





# POTATOES

Growing in Tahoe...kid friendly easy crop.



by

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of Lake Tahoe









# Historical significance

- ▶ The humble tuber is included in EVERY cuisine on earth.
- ▶ French fries are the most popular form in almost every north American and EU restaurant
- ▶ The potato chip was invented in 1853 by a cool cat. Afro American, George Crum , of New York who got upset with a customer and...to make a point shaved his potatoes and fried them crisp.
- ▶ In the 1700's, Marie Antionette was noted to be fond of placing potato flowers in her hair for courte.
- ▶ In the 1960's, fresh potato consumption was double the consumption it is now, due to busy lifestyle and frozen options. California potatoes are mostly consumed fresh.



The first domesticated potatoes were grown at a **High Elevation** in the Andies in 8000 BC. They are plants that store for long periods of time, provide sustenance and are as much fun to plant .

Why potatoes in Tahoe? **Elevation and acidic soil give** us an advantage in our little area of paradise. There is a reason the first potatoes were grown in Peru and Bolivia. They are easy to grow, thrive at elevation, store for months and are high in nutrients.



**Elevation** not to be confused with altitude, unless you are growing in an airplane. That will be explored next year due to budgetary constraints.



*It is very easy to grow potatoes in Tahoe, given the right conditions*


- Well drained organically rich soil is the best. Acidic with a pH of 4.8-6.5, high in potassium and nitrogen.

*Growing season is after frost (unless you have a green house or warm, sunny sheltered area . At*

*45 degrees or more, planting area is optimal.*

- Well drained organically rich soil. Acidic soil with a pH of 4.8-6.5 Measurement tools available, high in potassium and nitrogen. Yes, I'm reiterating.





1589 Sir Walter Raleigh first brought potatoes to Europe from South America, shared some with Queen Elisabeth and planted them in his home town of Cork. They did well and became a staple.

According to the Smithsonian, potatoes gave way to modern industrial agriculture. There are currently over **4 thousand** varieties. China is noted as the largest grower and consumer of potatoes and potato based products.

# NUTRITION & USDA

## POTATOES ARE RICH SOURCES OF.....

POTASIUM, K<sup>+</sup> (more than a banana), heart and muscle health...super important  
VITAMIN C (NO SCURVY and less COLDS) ASCORBIC ACID helps healing  
CALCIUM Ca<sup>+</sup> (bones and cardiac function), hello osteoporosis. I'll pass. IRON Fe  
(muscles, blood cells, energy)

PROTEIN (building blocks of cells and ATP), captive energy a re-builder of cells  
B6 (B vits promote everything and are crucial in cognitive and organ protective)  
fiber, fiber, fiber!!! Guts, colon, digestioin (2.2gm) in a 148gm (medium) potato  
A SOURCE OF HEALTHY CARBOHYDRATES, energy, 0 fat, 0 cholesterol, 0 salt  
(LEAVE OFF THE BUTTER)! Even without the extras they are so good with just lemon  
and pepper.

EASY TO GROW, INEXPENSIVE, NUTRIOUS, REWARDING FOR KIDS TO PLANT  
AND HARVEST, potatoes are..

AND WAIT FOR IT.....**GLUTEN FREE!**



## Planting early in spring

(uh, not this year),

one pound of seed potatoes can yield approximately 25 pounds of home grown spuds that can last all winter.



# As MASTER GARDENERS

- ▶ We hope to demonstrate what types of planting options there are for gardens and what works well with there space, time and amount you plan to cultivate. These are some of the many options:
- ▶ Containers, bags
- ▶ Raised beds
- ▶ Garden rows
- ▶ Hydroponic

We are providing grow bags this year with about 3" bottom soil, seed potatoes of your choice and then recommend covering with 3" soil and planting the bag with more soil added. Then hilling them up as they grow (add more soil). No spuds should ever be above soil as this can cause the toxic green parts when exposed to light.

South facing beds get the most sun.

Potatoes from Melissa's Garden







# Why can't you just use commercial market potatoes? Good question!

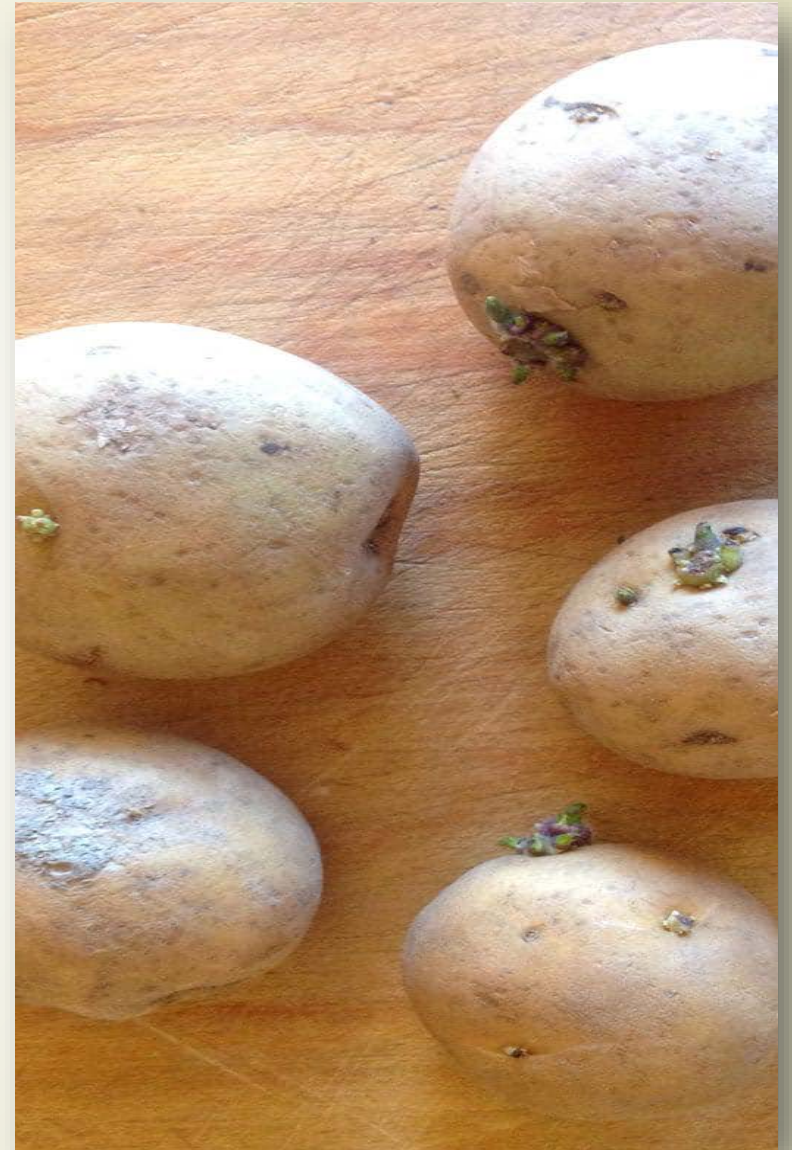
Grocery store potatoes are often treated with a chemical CHLOROPROPHAM (CIPC) which interferes with cell division and is most commonly used post-harvest in the US. It is non-organic.

buy seed potatoes from a good source. You can also store last years tiny ones in a breathable bag in the back of your refrigerator.

## The Start: **Seed** potatoes

When potatoes sprout, their natural starch begins to convert to sugar and they will start to shrivel, not good.

**FIRM** sprouted “**eyed** or **chitted**” potatoes can be planted whole with one or two eyes or cut into pieces that have the cut side hardened off. They will then start to spend their energy producing new spuds once planted. Harvest size potatoes are safe to eat if firm, not green and should be free of pest and disease damage. At this point Potatoes are the most nutrient dense. *Remove green, or discard, before cooking.*





## Stages of growth & planting

First, amend the soil if it is poor or clay and drainage is bad, add compost or decomposed matter.


**Place cut spuds with at least 1-2 “eyes,” 3” down, 8” apart.**

Cover loosely with rich well drainable soil (don’t stress, potatoes are forgiving).

While they grow, if potatoes are visible at soil level, cover or “hill-up” to make sure they are under the dirt so that they don’t go green.

Potatoes grow up and horizontally You can continue to add soil throughout growing season and before harvest.





Green indicates the toxic and poisonous chemical '**Solanine**' a nightshade species toxin which occurs naturally in tubers when exposed to sunlight and can cause gastrointestinal distress. (stomach-ache).

**NO Green Potatoes(again).....!!!!!! Cut that part off or discard.**





Second stage is beautiful green leaves and plants that can reach 1-2 feet plus the benefit of white or purple flowers.


Third stage is that the foliage starts to look like its dying....**good**, let the plants be and don't water for 5-7 days. The potatoes are then harvestable! If you planted in our grow bags, dump bag, sift out spuds and compost the soil.

Take pictures, make your friends envious and they might even try next year.

# Major Potato Diseases, Insects and Nasty leaf-eating rodents. (USDA/research Service & CID La Papa)002408.pdf

- ▶ Bacterial: Common Scab, Ring Rot, Blackleg Rot, Bacterial wilt. Pectobacterium
- ▶ Fungi: Blight (see picture) over wintering and bad/undigested soil, Powder Scab & mildew, Verticillium Wilt (yellow droopy, caused by poor crop rotation) Stem & Black Rot, Andean Weevils. Plus a bunch more. <http://cipotato.org//librarypdfdocs>
- ▶ Nematode(most difficult): Cyst, Root, False-knot and lesions are the most noticeable. **Crop rotation/cover crops, nematode-free & certified seed** can indirectly reduce infestation damage with soil enhancements. See Review article 'Organic amendments of soil as useful tools of plant parasitic nematode control' at [www.researchgate.net](http://www.researchgate.net) 11/2012 potato nematodes.
- ▶ Insects: Aphids(green peach/potato) ...best get **hungry lady bugs** or plant **mustard**. They are both effective. You can also use a pesticide like IMIDCLOPRID but pesticides will harm bees around any flowering plants, so don't.
- ▶ Rodents: voles, ground squirrels, mice & birds. **Cayenne** pepper, mashed **garlic**, diluted **dish detergent** and high pressure water spray work well and wont harm the animals, bees or the environment. Spray leaves & repeat every week or so. [www.Eartheasy.com](http://www.Eartheasy.com).





No matter how bad the spuds look, plant the firm ones **ANYWAY**. Potatoes should sprout and the plants alone have lovely leaves.

**Cut vs. whole...**up to you. I have never had a problem the cut pieces and you can store the tiny whole ones for next year.

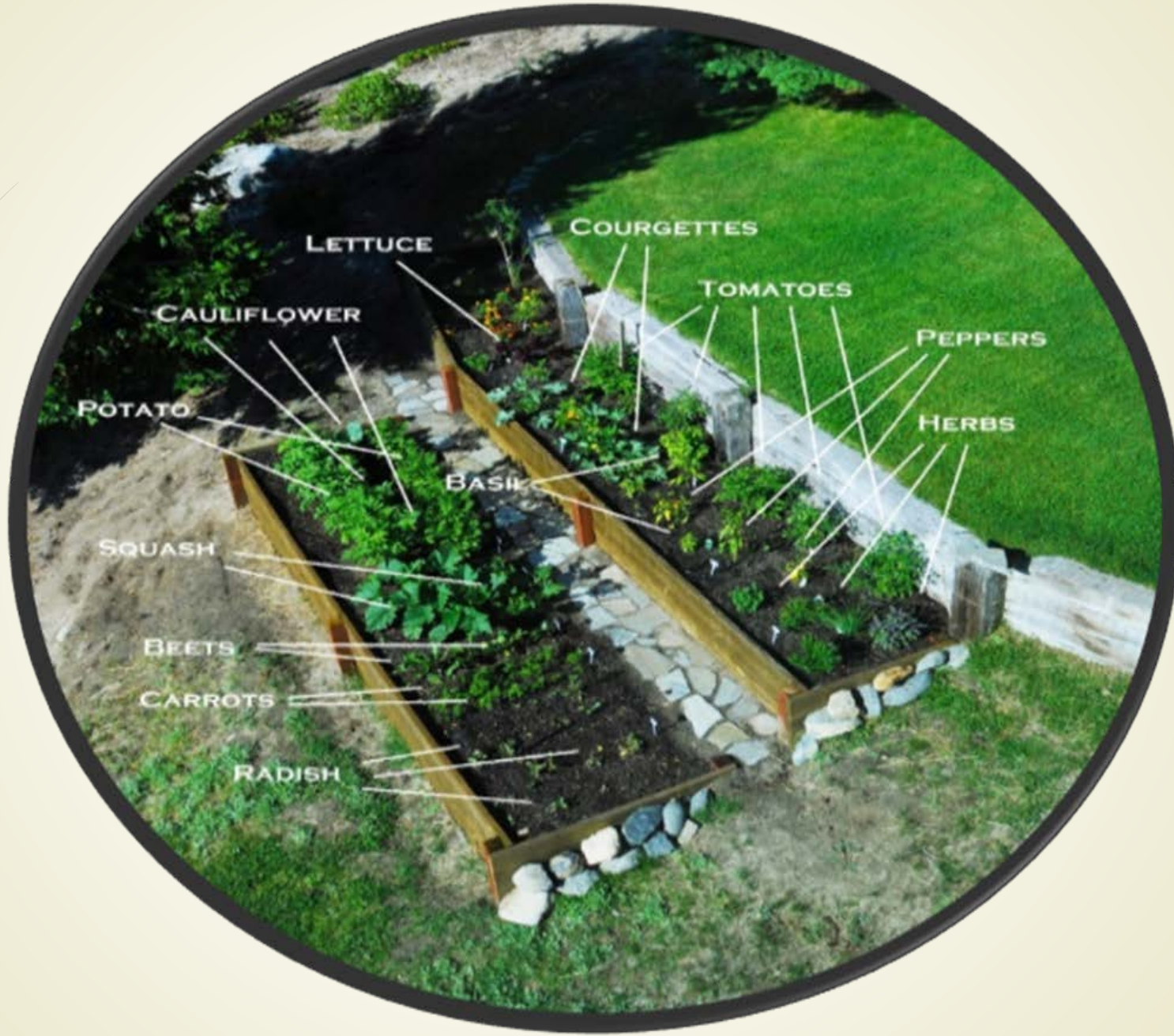
## Planting Rotation –

Keep in mind, it is important that you **rotate** potato crops for soil health and nutrient replenishing. I keep a garden journal with pictures. Potatoes can spread host fungi that cause Fusarium and Verticillium wilt. Both can be spread through soil with successive plantings of potatoes and after eggplant, peppers or tomatoes (solanaceous crops).

They are all in the nightshade family and draw similar soil nutrients but most importantly, can spread diseases. Avoid root crops after potatoes.

A good basic rotation is .. **Roots (potatoes, turnips, beets, carrots), greens(cabbage to lettuce), fruits(tomatoes, peppers, squash, cucumber), then beans and peas.** This type of rotation reduces soil depletion, reduces need for added amendment and risk of opportunistic diseases. Remember the journal!

Plant leafy greens after potatoes! Or RGFB (sounds like a Punk club!)



LETTUCE

COURGETTES

CAULIFLOWER

TOMATOES

PEPPERS

POTATO

BASIL

HERBS

SQUASH

BEETS

CARROTS

RADISH







At this year's 2019 **Farmers Markets,**  
(Master Gardeners) we will be giving out  
potatoes, tomatillos, raspberries, lettuce, kale and  
garlic (with planting instructions).

Kindly support us in our endeavors by growing,  
making a donation for supplies, education, and  
our community.

# Harvest

This is where kids are your best friends. Little enthusiastic hands and small fingers make great potato harvesters. It's dig in the dirt fun! Potatoes grow from the planted 'seed' potato and grow horizontally. Usually only about 12" down and 12-16" wide.

Harvesting needs to be done gently, so as not to damage the potatoes because the new skins need to cure or air dry for a day or so, out of the dirt.

This prevents rot and hardens the skin for storage. After drying, your harvested potatoes should be stored in a cool dark place to prevent sprouting. If you have a cave, cellar or 'potato' closet go for it but, I put them in a breathable bag and toss into the back bin of the fridge. They usually last until January or Feb.



# Late Summer Potato Salad (warm or chilled)

Side dish or vegetarian/vegan main, super simple and adaptable

1.5 Lb. small home-grown potatoes, halved

1 bunch home grown chives or red onion, minced

1 Tbsp. chopped capers( or sub/add anything from your garden pickled and chopped)

1-2 Tbsps. grainy mustard

olive oil

Salt and pepper

olive oil



(Carrots or peppers from garden, minced, optional)

Par-boil potatoes, then sauté with olive oil , flat side down until crispy, golden brown.


Cool just to warm. Stir in herbs, grainy mustard, salt+ pepper and & a douse of olive oil (or walnut, Avocado or ghee).

Gently toss and serve.

\*You can add any other veg, meat or herbs or seasoning to make it your own and its always better the next day.



Dirty hands are good! (washed after of course).....home grown potatoes make wonderful meals, healthy eating and happy **hearts**.  
The plant-tend-harvest cycle is so nourishing on many levels.




By taking our seed potatoes we ask you to give us feedback so that we can continue to develop what vegetables grow best in our region.

We are available and welcome to field any growing or harvesting questions.



Without opposable thumbs, CATS can't grow potatoes but they are enthusiastic consumers!





We need to hear back on how well  
your potatoes did.

Please share stories and pictures at  
[laketahoemg@ucanr.edu](mailto:laketahoemg@ucanr.edu)



# Growing Food in Tahoe