

Ono Fruits & Veggies Mai e 'ai (Come and Eat)

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What foods are in the Vegetable Group?

Any vegetable or 100% vegetable juice counts as a member of the Vegetable Group. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed.

Vegetables are organized into 5 subgroups, based on their nutrient content. Some commonly eaten vegetables in each subgroup are:

Dark green vegetables

bok choy
broccoli
collard greens
dark green leafy lettuce
kale
mesclun
mustard greens
romaine lettuce
spinach
turnip greens
watercress

Red & orange vegetables

acorn squash
butternut squash
carrots
hubbard squash
pumpkin
red peppers
sweet potatoes
tomatoes
tomato juice

Beans and peas*

black beans
black-eyed peas (mature, dry)
garbanzo beans (chickpeas)
kidney beans
lentils
navy beans
pinto beans
soy beans
split peas
white beans

Starchy vegetables

cassava
corn
fresh cowpeas, field peas, or black-eyed peas (not dry)
green bananas
green peas
green lima beans
plantains
potatoes
taro
water chestnuts

Other vegetables

artichokes
asparagus
avocado
bean sprouts
beets
Brussels sprouts
cabbage
cauliflower
celery
cucumbers
eggplant
green beans
green peppers
iceberg (head) lettuce
mushrooms
okra
onions
parsnips
turnips
wax beans
zucchini



Why is it important to eat vegetables?

Eating vegetables provides **health benefits** — people who eat more vegetables and fruits as part of an overall **healthy diet** are likely to have a reduced risk of some chronic diseases. Vegetables provide **nutrients** vital for health and maintenance of your body.

Health benefits

- Eating a diet rich in vegetables and fruits as part of an overall healthy diet may reduce risk for heart disease, including heart attack and stroke.
- Eating a diet rich in some vegetables and fruits as part of an overall healthy diet may protect against certain types of cancers.
- Diets rich in foods containing fiber, such as some vegetables and fruits, may reduce the risk of heart disease, obesity, and type 2 diabetes.
- Eating vegetables and fruits rich in potassium as part of an overall healthy diet may lower blood pressure, and may also reduce the risk of developing kidney stones and help to decrease bone loss.
- Eating foods such as vegetables that are lower in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.
- [Click here for more information about preventing cardiovascular disease, high blood pressure, diabetes, and cancer.](#)



Nutrients

- Most vegetables are naturally low in fat and calories. None have cholesterol. (Sauces or seasonings may add fat, calories, or cholesterol.)
- Vegetables are important sources of many nutrients, including **potassium**, **dietary fiber**, folate (folic acid), **vitamin A**, and **vitamin C**.
- Diets rich in potassium may help to maintain healthy blood pressure. Vegetable sources of potassium include sweet potatoes, white potatoes, white beans, tomato products (paste, sauce, and juice), beet greens, soybeans, lima beans, spinach, lentils, and kidney beans.
- Dietary fiber from vegetables, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as vegetables help provide a feeling of fullness with fewer calories.
- Folate (folic acid) helps the body form red blood cells. Women of childbearing age who may become pregnant should consume adequate folate from foods, and in addition 400 mcg of synthetic folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.
- Vitamin A keeps eyes and skin healthy and helps to protect against infections.
- Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy. Vitamin C aids in iron absorption.

How many vegetables are needed daily or weekly?

Vegetable choices should be selected from among the vegetable subgroups. It is not necessary to eat vegetables from each subgroup daily. However, over a week, try to consume the amounts listed from each subgroup as a way to reach your daily intake recommendation.

The amount of vegetables you need to eat depends on your age, sex, and level of physical activity. Recommended total daily amounts are shown in the first chart. Recommended weekly amounts from each vegetable subgroup are shown in the second chart.



Daily recommendation*			
Children	2-3 years old		1 cup**
	4-8 years old		1½ cups**
Girls	9-13 years old		2 cups**
	14-18 years old		2½ cups**
Boys	9-13 years old		2½ cups**
	14-18 years old		3 cups**
Women	19-30 years old		2½ cups**
	31-50 years old		2½ cups**
	51+ years old		2 cups**
Men	19-30 years old		3 cups**
	31-50 years old		3 cups**
	51+ years old		2½ cups**

*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

Vegetable subgroup recommendations are given as amounts to eat WEEKLY. It is not necessary to eat vegetables from each subgroup daily. However, over a week, try to consume the amounts listed from each subgroup as a way to reach your daily intake recommendation.

What counts as a cup of vegetables?

In general, 1 cup of raw or cooked vegetables or vegetable juice, or 2 cups of raw leafy greens can be considered as 1 cup from the Vegetable Group. The chart lists specific amounts that count as 1 cup of vegetables (in some cases equivalents for ½ cup are also shown) towards your recommended intake:

Tips to help you eat vegetables

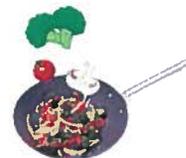
In general:

- Buy fresh vegetables in season. They cost less and are likely to be at their peak flavor.
- Stock up on frozen vegetables for quick and easy cooking in the microwave.
- Buy vegetables that are easy to prepare. Pick up pre-washed bags of salad greens and add baby carrots or grape tomatoes for a salad in minutes. Buy packages of veggies such as baby carrots or celery sticks for quick snacks.
- Use a microwave to quickly “zap” vegetables. White or sweet potatoes can be baked quickly this way.
- Vary your veggie choices to keep meals interesting.
- Try crunchy vegetables, raw or lightly steamed.



For the best nutritional value:

- Select vegetables with more potassium often, such as sweet potatoes, white potatoes, white beans, tomato products (paste, sauce, and juice), beet greens, soybeans, lima beans, spinach, lentils, and kidney beans.
- Sauces or seasonings can add calories, saturated fat, and sodium to vegetables. Use the Nutrition Facts label to compare the calories and % Daily Value for saturated fat and sodium in plain and seasoned vegetables.





- Prepare more foods from fresh ingredients to lower sodium intake. Most sodium in the food supply comes from packaged or processed foods.
- Buy canned vegetables labeled "reduced sodium," "low sodium," or "no salt added." If you want to add a little salt it will likely be less than the amount in the regular canned product.

At meals:



- Plan some meals around a vegetable main dish, such as a vegetable stir-fry or soup. Then add other foods to complement it.
- Try a main dish salad for lunch. Go light on the salad dressing.
- Include a green salad with your dinner every night.
- Shred carrots or zucchini into meatloaf, casseroles, quick breads, and muffins.
- Include chopped vegetables in pasta sauce or lasagna.
- Order a veggie pizza with toppings like mushrooms, green peppers, and onions, and ask for extra veggies.
- Use pureed, cooked vegetables such as potatoes to thicken stews, soups and gravies. These add flavor, nutrients, and texture.
- Grill vegetable kabobs as part of a barbecue meal. Try tomatoes, mushrooms, green peppers, and onions.

Make vegetables more appealing:

- Many vegetables taste great with a dip or dressing. Try a low-fat salad dressing with raw broccoli, red and green peppers, celery sticks or cauliflower.
- Add color to salads by adding baby carrots, shredded red cabbage, or spinach leaves. Include in-season vegetables for variety through the year.
- Include **beans or peas** in flavorful mixed dishes, such as chili or minestrone soup.
- Decorate plates or serving dishes with vegetable slices.
- Keep a bowl of cut-up vegetables in a see-through container in the refrigerator. Carrot and celery sticks are traditional, but consider red or green pepper strips, broccoli florets, or cucumber slices.



Vegetable tips for children:

- Set a good example for children by eating vegetables with meals and as snacks.
- Let children decide on the dinner vegetables or what goes into salads.
- Depending on their age, children can help shop for, clean, peel, or cut up vegetables.
- Allow children to pick a new vegetable to try while shopping.
- Use cut-up vegetables as part of afternoon snacks.
- Children often prefer foods served separately. So, rather than mixed vegetables try serving two vegetables separately.

Keep it safe:

- Rinse vegetables before preparing or eating them. Under clean, running water, rub vegetables briskly with your hands to remove dirt and surface microorganisms. Dry with a clean cloth towel or paper towel after rinsing.
- Keep vegetables separate from raw meat, poultry and seafood while shopping, preparing, or storing.





What foods are in the Fruit Group?

Any fruit or 100% fruit juice counts as part of the Fruit Group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed. Some commonly eaten fruits are:

Apples
Apricots
Bananas

Berries:
strawberries
blueberries
raspberries

Cherries
Grapefruit
Grapes
Kiwi fruit
Lemons
Limes
Mangoes

Melons:
cantaloupe
honeydew
watermelon

Mixed fruits:
fruit cocktail

Nectarines
Oranges
Peaches
Pears
Papaya
Pineapple
Plums
Prunes
Raisins
Tangerines

100% Fruit juice:
orange
apple
grape
grapefruit

Why is it important to eat fruit?

Eating fruit provides **health benefits** — people who eat more fruits and vegetables as part of an overall **healthy diet** are likely to have a reduced risk of some chronic diseases. Fruits provide **nutrients** vital for health and maintenance of your body.

Health benefits

- Eating a diet rich in vegetables and fruits as part of an overall healthy diet may reduce risk for heart disease, including heart attack and stroke.
- Eating a diet rich in some vegetables and fruits as part of an overall healthy diet may protect against certain types of cancers.
- Diets rich in foods containing fiber, such as some vegetables and fruits, may reduce the risk of heart disease, obesity, and type 2 diabetes.
- Eating vegetables and fruits rich in potassium as part of an overall healthy diet may lower blood pressure, and may also reduce the risk of developing kidney stones and help to decrease bone loss.
- Eating foods such as fruits that are lower in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.
- [Click here for more information about preventing cardiovascular disease, high blood pressure, diabetes, and cancer.](#)



Nutrients

- Most fruits are naturally low in fat, sodium, and calories. None have cholesterol.
- Fruits are sources of many essential nutrients that are underconsumed, including **potassium, dietary fiber, vitamin C**, and folate (folic acid).
- Diets rich in potassium may help to maintain healthy blood pressure. Fruit sources of potassium include bananas, prunes and prune juice, dried peaches and apricots, cantaloupe, honeydew melon, and orange juice.
- Dietary fiber from fruits, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as fruits help provide a feeling of fullness with fewer calories. *Whole or cut-up fruits are sources of dietary fiber; fruit juices contain little or no fiber.*
- Vitamin C is important for growth and repair of all body tissues, helps heal cuts and wounds, and keeps teeth and gums healthy.
- Folate (folic acid) helps the body form red blood cells. Women of childbearing age who may become pregnant should consume adequate folate from foods, and in addition 400 mcg of synthetic folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.



How much fruit is needed daily?

The amount of fruit you need to eat depends on age, sex, and level of physical activity. Recommended daily amounts are shown in the chart.

Recommended amounts are shown in the table below.

Daily recommendation*		
Children	2-3 years old	1 cup**
	4-8 years old	1 to 1 ½ cups**
Girls	9-13 years old	1 ½ cups**
	14-18 years old	1 ½ cups**
Boys	9-13 years old	1 ½ cups**
	14-18 years old	2 cups**
Women	19-30 years old	2 cups**
	31-50 years old	1 ½ cups**
	51+ years old	1 ½ cups**
Men	19-30 years old	2 cups**
	31-50 years old	2 cups**
	51+ years old	2 cups**

What counts as a cup of fruit?

In general, 1 cup of fruit or 100% fruit juice, or ½ cup of dried fruit can be considered as 1 cup from the Fruit Group. The following specific amounts count as 1 cup of fruit (in some cases equivalents for ½ cup are also shown)

Tips to help you eat fruits

In general:



- Keep a bowl of whole fruit on the table, counter, or in the refrigerator.
- Refrigerate cut-up fruit to store for later.
- Buy fresh fruits in season when they may be less expensive and at their peak flavor.
- Buy fruits that are dried, frozen, and canned (in water or 100% juice) as well as fresh, so that you always have a supply on hand.
 - Consider convenience when shopping. Try pre-cut packages of fruit (such as melon or pineapple chunks) for a healthy snack in seconds. Choose packaged fruits that do not have added sugars.



For the best nutritional value:

- Make most of your choices whole or cut-up fruit rather than juice, for the benefits dietary fiber provides.
- Select fruits with more potassium often, such as bananas, prunes and prune juice, dried peaches and apricots, and orange juice.
- When choosing canned fruits, select fruit canned in 100% fruit juice or water rather than syrup.
- Vary your fruit choices. Fruits differ in nutrient content.

At meals:

- At breakfast, top your cereal with bananas or peaches; add blueberries to pancakes; drink 100% orange or grapefruit juice. Or, mix fresh fruit with plain fat-free or low-fat yogurt.
- At lunch, pack a tangerine, banana, or grapes to eat, or choose fruits from a salad bar. Individual containers of fruits like peaches or applesauce are easy and convenient.
- At dinner, add crushed pineapple to coleslaw, or include orange sections or grapes in a tossed salad.
- Make a Waldorf salad, with apples, celery, walnuts, and a low-calorie salad dressing.
- Try meat dishes that incorporate fruit, such as chicken with apricots or mangoes.
- Add fruit like pineapple or peaches to kabobs as part of a barbecue meal.
- For dessert, have baked apples, pears, or a fruit salad.



As snacks:

- Cut-up fruit makes a great snack. Either cut them yourself, or buy pre-cut packages of fruit pieces like pineapples or melons. Or, try whole fresh berries or grapes.
- Dried fruits also make a great snack. They are easy to carry and store well. Because they are dried, ¼ cup is equivalent to ½ cup of other fruits.
- Keep a package of dried fruit in your desk or bag. Some fruits that are available dried include apricots, apples, pineapple, bananas, cherries, figs, dates, cranberries, blueberries, prunes (dried plums), and raisins (dried grapes).
- As a snack, spread peanut butter on apple slices or top plain fat-free or low-fat yogurt with berries or slices of kiwi fruit.
- Frozen juice bars (100% juice) make healthy alternatives to high-fat snacks.

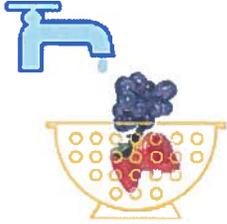
Make fruit more appealing:

- Many fruits taste great with a dip or dressing. Try fat-free or low-fat yogurt as a dip for fruits like strawberries or melons.
- Make a fruit smoothie by blending fat-free or low-fat milk or yogurt with fresh or frozen fruit. Try bananas, peaches, strawberries, or other berries.
- Try unsweetened applesauce as a lower calorie substitute for some of the oil when baking cakes.
- Try different textures of fruits. For example, apples are crunchy, bananas are smooth and creamy, and oranges are juicy.
- For fresh fruit salads, mix apples, bananas, or pears with acidic fruits like oranges, pineapple, or lemon juice to keep them from turning brown.



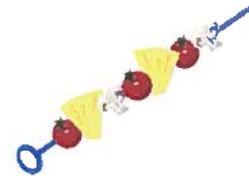
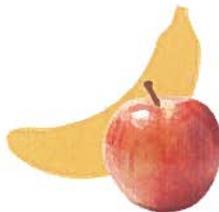
Fruit tips for children:

- Set a good example for children by eating fruit every day with meals or as snacks.
- Offer children a choice of fruits for lunch.
 - Depending on their age, children can help shop for, clean, peel, or cut up fruits.
 - While shopping, allow children to pick out a new fruit to try later at home.
 - Decorate plates or serving dishes with fruit slices.
 - Top off a bowl of cereal with some berries. Or, make a smiley face with sliced bananas for eyes, raisins for a nose, and an orange slice for a mouth.
 - Offer raisins or other dried fruits instead of candy.
 - Make fruit kabobs using pineapple chunks, bananas, grapes, and berries.
 - Pack a juice box (100% juice) in children's lunches instead of soda or other sugar-sweetened beverages.
 - Look for and choose fruit options, such as sliced apples, mixed fruit cup, or 100% fruit juice in fast food restaurants.
- Offer fruit pieces and 100% fruit juice to children. There is often little fruit in "fruit-flavored" beverages or chewy fruit snacks.



Keep it safe:

- Rinse fruits before preparing or eating them. Under clean, running water, rub fruits briskly with your hands to remove dirt and surface microorganisms. Dry with a clean cloth towel or paper towel after rinsing.
- Keep fruits separate from raw meat, poultry and seafood while shopping, preparing, or storing.



Vegetables



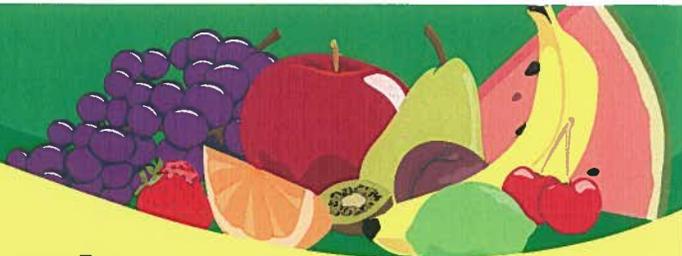
Nutrition Facts

Raw, edible weight portion.
Percent Daily Values (%DV) are
based on a 2,000 calorie diet.

Vegetables Serving Size (gram weight/ounce weight)	Calories	Calories from Fat		Total Fat	Sodium	Potassium	Total Carbohydrate	Dietary Fiber	Sugars	Protein	Vitamin A	Vitamin C	Calcium	Iron
		g	%DV											
Asparagus 5 spears (93 g/3.3 oz)	20	0	0	0	230	4	2	8	2g	2g	10%	15%	2%	2%
Bell Pepper 1 medium (148 g/5.3 oz)	25	0	0	40	220	6	2	8	4g	1g	4%	190%	2%	4%
Broccoli 1 medium stalk (148 g/5.3 oz)	45	0	0.5	80	460	8	3	12	2g	4g	6%	220%	6%	6%
Carrot 1 carrot, 7" long, 1 1/4" diameter (78 g/2.8 oz)	30	0	0	60	250	7	2	8	5g	1g	110%	10%	2%	2%
Cauliflower 1/6 medium head (99 g/3.5 oz)	25	0	0	30	270	5	2	8	2g	2g	0%	100%	2%	2%
Celery 2 medium stalks (110 g/3.9 oz)	15	0	0	115	260	4	2	8	2g	0g	10%	15%	4%	2%
Cucumber 1/3 medium (99 g/3.5 oz)	10	0	0	0	140	2	1	4	1g	1g	4%	10%	2%	2%
Green (Snap) Beans 3/4 cup cut (83 g/3.0 oz)	20	0	0	0	200	5	3	12	2g	1g	4%	10%	4%	2%
Green Cabbage 1/12 medium head (84 g/3.0 oz)	25	0	0	20	190	5	2	8	3g	1g	0%	70%	4%	2%
Green Onion 1/4 cup chopped (25 g/0.9 oz)	10	0	0	10	70	2	1	4	1g	0g	2%	8%	2%	2%
Iceberg Lettuce 1/6 medium head (89 g/3.2 oz)	10	0	0	10	125	2	1	4	2g	1g	6%	6%	2%	2%
Leaf Lettuce 1 1/2 cups shredded (85 g/3.0 oz)	15	0	0	35	170	2	1	4	1g	1g	130%	6%	2%	4%
Mushrooms 5 medium (84 g/3.0 oz)	20	0	0	15	300	3	1	4	0g	3g	0%	2%	0%	2%
Onion 1 medium (148 g/5.3 oz)	45	0	0	5	190	11	3	12	9g	1g	0%	20%	4%	4%
Potato 1 medium (148 g/5.3 oz)	110	0	0	0	620	26	2	8	1g	3g	0%	45%	2%	6%
Radishes 7 radishes (85 g/3.0 oz)	10	0	0	55	190	3	1	4	2g	0g	0%	30%	2%	2%
Summer Squash 1/2 medium (98 g/3.5 oz)	20	0	0	0	260	4	2	8	2g	1g	6%	30%	2%	2%
Sweet Corn kernels from 1 medium ear (90 g/3.2 oz)	90	20	2.5	0	250	18	2	8	5g	4g	2%	10%	0%	2%
Sweet Potato 1 medium, 5" long, 2" diameter (130 g/4.6 oz)	100	0	0	70	440	23	4	16	7g	2g	120%	30%	4%	4%
Tomato 1 medium (148 g/5.3 oz)	25	0	0	20	340	5	1	4	3g	1g	20%	40%	2%	4%

Most vegetables provide negligible amounts of saturated fat, trans fat, and cholesterol.

Fruits



Nutrition Facts

Raw, edible weight portion.
Percent Daily Values (%DV) are
based on a 2,000 calorie diet.

Fruits Serving Size (gram weight/ounce weight)	Calories	Calories from Fat		Total Fat	Sodium	Potassium	Total Carbohydrate		Dietary Fiber	Sugars	Protein	Vitamin A	Vitamin C	Calcium	Iron
		g	%DV				mg	%DV							
Apple 1 large (242 g/8.5 oz)	130	0	0	0	260	34	5	20	25g	1g	2%	8%	2%	2%	
Avocado California, 1/5 medium (30 g/1.1 oz)	50	35	4.5	0	140	3	1	4	0g	1g	0%	4%	0%	2%	
Banana 1 medium (126 g/4.5 oz)	110	0	0	0	450	30	3	12	19g	1g	2%	15%	0%	2%	
Cantaloupe 1/4 medium (134 g/4.8 oz)	50	0	0	20	240	12	1	4	11g	1g	120%	80%	2%	2%	
Grapefruit 1/2 medium (154 g/5.5 oz)	60	0	0	0	160	15	2	8	11g	1g	35%	100%	4%	0%	
Grapes 3/4 cup (126 g/4.5 oz)	90	0	0	15	240	23	1	4	20g	0g	0%	2%	2%	0%	
Honeydew Melon 1/10 medium melon (134 g/4.8 oz)	50	0	0	30	210	12	1	4	11g	1g	2%	45%	2%	2%	
Kiwifruit 2 medium (148 g/5.3 oz)	90	10	1	0	450	20	4	16	13g	1g	2%	240%	4%	2%	
Lemon 1 medium (58 g/2.1 oz)	15	0	0	0	75	5	2	8	2g	0g	0%	40%	2%	0%	
Lime 1 medium (67 g/2.4 oz)	20	0	0	0	75	7	2	8	0g	0g	0%	35%	0%	0%	
Nectarine 1 medium (140 g/5.0 oz)	60	5	0.5	0	250	15	2	8	11g	1g	8%	15%	0%	2%	
Orange 1 medium (154 g/5.5 oz)	80	0	0	0	250	19	3	12	14g	1g	2%	130%	6%	0%	
Peach 1 medium (147 g/5.3 oz)	60	0	0.5	0	230	15	2	8	13g	1g	6%	15%	0%	2%	
Pear 1 medium (166 g/5.9 oz)	100	0	0	0	190	26	6	24	16g	1g	0%	10%	2%	0%	
Pineapple 2 slices, 3" diameter, 3/4" thick (112 g/4 oz)	50	0	0	10	120	13	1	4	10g	1g	2%	50%	2%	2%	
Plums 2 medium (151 g/5.4 oz)	70	0	0	0	230	19	2	8	16g	1g	8%	10%	0%	2%	
Strawberries 8 medium (147g/5.3 oz)	50	0	0	0	170	11	2	8	8g	1g	0%	160%	2%	2%	
Sweet Cherries 21 cherries; 1 cup (140 g/5.0 oz)	100	0	0	0	350	26	1	4	16g	1g	2%	15%	2%	2%	
Tangerine 1 medium (109 g/3.9 oz)	50	0	0	0	160	13	2	8	9g	1g	6%	45%	4%	0%	
Watermelon 1/18 medium melon; 2 cups diced pieces (280 g/10.0 oz)	80	0	0	0	270	21	1	4	20g	1g	30%	25%	2%	4%	

Most fruits provide negligible amounts of saturated fat, trans fat, and cholesterol; avocados provide 0.5 g of saturated fat per ounce.



History of Agriculture in Hawaii

This is a first attempt to assemble a history of agriculture in Hawaii. A history of U.S. agriculture can be found here and we have used their format. A brief history of Hawaii can be found here. We have worked to include what we could find, but we are always looking for more suggestions. Please contact Jim Hollyer with suggestions.

Other Hawaii Agricultural Histories

History of Sugar (HARC)

<p>Pre-Contact (prior to 1778)</p>	<p>"Original settlers of Polynesia migrated through South-East Asia and Indonesia across Melanesia, before settling the Polynesian islands from 1000 BC to 500 AD. Hawaii was one of the last island groups to be settled. Archaeological evidence indicates the first Polynesians arrived in Hawaii from the Marquesas between 500 and 700 AD." (From a <u>Guide to Natural History</u>).</p> <p>First settlers to Hawaii introduced pigs and chickens of Asian ancestry. They also bring "`Ape (elephant's ear), `Awa (kawa), `Awapuhi Kuahiwi (shampoo ginger), Hau Ipu (gourd), Kalo (taro), Kamani (Alexandrian laurel), Ki (ti), Ko (sugar cane), Kou, Kukui (candlenut), Mai`a (banana), Milo (portia tree), Niu (coconut), Noni (Indian mulberry), `Ohe (bamboo), `Ohi`a `Ai (mountain apple), `Olena (turmeric), Olona, Pia (Polynesian arrowroot), `Uala (sweet potato), Uhi (yam), `Ulu (breadfruit), Wauke (paper mulberry)" with them. (From <u>Canoe Plants of Ancient Hawaii</u>.)</p>
<p>1778-1800</p>	<p>1778 Captain Cook brings an English sow and boar to Niihau on his first voyage. Captain Cook observes local chickens on Kauai.</p> <p>1790 Sandalwood export trade starts.</p> <p>1792 The orange brought to Hawaii.</p> <p>1793 The first cattle, originating from California, were introduced by Capt. George Vancouver on his second trip in 1793. On this trip and again in 1794, a total of eight females and four males were landed on the island of Hawai'i. One male and one female died shortly after landing. After the initial importation, King Kamehameha I placed a taboo on the slaughter of cattle, so that by 1830 when it was removed, cattle were very numerous.</p>
<p>1800</p>	<p>1809 The Parker Ranch had its beginnings in 1809, when John Palmer Parker, a sailor from Massachusetts arrived on the islands. He married a Hawaiian princess and began domesticating wild cattle and horses that roamed the Big Island.</p>
<p>1810</p>	<p>1810-1825 Height of sandalwood trade.</p> <p>1813</p>

	<p>Don Francisco de Paula y Marin, Spanish advisor to King Kamehameha I, introduces coffee and pineapple to Hawaii.</p> <p>18?? John Wilkinson brings 30 of the so-called "Hawaiian coffee" plants from Brazil. This is believed to be the first introduction of this coffee type that was widely planted in Hawaii.</p>
1820	<p>1824 The mango tree brought to Hawaii.</p> <p>1828-29 H.N. Greenwell plants first coffee plant in Kona leading to the establishment of a coffee industry for Kona.</p>
1830	<p>1830 King Kamehameha I's kapu on slaughter of cattle removed due to large population.</p> <p>1830s Coffee initiated as a commercial crop.</p> <p>1839 First forestry law in Hawaii passed, restricting the cutting of sandalwood.</p>
1840	<p>1840 Captain Thomas Cummins, a wealthy shipping merchant from England, began raising beef cattle and sheep in Waimanalo.</p> <p>1846 King Kamehameha III passes a law declaring forests to be government property.</p> <p>1848 The feudal landholding system was changed to allow fee simple ownership of land by private persons (Great Mahele).</p> <p>1849-1851 California gold rush brings a boom to Hawaii agriculture; Irish and sweet potatoes, onions, pumpkins, oranges, molasses, and coffee were shipped to the West Coast.</p>
1850	<p>1850 First publication of Transactions of the Royal Hawaiian Agricultural Society.</p> <p>1853 Hogs from Hawaii exported to California during gold rush, price was 4-6 cents per pound</p> <p>1856 The Lihue sugar plantation on Kauai develops the first extensive irrigation system in Hawaii, which included a 10-mile long irrigation ditch and tunnel system.</p> <p>1858 First experimentation with rice, which was an important crop in Hawaii in the latter half of the 19th century.</p>
1860	<p>1860s Drought, a variety of infestations, and labor shortages hinders coffee growth leading to the closures of nearly all plantations in the islands, except for Kona and Hamakua.</p> <p>1862 The U.S. Department of Agriculture is established by President Abraham Lincoln.</p> <p>186??</p>

	<p>Claus Spreckels and his brother established the Bay Sugar Refinery in San Francisco, getting their raw sugar from the Hawaiian Islands.</p> <p>1868 First Japanese workers come to Hawaii.</p> <p>1869 First recorded commercial dairy.</p>
1870	<p>1870 First plantings of Eucalyptus on Maui.</p> <p>1870s Water crisis in Honolulu.</p> <p>1876 A reciprocity treaty between the Kingdom and the United States allowed for duty-free export of sugar, leading to a rapid expansion in sugarcane production.</p> <p>1876 "Act for the Protection and Preservation of Woods and Forests", including watershed preservation, passed by Kingdom of Hawaii.</p> <p>1878 The Waimanalo Sugar Company is founded. Rail tracks are laid out and three locomotive engines are brought in to haul cane to the mill and the wharf.</p> <p>1878 Future Queen Liliuokalani composes "Aloha Oe". The melody was inspired during a visit to the Waimanalo sugar plantation.</p>
1880	<p>1880s-90s Plantings of Eucalyptus and ironwoods on Tantalus and in Nuuanu valley, above Honolulu.</p> <p>1881 William H. Purvis introduces macadamia nuts to Hawaii.</p> <p>1882 John Ackerman and Waldemar Muller canned pineapple commercially in Kona.</p> <p>1885 Captain John Kidwell is credited as being the pioneer of the pineapple industry in Hawaii. He began crop development trials in 1885 when he planted in Manoa, Oahu.</p> <p>1889 The first artesian well was drilled in Ewa, Oahu, ushering in groundwater irrigation of agricultural fields.</p>
1890	<p>1890 Captain John Kidwell plants Smooth Cayenne pineapple near Pearl Harbor. Sold plants to Baldwin on Maui.</p> <p>1890s Strong economies in Europe and America results in rise of market prices for coffee creating a boom for Kona coffee.</p> <p>1892 Hermann Widemann introduces a Guatemalan coffee variety that is more recently referred to as the "Kona typica."</p> <p>1892 Kidwell and John Emmeluth build pineapple cannery in Waipahu.</p> <p>1895 Hawaii Sugar Planters Association (HSPA) founded.</p> <p>1897</p>

	<p>150,000 pecks of pineapple exported at value of \$14,000.</p> <p>1898 Alfred W. Eames arrives in Hawaii as one of the original "California Homesteaders" to begin pineapple cultivation. Eames first starts selling fresh pineapple in the year 1900, nearly a century ago. His company eventually became Del Monte Fresh Produce (Hawaii) Inc.</p> <p>1898 Japanese coffee farmers establish the Kona Japanese Coffee Producers Association in an effort to improve processing and market a higher value product.</p> <p>1899 Kunigoro Yokoyama plants 100 acres of the Guatemalan coffee variety in Kamalumu, Kona.</p>
1900	<p>1900 James Drummond Dole purchases 61 acres in Wahiawa and began experimenting with pineapple</p> <p>1901 James Drummond Dole incorporates the Hawaiian Pineapple Company and begins growing fruit on 60 acres in Wahiawa.</p> <p>1901 Hawaii Agricultural Research Station (UH) established on outskirts of Honolulu.</p> <p>1902 Byron Clark founds Tropical Fruit Company (for pineapple).</p> <p>1903 Commercial egg production starts on Oahu with 1000 imported layers on one operation.</p> <p>1903 Territory of Hawaii, with the backing of the Hawaii Sugar Planters' Association, establishes a Board of Agriculture and Forestry, predating the USDA Forest Service by one year.</p> <p>1904 Hiring of first Territorial Forester (Ralph Hosmer); creation of first forest reserves to protect upper watershed areas. Forest reserves managed by fencing, feral animal elimination, and reforestation with native and exotic tree species.</p> <p>1905 Dole packs 125,000 cases of pineapple.</p> <p>1906 Hawaiian Pineapple Co. builds Iwilei Cannery.</p> <p>1906 Oahu Rail and Land Company agrees to link the railroad line between Wahiawa and Honolulu.</p> <p>1907 Dole builds Iwilei cannery for pineapple.</p> <p>1907 Establishment of the College of Agriculture and Mechanic Arts. Name changes to College of Hawaii in 1909 and to University of Hawaii in 1919.</p> <p>1907 Rice planting expands to 9,400 acres and output reaches almost 42 million pounds - rice is second largest crop in Hawaii.</p> <p>1909 Japanese laborers strike against Oahu sugar plantations.</p>
1910	<p>1910-14 Pineapple research carried on by pineapple companies and University of Hawaii.</p> <p>1910 Japanese coffee farmers make-up 80% of the total farming population in Kona.</p> <p>1910 Discovery of Mediterranean fruit fly stops exports of avocado and other products from Hawaii.</p>

	<p>1911 Ginaca machine patented by Dole employee Henry Ginaca to process pineapple.</p> <p>1911 Introduction of the Solo papaya from Barbados and Jamaica, on Oct. 7, 1911, (accession no. 2853) by Gerritt P. Wilder (of Honolulu) resulted in the complete transformation of the Hawaiian papaya industry. This small papaya, which was named Solo in 1919, replaced the earlier large-fruited forms, and by 1936 the Solo was the only variety grown commercially.</p> <p>1912 Hawaiian Pineapple Packers' Association research station formed which became the Pineapple Research Institute.</p> <p>1914 Pineapple Packers Association establishes alliance with HSPA for research.</p> <p>1919 University starts an extension service without federal funding (see 1928).</p>
1920	<p>1920 Hawaiian Homes Act established. Federal government set aside 200,000 acres of land state wide for homesteading by Hawaiians with 50% or more native blood. Author of the bill was Prince Jonah Kuhio Kalaniana'ole, Hawaii delegate to Congress. First homestead area settled was in Kalamaula on Molokai. Agricultural lots were established in Hoolehua, Molokai.</p> <p>1923 Pineapple Packers Association establishes own experiment station.</p> <p>1924 Labor riots at Hanapepe kill 16 workers and 4 policemen (July).</p> <p>1925 Ernest Van Tassel leases 75 acres on Round Top in Honolulu (Nut Ridge) and begins a macadamia nut orchard, Hawaii's first macadamia nut farm.</p> <p>1928 Establishment of the Federal-Hawaii Cooperative Agricultural Extension Service, with funds from the Smith-Lever Act.</p> <p>1929 Depression leads to coffee bust; many debt-ridden coffee farmers declare bankruptcy.</p> <p>1929 Ernest Van Tassel negotiates with Bishop Estate to obtain 100 acres of land in Keahoe Mauka for planting more than 7000 macadamia nut trees resulting in the first macadamia nut farm on the island of Hawaii.</p>
1930	<p>1930 Nine million cases of pineapple packed by eight canneries.</p> <p>1931 Ernest Van Tassel establishes a macadamia nut processing factory on Puhukaina Street in Kakaako; nuts sold as Van's macadamia nuts.</p> <p>1931 Twenty-five percent of the area of Hawaii in established Forest Reserves, both public and private lands.</p> <p>1933 Sugar production peaks with 254,563 acres planted.</p> <p>1934-1941 Civilian Conservation Corps reforestation efforts plant an average of two million trees per year in the forest reserves.</p> <p>1937 W.W. Jones and J.H. Beaumont reports in "Science," the first successful grafting of macadamia nuts</p>

	<p>that paved the way for mass production.</p> <p>1938 Debt ridden coffee farmers negotiate with American Factors (AMFAC) for an adjustment. Coffee farmers get a chance at a new start with American Factors reducing debts to 2% of original debts.</p> <p>1938 Pineapple Packers Association experiment station name changed to Pineapple Research Institute of Hawaii (PRI).</p>
1940	<p>1945 Hawaii swine population peaks at 90,000 head.</p> <p>1946 6000 Filipino workers immigrated to Hawaii for jobs in sugar and pineapple.</p> <p>1946 "Great Sugar Strike" - 33 plantations struck -- 28,000 ILWU workers (September 1).</p> <p>1947 Hawaiian Pineapple Company consolidates its outlying camps by designing plans for Whitmore Village.</p> <p>1947 Newly organized unionized pineapple workers conducts their first labors strike.</p> <p>1947 Oahu farmers meet in October for the first time leading to the creation of the Hawaii Farm Bureau that was incorporated in December 1950.</p> <p>1948 First major all-island study of the characteristics of vegetable and fruit farms undertaken.</p> <p>1949 Territorial legislature creates Industrial Research Advisory Council to sponsor and finance studies, many have been in the area of diversified agriculture.</p> <p>1949 Castle and Cooke plants first grafted macadamia nut trees (January 3). By the early 50s, the company's orchard contained more than 3,000 macadamia nut trees.</p>
1950	<p>1950 Hawaii Farm Bureau Federation officially starts.</p> <p>1952 Frozen pineapple juice concentrate hits the shelves for the first time.</p> <p>1953 The territory establishes its first public-owned irrigation system in Waimanalo.</p> <p>1953 Mid 1950s-Castle and Cooke adds a new brand of macadamia nuts called "Royal Hawaiian," which is credited with popularizing the nuts in the U.S.</p> <p>1955 Pineapple production peaks with 76,700 acres planted.</p> <p>1955 Establishment of a cooperative program between the U.S. Department of Agriculture National Agricultural Statistics Service and the Agricultural Cooperative Extension Service at UH to provide agricultural statistics from a single government office.</p> <p>1956 Edward T. Fukunaga and John Beaumont publish research from the Kona Experiment Station revolutionizing coffee pruning throughout Central and South America.</p> <p>1957 The Hawaii Farm Bureau becomes a member of the American Farm Bureau Federation.</p> <p>1957</p>

	<p>USDA Forest Service experiment station established for forestry research in Hawaii; eventually becomes the Institute of Pacific Islands Forestry.</p> <p>1957-58 The coffee industry peaks in production with 15 million pounds of green coffee beans.</p> <p>1958 90-day ILWU sugar strike results in the closures of sugar mills at Kohala, Kahuku, Kilauea, and Ewa Beach.</p> <p>1959 Establishment of the Sunset Coffee Cooperative and Pacific Coffee Cooperative to rebuild Kona's coffee industry.</p> <p>1959 With statehood, federal funds became available for the development and growth of Hawaii's agricultural industries with funding for programs such as farm credit, natural resources, and statistical services.</p>
1960	<p>1960s (early) Hawaii pineapple growers supply over 80% of the world's output of canned pineapple.</p> <p>1961-1968 Plantations of potential commercial timber species established in Waiakea forest reserve and Laupahoehoe forest reserve on the island of Hawaii.</p> <p>1962 Cooperative Statistical program between U.S. Department of Agriculture National Agricultural Statistics Service and the Cooperative Extension Service at UH transfers to the Hawaii Department of Agriculture.</p> <p>1960s (mid) Kona Farmers Cooperative, previously known as Sunset and Pacific Coffee Cooperatives gets Superior Coffees in Chicago to purchase its entire crop at a premium price resulting in the construction of a roasting plant in Honolulu.</p> <p>1965 CTAHR trials for Illinois Foundation Seeds and Cornnuts, Inc. led to establishment of Molokai Seed Service on 5 acre of Yoshida farm on Molokai for 'winter corn breeding'.</p> <p>1966 Pineapple production begins to decline.</p> <p>1966 Molokai Seed Service founded and the first winter corn seed nursery planted. This endeavor evolved a year later into the Hawaiian Research / Holden's organizations on Molokai. This organization serviced Cargill / PAG until 1997.</p> <p>1966 Peak sugar production with 1,234,121 tons of raw sugar.</p> <p>1968 Molokai Irrigation System completed.</p> <p>1968 ILWU pineapple workers strike for 61 days.</p> <p>1968 Trojan Seed Company establishes a corn research farm at Kihei, Maui, which evolved through ownership by Pfizer Genetics, and DeKalb to its present Monsanto Global Seeds business.</p> <p>1968 Pride Seeds / NK establishes a corn research farm on west Kauai. This has evolved through ownership by NK, and Sandoz Seeds to its present Novartis business formed by the merger of Ciba Seeds and NK in 1996.</p> <p>1968 Pioneer Hi-Bred, International establishes a corn research farm on west Kauai.</p> <p>1969</p>

	Establishment of the HCIA (Hawaii Crop Improvement Association) with help from CTAHR to bring together agencies, institutions and individuals involved in the production of seed.
1970	<p>1970s Pineapple cannery numbers go from 9 to 3.</p> <p>1971 Establishment of the Papaya Administrative Committee, a federal marketing order regulating Hawaii-grown papayas (May 15).</p> <p>1972 Funk's G Seed Company establishes a corn research farm on Molokai, which evolved through ownership by Ciba Seeds and merger with NK to relocate to the Kauai facility.</p> <p>1973 Pineapple Research Institute of Hawaii (PRI) station closes and pathology and nematology research transferred to University of Hawaii.</p> <p>1974 Pineapple task force formed for R&D planning.</p> <p>1974 About 9,000 ILWU sugar workers strike for 39 days (March 9).</p> <p>1974 About 6,000 ILWU pineapple workers on Oahu, Maui and Lanai strike for 21 days (April 7).</p> <p>1974 Visions to become largest producer of macadamia nuts leads C. Brewer & Company, Ltd. to purchase Castle & Cooke's operation at Keaau.</p> <p>1975 The establishment of the state's first agricultural park at Pahoehoe.</p> <p>1976 Del Monte expands into the produce business with national distribution of fresh Hawaiian pineapple. This transition is accomplished with a focus on direct airfreight, or Jet Fresh, shipments.</p> <p>1977 1st Pineapple Industry Analysis completed.</p>
1980	<p>1982 Formulation of the Ginger Commodity Group Association.</p> <p>1982 Ginger industry hits 100 acres of production for the first time, raising 3.6 million pounds at a record high price.</p> <p>1983 Del Monte Corp. folds Hawaii pineapple canning operations (September 3).</p> <p>1983 C. Brewer & Company, Ltd., becomes largest producer of macadamia nuts in the world.</p> <p>1984 Del Monte opens a new Hawaiian pineapple juice concentrate processing plant in Kunia, Hawaii.</p> <p>1984 Garst Seed Company establishes a corn research farm at Kunia, Oahu.</p> <p>1986 Pineapple Research Institute of Hawaii (PRI) breeding program closes and pineapple germplasm transferred to National Germplasm Repository in Hilo.</p> <p>1986 CTAHR begins a state-wide coffee variety trial or experiment launching a new era in Hawaii's Coffee Industry, the next year one of the cooperators Kauai Coffee (A&B) begins planting the largest irrigated mechanized coffee plantation in the world.</p> <p>1987</p>

	<p>Enactment of the State Water Code sets precedence on the allocation of water with the shutdown of a plantation irrigation system.</p> <p>1989 Del Monte introduces Fresh-Cut Chilled Hawaiian Pineapple. This is the first nationally distributed, fresh-cut, refrigerated fruit item. It is tailored for both the convenience oriented consumer market and for the foodservice market; containing no additives and preservatives.</p> <p>1989 Hawaii Forest Industry Association founded.</p>
1990	<p>1991 6th Pineapple Industry Analysis completed.</p> <p>1992 Ginger industry suffers major losses (65-75%) due to bacterial wilt and nematodes; losses estimated at 9 million pounds.</p> <p>1992 Dole Packaged Foods Co. closes Lanai plantation (October).</p> <p>1992 Dole shuts Iwilei Cannery (December).</p> <p>1992 Hawaii Tropical Forest Recovery (Federal) Act enacted resulting in the development of a detailed action plan that brings the complexity of forestry into a comprehensive and coordinated planning process (October).</p> <p>1994 Hamakua Sugar Co. harvests last crop (September 30).</p> <p>1994 The Waiahole Ditch Contested Case sets the process for allocation of water by the state's Water Commission.</p> <p>1995 Hilo Sugar closes.</p> <p>1995 Oahu Sugar closes (April 9).</p> <p>1995 First papaya shipment to Chicago for quarantine treatment employing irradiation (April 5).</p> <p>1995 First shipment of foliage potted plants to Japan (November 28).</p> <p>1996 Ka'u Sugar closes (March 27).</p> <p>1996 Waialua Sugar closes (October 4).</p> <p>1997 Cargill purchases the Funk's G/ Ciba facility and establishes its seed research business independently on Molokai.</p> <p>1997 Hawaiian Research expands and establishes a farm at Haleiwa, Oahu.</p> <p>1997 Farm value of diversified agriculture surpasses \$300 million mark for first time.</p> <p>1997 Private, commercial eucalyptus plantations begin on former cane lands in Hamakua, Hawaii Island.</p> <p>1998 Debut of transgenic papayas -- Rainbow and SunUp -- resistant to the Papaya Ringspot Virus (May 1).</p> <p>1998 Ginger industry records a record year with production of 18 million pounds.</p> <p>1998</p>

Federal rule change to allow commercial export of certain varieties of green bananas -- Brazilian, Valery, Williams -- to the U.S. Mainland and Guam (November).

1998

Hawaii's banana production reaches a record breaking 21 million pounds; a 53% increase from the previous year.

1999

Last sugar harvest in Lahaina, Maui (September 12).

1999

Today there are over 5,500 farms in Hawaii. In 1954, there were less than 3,700 such farms.

Today we grow more than 40 crops commercially. That's compared to only 28 fruit and vegetables grown commercially in 1954.

The state acquires ownership of the Waiahole Ditch guaranteeing a steady source of irrigation water at an affordable price allowing for growth of diversified agriculture in Central and Leeward Oahu (July 9).

Pioneer expands and establishes a seed processing plant at Waialua, Oahu.

The seed business has grown since 1966 to a \$27 million industry which is still growing and ranks seventh among diversified agricultural industries. In addition to corn, crops now include soybeans, sunflower, and sorghum.

Hawaii's macadamia nut industry is the second largest in the world with 45% of the world's production.

Hawaii continues to be the only state in the nation to grow coffee. Currently Hawaii produces 7.6 million pounds of green coffee annually with production on the islands of Hawaii, Kauai, Maui, Molokai, and Oahu.

2000

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FFVP Resource Flyer



<http://www.choosemyplate.gov/>

The website features practical information and tips to help Americans build healthier diets.

It features selected messages to help consumer focus on key behaviors. Selected messages include:

- Enjoy your food, but eat less.
- Avoid oversized portions.
- Make half your plate fruits and vegetables.
- Switch to fat-free or low-fat (1%) milk.
- Make at least half your grains whole grains.
- Compare sodium in foods like soup, bread, and frozen meals—and choose foods with lower numbers.
- Drink water instead of sugary drinks. ChooseMyPlate.gov¹ includes much of the consumer and professional information formerly found on MyPyramid.gov.



National Farm to School Network

This growing farm to school movement is supported by eight regional lead agencies that comprise the National Farm to School Network, which offers training and technical assistance, information services, networking, and support in policy and media and marketing activities. We are here to help you get started and to keep the programs growing.

<http://www.healthierus.gov/dietaryguidelines>

Dietary Guidelines for Americans, 2010
Released January 31, 2011



Press Release

Executive Summary (includes key recommendations)

Selected Messages for Consumers

Backgrounder

Questions and Answers

www.fruitsandveggiesmorematters.org

Healthy Ways to Cook

Reasons to Eat Fruits & Veggies

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Safe Food Handling
Foodborne Illness
Education & Outreach

The Partnership for Food Safety Education (PFSE) is a not-for-profit organization that unites industry associations, professional societies in food science, nutrition and health, consumer groups, and the U.S. government to educate the public about safe food handling.