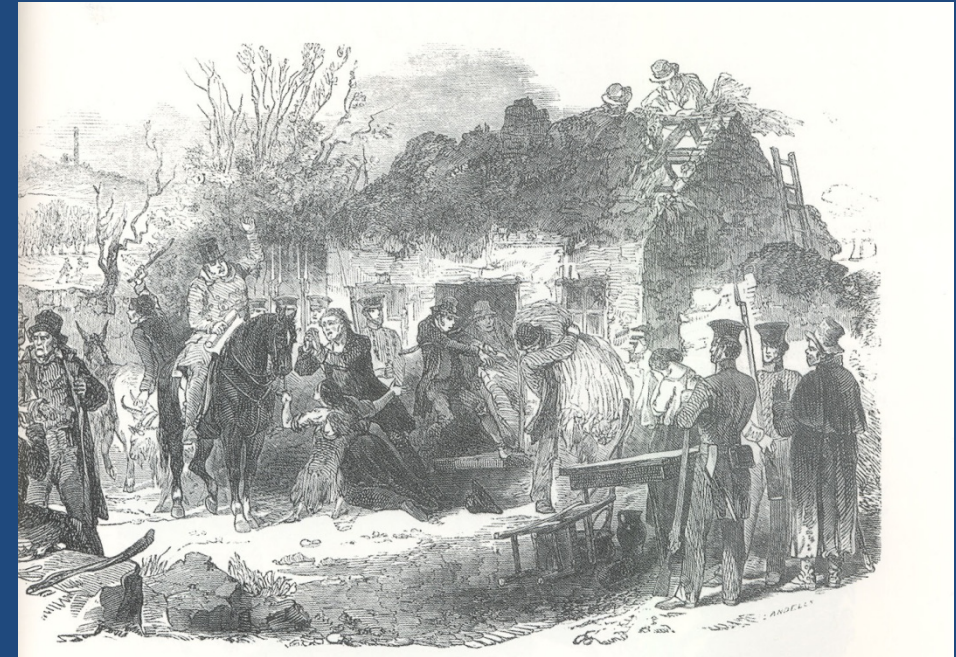
Potatoes

The population of Ireland grew from 1 million people in 1590 to 8 million by 1845, in large part from adoption of the potato. An estimated 1 million people starved and 2 million migrated from Ireland by 1855.

Social and economic conditions in Ireland turned a serious threat to the population into the one of the greatest tragedies in recorded Irish history.

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An Eviction



Illustrated London News 1/16/1848

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Potato History V

The Potato in the United States

The first reports of potatoes in the English colonies were a few boxes sent from the Governor of Bermuda to the Governor of Virginia in 1621



www.history.com – Jamestown Harbor

The first potato crops were planted in New Hampshire in 1719, and have been grown in the Northeast continually since then

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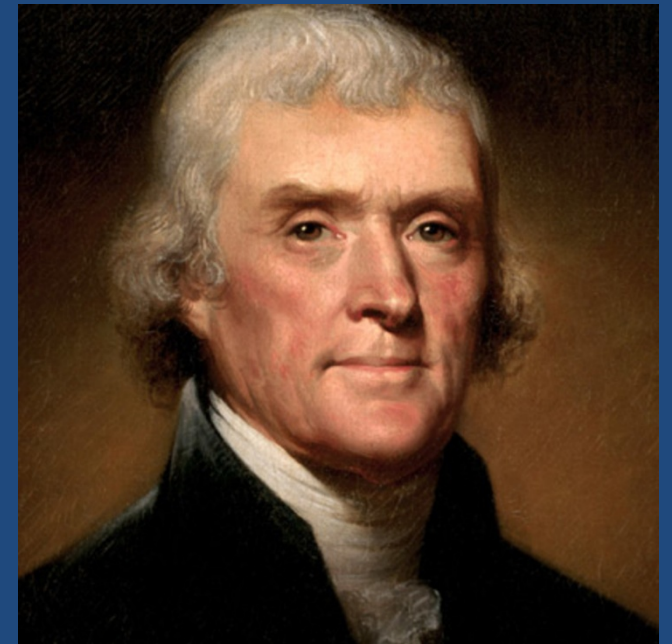
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Both Jefferson and Franklin were introduced to the potato while in France. Jefferson grew potatoes at Monticello and served potatoes at the White house

Potatoes were first grown in Idaho in 1839 as a missionary sponsored attempt to introduce agriculture to the Nez Perce

The development of the Burbank russet potato in put Idaho on the potato map

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Evolution of the Burbank Potato



In 1872 Luther Burbank planted several seeds from one of his Early Rose Potatoes. The strikingly different spud had much higher yields (Burbank Seedling potato)

After additional fiddling with the potato, and lucky assistance from a Colorado farmer who reported disease resistance in a few plants – the Burbank Russet was created



Early Rose

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Potato History VI

Modern Potato History

The French Fry can possibly be traced back to the late 1600's in Belgium
American soldiers in WWI enjoyed the fried potatoes (The official language of the Belgium Army is French)

The French Fry is a leading side dish world wide.

Legend has the potato chip was "invented" by George Crum in 1853 when a customer complained his fried potatoes were too thick.

The Canadian food Poutine consists of French
Fries layered with cheese curd and covered in brown gravy

In 2002 Ore-Ida introduced a line of flavored frozen fries including Cool Blue,
Cocoa Crispers and Cinna-Stiks. The line was discontinued in 2003.



By Sjschen - Own work, CC BY 3.0,
<https://commons.wikimedia.org/w/index.php?curid=2969225>

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Potato Cultivation

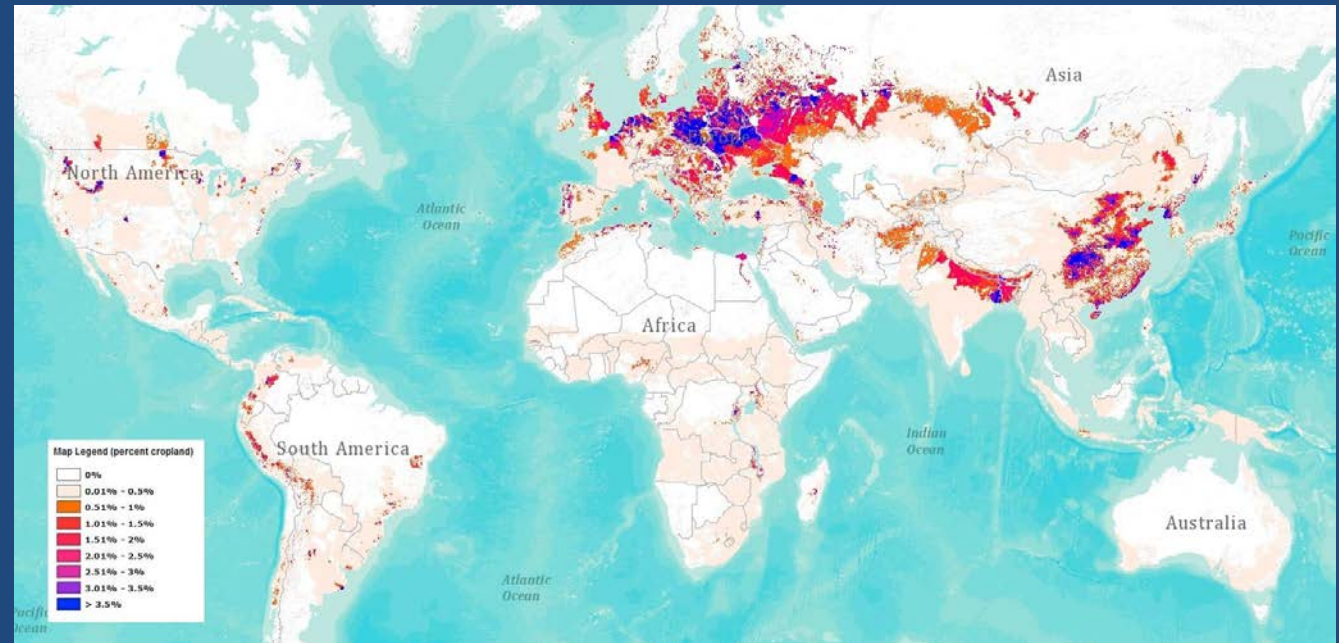
China leads the world in potato production
Producing twice as much as # 2 India.

US production is #5 in potato production

Idaho leads in US production followed by Washington, Wisconsin, Colorado and North Dakota

The potato is the largest vegetable crop in USA

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Geographical distribution of potato cultivation around the world (Source: RTB Maps)

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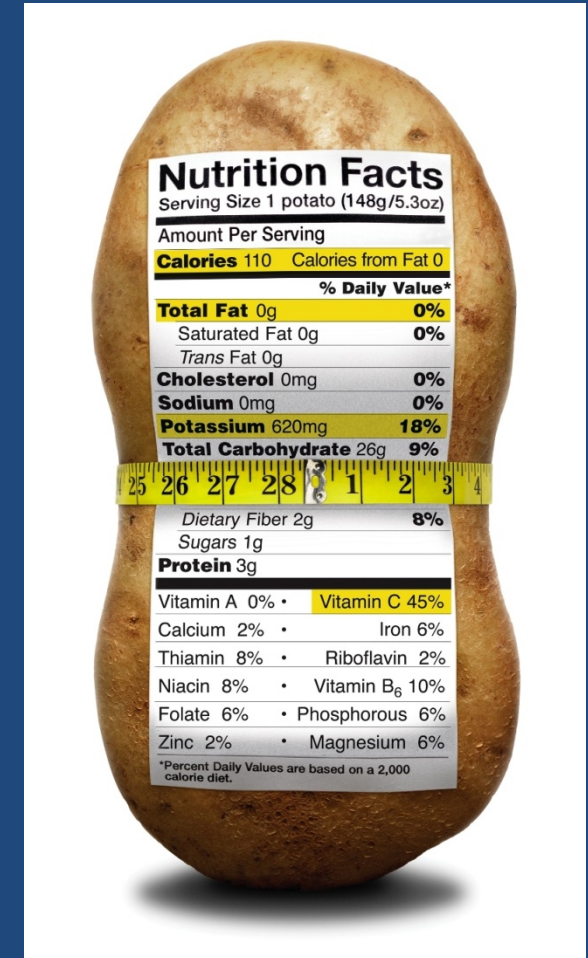
Potatoes – A great food staple!

OK –We’ve established that potatoes were a good dietary supplement for the “working man”, but how good?

A medium Potato has: (includes skin)
More potassium than a banana (18%D RDV)
More vitamin C than tomatoes (45%RDV)
10% RDV for vitamin B6
8% RDV for fiber
6% RDV for Iron
9% RDV Carbohydrate

Fat, sodium, gluten and cholesterol free

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Potatoes

Did you know?

Potatoes can be field treated to prevent eyes developing on spuds.

Maleic hydrazide, also known as 1,2-dihydropyridazine-3,6-dione is sprayed on the growing potato plants to inhibit development of eyes prior to harvest.

Alternately chlorpropham, or isopropyl (3-chlorophenyl) carbamate is sprayed on harvested potatoes to inhibit eye development.

Organic potatoes may be treated with spearmint oil, peppermint oil, clove oil or hydrogen peroxide to delay eyes sprouting.

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Potatoes – It how you prepare them

64% of potatoes used in the US are processed not fresh.
In 1960 processed potatoes were 35% of the market

Americans per capita consume 55 pounds of frozen potatoes,
47 pounds of fresh potatoes, 17 pounds of potato chips, and
14 pounds of dehydrated potato products each year



Serious Eats.com

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Preparing Health Potatoes

The best method to prepare the potato to retain benefits is to Bake, roast or microwave with skin on.

Next is to steam the potato with skin on.

Boiling potatoes especially peeled, loses the nutrients from the skin and up to 80% of the water soluble nutrients such as vitamin C



Food Hacks

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Potatoes



La Ratte Fingerling Potato
Image from Maine Potato Lady

LaRatte (The Rat) is a smallish fingerling potato that is all the rage in France as a boutique potato especially favored by high end French chefs. Considered an heirloom variety dating back to the 1880s from the French/Denmark border area but reintroduced in the 1960's from locations in the Swiss Alps.

LaRatte has a golden brown speckled skin, shallow eyes and yellow flesh.

Taste is somewhat nutty with waxy texture.

Low production per plant except in ideal conditions.

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Magic Molly Blue Fingerling Potato

Magic Molly is a larger late season fingerling potato developed at the state of Alaska's Plant Materials Center by Bill Campbell and named after his daughter.

This potato has thin purple skin and dark blue flesh which retains color with cooking. Highly recommended for roasting. Very high in antioxidants.

Slightly waxy texture, this is a long storing variety; Somewhat susceptible to scabbing.

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Candler Potato

The Candler or Irish Candler was first referenced in the 1876 in northeast US, grown by Irish Immigrants who were cobblers. Closely related to Early Rose, another popular cultivar in the northeast.

This potato is very early, doing well in cool summers. The skin is russeted brown with very white flesh. A medium sized potato. Good all-round cooking potato

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Colorado Rose

Another early potato. This one has red skin and white flesh. Developed by David Holm at the Colorado State University.

The Colorado Rose is a high producer of medium sized tubers that have good keeping qualities.

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Potatoes



Purple Viking

Purple Viking is a larger potato with a mottled purple pink skin and white flesh. Considered a mid season variety, this cultivar can produce very large tubers if allowed to fully mature.

Can be harvested early as baby potatoes. Very good for baking and boiling.

Developed in 1962 at North Dakota State University

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Potatoes



Yellow Finn

Maine Potato Lady Photo

The Yellow Finn is mid season gourmet potato with yellowish brown skin and deep yellow flesh. Moist somewhat mealy flesh is best baked, mashed or fried. Tubers are medium in size. Considered by many cooks to be superior to Yukon Gold.

Originally reported from Finland where they are called Niku Lapua.

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Canela Russet

A medium to large russet skinned potato having white flesh. This is a late season potato, often harvested after the first frost. This potato has potential for high yields

Developed at the Colorado State University by David Holm from plants grown in Idaho. A 2012 introduction

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Spring planting of Potatoes

Suppliers - The Maine Potato Lady AKA – The LaCourse Family Farm

The LaCourse family owns a 100 acre farm that was originally part of a 560 acre farm holding from the 1600s. The farm contracts with other small family farms to grow a variety of certified seed potatoes marketed under the Maine Potato Lady trademark.



*The LaCourse family:
Roseanna, Paul, Alison, Lucien
with Billie Jean and Lucy*

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Oh yeah – the two potato museums! (From CNN Travel)

**Frietmuseum – Located in a 14th century building in Bruges, Belgium .
From pre-Columbian artifacts related to the potato to on-site made fries,
prepared in a vintage fryer.**

**Canadian Potato Museum in O’Leary on Prince Edward Island –
Described as all things potato, claims to have the largest
collection of potato artifacts, and is home to the Potato Hall of Fame.**

**Can’t travel that far? The potato Museum in Blackfoot Idaho has the
largest chip (a Pringle) in the world.**

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Latkes – Potato Pancakes at Hanukkah

Question – How did potato pancakes – Latkes become associated with Hanukkah?

Originating with Ashkenazi Jews in the early to mid 1800s. Using goose fat (Schmaltz) to fry latkes. Both oil and potatoes lasted longer than possible.

Short answer – They taste great!



Meal Plan Maven Image



Palm Springs Village Fest Image



Rabbi Yonason Denebeim
Palm Spring life Image

