

## Smoothies and Juicing

### Introduction

Implementing smoothies and juicing allows you instantly boost your nutrient intake by absorbing up to 99% of the essential vitamins, minerals, and antioxidants of the fruits, vegetables, and greens. It also assists your body's elimination process and to detoxify which increases the body's natural healing processes.

### Benefits of Smoothies

1. Smoothies offer pure nutrition. The amount of vitamins you will get depends on the fruits and vegetables you choose for the smoothie. However, most fruits and vegetables are high in vitamins A and C. Guava is also high in folate, while avocados provide high amounts of potassium and magnesium.
2. Smoothies are quick and easy to make. The only equipment required is a blender.
3. Homemade smoothies are relatively inexpensive. And drinking a serving every day will provide you with all of the vitamins you need.
4. Smoothies are a good way to get kids to "eat" their vegetables. Consider starting with a higher ratio of fruits versus vegetables.
5. Smoothies provide a lasting source of energy. Fruits are a good source of energy, but when eaten alone, provide short bursts of energy as they contain a lot of sugar and are metabolized quickly. Because of their high content of vegetables, green smoothies balance the sugar content.
6. Smoothies are relatively low in calories but filling. Because they contain high amounts of water and fiber, they will make you feel as if you ate a full meal. If you are trying to lose weight, green smoothies help you fight hunger and cravings while helping the pounds melt off. However, consider a smoothie as a meal replacement. If you smoothies to your normal meals, you will gain weight!
7. Smoothies are easy to digest. Because they are blended and liquefied, smoothies digest quicker than solid food.
8. Smoothies help you to stay hydrated. Although you should drink at least eight glasses of water each day, experts believe that most people do not drink half that amount. Adding water to smoothies helps you reach your water goal, not to mention the water found in vegetables.

Note that commercial, store-bought smoothies are often "tainted". Most store-bought or juice-bar smoothies are less than ideal. These smoothies are made with frozen fruit, with store-bought sugary juices and liquors for added taste. Most store-bought smoothies are packed with sugar so that they taste good. These smoothies also tend to include dairy of a questionable quality and source. Though commercial smoothies are tainted, commercial juices are even worse. Bottled juices are almost pure sugar with very little nutrition at all. They are also high in calories, and just plain bad for the health.

## Smoothies and Juicing

### Blending versus Juicing

1. Unlike juices, smoothies consist of the entire fruit and vegetable (pulp is not discarded), including the skin and fiber thus smoothies tend to be more filling. The blending process partially breaks the fiber apart, making the fruit and vegetables easier to digest, and helping to create a slower, more even release of the nutrients into the blood stream which avoids sugar spikes.
2. Since smoothies include the fiber, the volume increases. Consequently, you can pack more servings of fruit and vegetables into a serving of juice than a smoothie.
3. Smoothies are generally faster and more convenient to make than juices.
4. Smoothies keep longer in the refrigerator than juice does. Smoothies contain all of the fiber that the fruits and vegetables initially came with, albeit in a blended form. Because everything is still in the drink itself, you can actually store smoothies longer without losing too much nutritional value. To preserve a smoothie you simply need to put it in a glass container like a mason jar filled to the brim. This keeps the air out, so that the smoothie will not oxidize. Seal the jar and drink it within 24 to 32 hours. You might need to shake it if the water separates.
5. The fiber of a green smoothie acts like chimney sweepers. Smoothies have a cleansing effect on the bowel. Since smoothies still contain all of the fiber from the fruits and vegetables, you get a chimney sweeping effect. One of the reasons I'm so fond of smoothies is that they keep me regular, and cleanse my body on their way out.
6. Sugar is absorbed slower because of the built-in fiber. Green smoothies allow you to have fruit without experiencing the aftermath of a sugar spike and crash. The fiber will keep the flow of sugar regular as your body digests it and it enters the bloodstream. Fruit smoothies will have the effect as eating whole fruits, so you may experience a bit of an up and down, but nothing compared to fruit juice. (By the way, store bought fruit juices are the worst, and I don't recommend them at all.)
7. Blenders are easy to clean. A blender is easily cleaned by running it under the tap. Or adding a bit of water and soap to the blender and pushing the clean cycle button for a few seconds.
8. Fruit smoothies are great tasting for the whole family. Smoothies are great for making fruit-based drinks because it contains the whole fruit. They are also great for green smoothies because you can mix and match to please the taste buds of anyone in your household.
9. With a blender you can make sauces, salsas, and dips. Blenders are great for making sauces and dips. With a blender you can make all kinds of different things aside from smoothies, like salsas, guacamole, sauces, and soups. Though you can most certainly make soups with a juicer, blended soups tend to be thicker and creamier.
10. You can easily add supplements and super foods into smoothies. When you're making a smoothie you can add a spoonful of hemp protein powder, spirulina, maca root powder, and so on. You wouldn't necessarily add these supplements to a glass of juice, either because of the taste or the texture. That makes smoothies ideal for super foods and giving you a nutritional edge.

## Smoothies and Juicing

### Top 5 Reasons to Incorporate Smoothies

1. **Natural Weight Loss:** Smoothies provide the nutrition, vitamins, minerals, healthy carbohydrates, fiber and low fat whole food that you need to lose weight quickly, safely and effectively without starving yourself. After drinking smoothies for a few weeks, you will notice that your cravings for junk foods are greatly reduced and that you actually began craving healthy food options!
2. **Increased Consumption of Nutrients from Fruits and Vegetables (Particularly Greens):** Smoothies are a quick and convenient way to get your vegetables and dark, leafy greens without tasting them. The fruit masks the flavor so even though all you taste is pineapple, mango, banana or strawberry, yet you are consuming a healthy dose of spinach, carrots, tomatoes and other vegetables.
3. **Easy Digestibility and Nutrient Assimilation:** Blending fruits and vegetables together breaks down the cells of plants and improves digestibility. Your blender unlocks the nutrients and maximizes their delivery to your body more than chewing any salad could. Smoothies are quicker and more convenient than preparing and thoroughly chewing a salad, especially when you are on the go.
4. **Increased Energy:** Smoothies provide a powerful boost of vitamins, minerals, antioxidants and other nutrients without bogging down your digestive system. Since you are eating natural, whole foods in the most optimum form for your digestion and nutrient absorption, you will have more energy to get things done and enjoy your day.
5. **Alkalizing:** Fruits and vegetables are alkaline foods and many natural health experts claim that consuming these foods helps maintain a proper alkaline balance in the body. Acid-producing foods (as well as the over-consumption of protein) can raise the PH level of the blood, which can cause your body to leach calcium from your bones to neutralize it, thus increasing your risk for osteoporosis.

### Great Smoothie / Juicing Ingredients for Nutrient Density

- Greens (Kale, Collard Greens, Swiss Chard, Rainbow Chard, Spinach, Romaine Lettuce)
- Fruit (apples, bananas, mangos, pears, berries, limes, oranges)
- Vegetables (carrots, zucchini, cucumber, squash, broccoli, Brussels Sprouts)
- Liquids (water, lime, non-dairy milk)
- Flavorings (ginger root, mint, parsley, cocoa, cacao)
- Protein (vegan protein powder, hemp seeds, cashews, almonds)
- Fat (nuts, flax seeds, flax oil)

Avoid: dairy products, fruit juice, too many fruits!



# Juicing vs. Blending



Juicer separates juice from fiber

Blender blends all ingredients together

Juicer options: { Variety of choices with their own pros & cons: Centrifugal, masticating, twin-gear, hand-crank

Blender options: { High-speed blenders are best for super-creamy, green smoothies!

## CRAZY SEXY GREEN JUICE INGREDIENTS:

## CRAZY SEXY GREEN SMOOTHIE INGREDIENTS:

Base Cucumber & celery



- ♥ 1-2 leafy greens
- ♥ 1-2 low-glycemic fruits



Base

Filtered water, coconut water or nut milk



- ♥ 3:1 ratio of veggies to fruits
- ♥ 1 fat: ½ avocado or spoonful nut butter



Bonuses Cayenne pepper, gingerroot, broccoli stems, and more ...



Bonuses Raw cacao, vegan protein powder, chia, hemp seed, goji berries, and more ...



### >> No pulp/fiber <<

### >> Pulp/fiber-filled <<



- ♥ Instant infusion of vitamins, minerals, & phytonutrients to your bloodstream
- ♥ Gives digestive system a break: Cells can focus on rest & repair
- ♥ Removing the fiber means you can pack more veggies in a juice than a smoothie

- ♥ Supports digestive health: Sweeps toxins through digestive tract & aids regular elimination
- ♥ Satisfies hunger & sustains energy over time
- ♥ Balances blood sugar



## Smoothies and Juicing

### The Basics

Smoothies including fruit are best consumed for breakfast and lunch. There are only a few ingredients you must have on hand to prepare a green smoothie.

- Liquid (water, fruit juice, coconut water, non-dairy milk)
- Leafy greens (spinach, kale, Swiss chard, rainbow chard, romaine lettuce, cabbage, collard-mustard greens, wheatgrass or wheatgrass powder, sprouts)
- Fruit (apple, pear, pineapple, banana, mango, berries, melon)

What you add to this determines the taste and nutrition level. Common additions:

- Vegetables (broccoli, cucumber, zucchini, squash, avocado, beets, bok choy, brussel sprouts, bean sprouts)
- Nuts (almonds, cashews)
- Protein (powder, hemp seeds)
- Seasonings (cocoa, cacao, carob, turmeric, mint, jalapeno, cayenne pepper, cilantro, parsley, etc.)
- Sweeteners (agave, honey, maple syrup)
- Nutritious fat: Flax seed oil, hemp seeds, nuts, coconut meat

### Beginner Smoothie

- Greens: Spinach
- Liquid (use one): Water or non-dairy milk
- Fruit (use one or both): Bananas; Blueberries

### Intermediate Smoothie

- Greens (use one or both) Spinach, Kale
- Liquid (use one): Water or non-dairy milk
- Fruit (use one or more): Bananas, Blueberries, Apples, Grapes, Dates

### Advanced Smoothie

- Green (use one or more): Spinach, Kale, Bok choy, Collard greens, Cabbage greens, Swiss Chard, Beet Greens
- Liquid (use one): Water; Fruit Juice (Apple Cider, Pineapple Juice)
- Fruits/veggies/spices (use one or more): Carrots, Beets (top & root), Lemon & Ginger root, Pumpkin, Cinnamon, Herbs (mint), Tomatoes

Notes: Rotate greens on a daily basis, spinach one day, kale another day, etc. Green apples are less glycemic than red apples. Avoid hard vegetables such as carrots as they result in coarse, separating smoothies.

## Smoothies and Juicing

### Jack's Green Smoothie

- Water (8oz. to 16 oz.)
- 1 cup ice
- 1 scoop protein powder or 2 Tablespoons hemp seeds/hearts
- 1/2 cup frozen berries (blueberries, strawberries, raspberries)
- Two handfuls of spinach or kale, washed
- 1 handful of other greens (romaine lettuce, Swiss Chard, kale), washed
- 2 celery stalks, chopped
- 1 apple, cored, chopped

Directions: Blend until smooth. Options: 1/2 cucumber, 1/2 zucchini, ginger root, 1 carrot, broccoli, almond milk, pineapple, mango, cashews, almonds...

### Green Smoothie Girl Green Smoothie (GSG)

- 2 cups water
- 3 to 4 large handfuls of Greens (spinach, kale, collard, beet)
- 1 Tablespoon Flax oil
- 1 Tablespoon Stevia (optional)
- 2 Apples
- 2 Bananas
- 1 to 2 cups frozen mixed berries

Directions: Place in blender container: two cups water and several handfuls of greens (spinach, collard, kale, beet) (GSG fills container without packing). Blend. Add another handful of greens (1/2 container), flax oil, and stevia (optional). Blend. Add apples, bananas, and frozen mixed berries. Blend until smooth. Makes several adult servings or 1 adult serving (1 quart) and four child servings (1 pint each). <http://greensmoothiegirl.com/get-healthy/programs/green-smoothies/>

## Smoothies and Juicing

### Classic Green Smoothie (GSG)

- 1 ½ cups water
- large handful organic spinach
- 2 large leaves organic chard, w/stems
- ½ banana
- 1 small organic Fuji or Gala apple
- 2/3 c frozen mixed berries
- Optional: 1 scoop protein powder, 1 packet stevia, 2 Tbsp. sprouted flax seed (for essential fatty acids)

Directions: Blend water and greens until smooth, in a high-speed blender. Add fruit, and optional protein powder and/or stevia, and blend until smooth, about 90 seconds. Pour into BPA-free container with a lid. Drink immediately or store in the fridge for up to 48 hours, shaking well before drinking.

### Tropical Raw Vegan Smoothie

- 4 cups organic spinach
- 1/2 cup organic fresh or frozen mango
- 1/2 cup organic fresh or frozen pineapple
- 1 medium organic banana
- 1-2 cups organic coconut milk
- 1 tablespoon ground flax seeds
- 1 tablespoon coconut flakes (optional)

Directions: Place all ingredients in the canister of a high-speed blender, and blend until smooth and creamy. Serve immediately. Per serving: 154 calories, 12 g carbohydrate, 2 g protein, 12 g fat, 3 g fiber, 20 mg vitamin C. Recipe from Dr. Adam Meade - Abundant Health Family Chiropractic.

### Green Ginger Apple Smoothie (Dr Meade)

- 1 cucumber
- 1 cup spinach
- 1 green apple
- 1 handful parsley
- 1 piece of ginger
- 1 to 2 cups coconut water

Directions: Blend all ingredients until smooth.

## Smoothies and Juicing

### The Benefits of Juicing and Freshly Squeezed Juice

1. Fresh juices are the shortcut to pure nutrition. Freshly made juice gives you all the nutrients without any of the associated digestion. A freshly made juice bypasses your need to digest through the fibers before you get all the nutrients of the fruits and vegetables. This is ideal for people who have digestion problems and who need to heal themselves before they can absorb nutrients from whole foods. This ability to bypass your digestion and go straight into your nutritional system is important for giving your body a break and allowing it to heal itself fully.
2. Juice is ideal for cleansing and healing. Many people have healed themselves and undergone complete transformations by following a supervised juice fast or juice feast. The idea is to drink only freshly made juicer for an extended period of time to allow your body to take a break and work on deeper issues that require healing. Remember to consider the benefits of organic produce when you're juicing, especially if you are not peeling your produce.
3. Juice vegetables, but eat fruits. Jay Kordich (the juice daddy) believes that you should juice vegetables and eat fruits. Vegetables are better juiced whereas fruits are better eaten whole. Fruits need all of the fiber in order to slow down the absorption of sugar in your blood stream. The exception is that of mixing apple juice with vegetables. Vegetables contain less sugar and therefore don't need as much fiber to slow down the absorption. This goes back to the idea that store bought fruit juices are not a healthy drink.
4. Juice gives you an instant energy boost. When you're drinking freshly made juice, you're getting all of the energy right away without waiting for your body to digest through it. Whenever i drink freshly squeezed vegetable juice i always feel energized and more alert.
5. Even without fiber juice is a great way to flush your system out. Even without all of the fiber of smoothies, juices are a great way to give your body a chance to expel things via bowel movements. If you "chew your juice" as recommended, you give your body a signal that begins peristalsis and gets your bowels moving. That leads to a bowel movement and you are cleansing your body even without eating the fiber.
6. Cleaning a juicer can be quite a task. I think it's a tossup between making juice and making a smoothie in terms of time. For a smoothie you need to cut the fruits that you're going blend, and for a juice you might need to cut apples or carrots if they don't fit in the juicer. A juicer definitely requires a little bit more time for cleanup.
7. Juices don't make you feel full. After drinking juice you might be satisfied for 30 minutes to an hour. After drinking a smoothie, you might be satisfied for two to three hours. So i see juice more as a way to add nutrition into your day, and not as much as a meal like a smoothie might be.
8. Juice allows you to juice almost any produce. You might never put a beet or a carrot in one of your smoothies, but you can definitely make juice out of these ingredients. Interestingly enough, you can disguise bad tasting vegetables with other better tasting vegetables and apples to make juices that contain a larger variety of ingredients. Not necessarily so with smoothies.
9. It is still up for debate whether juice or smoothies unlock all the nutritional value in fruits and vegetables. Some juicer and blender manufacturers say that all of the nutrition is unlocked and is therefore superior to eating the fruits and vegetables themselves. This would potentially lead to increased absorption of nutrition. This is certainly the case for the elderly, or people who have a hard time chewing through foods properly.



## Smoothies and Juicing

### Juicing for Abundant Health (Dr. Adam Meade)

#### Improving the Cardiovascular System and Heart Health

Both antioxidant vitamins C and E prevent the damaging effect of free radicals on artery walls helping to lower triglycerides levels. For the health benefits of vitamin E use blackberries, kiwi, asparagus, and spinach in your juicer recipes. Potassium and magnesium are essential for proper heart function and a regular heartbeat.

#### Detoxifying the Liver – Fundamental for Good Health

One of the main liver functions is to clean the blood and remove toxins and metabolic waste. Antioxidants including beta-carotene, vitamin C, vitamin E, and N-acetyl cysteine are potent liver cleansers. In addition, B-vitamins riboflavin and niacin also aid liver cleansing. Cabbage, Brussels sprouts, and cauliflower have been found to be great for the liver.

#### Alkalizing your System (Vegetable Juicer Recipes)

All vegetables are alkalizing. Many fruits on the other hand are not; they are acidic in nature. The benefits of making your body PH level less acidic is a subject on its own, but a few juicing benefits regarding alkalizing your system include: improved brain function, slowing the aging process, less disease-prone body environment, improved heart function, improved joint function (helping arthritis), and better digestion.

#### Helping with Healthy Skin, Hair, Nails, and Eyes

The antioxidants vitamins C and E help to prevent skin damage from sun exposure due to their free radical neutralizing abilities. The most potent nutrient for healthy eyes is vitamin A. JL Note: Vitamin A is a broad group of related nutrients including retinoids (found in animal foods) and carotenoids (found in plant foods). These two forms are not just chemically different—they provide different types of health benefits. There are some specific immune, inflammatory, genetic, and reproductive-related benefits of vitamin A that can only be obtained from the retinoid forms of the vitamin. These retinoid forms can be especially important with respect to pregnancy and childbirth, infancy, childhood growth, night vision, red blood cell production, and resistance to infectious disease. If your body is able to effectively convert carotenoids into retinoids, you don't have to eat animal foods in order to obtain retinoid forms of vitamin A that are essential for health. If your body is unable to do this conversion effectively, you'll either need to include animal foods in your meal plan or obtain retinoid forms of vitamin A through dietary supplements.

#### Increased Energy Levels

This one is pretty simple. Juicing means lots more vitamins and minerals which are responsible for the necessary chemical reactions that promote health and vitality, and thus, more energy.

#### Improved Immune System

The antioxidants from fruits and vegetables include vitamins A, C, E, plus a wide range of plant chemicals called phytochemicals. Phytochemicals have amazing and varied health benefits, most notably anti-cancer properties.

## Smoothies and Juicing

### Juicing Recipes (Dr. Adam Meade)

#### Kale Kiwi Apple Juice

- 1 bunch of kale
- 3 kiwis
- 1 to 2 apples (Fuji)
- 1/2 to 1 inch of ginger root

Directions: Place in juicer and process.

#### Green Alkalizer Juice

- 3 kale leaves
- 1/2 cucumber
- 1 handful of cilantro
- 1/2 lime (seeded, but whole)
- 1 head romaine lettuce
- 2 apples (Fuji)

Directions: Place in juicer and process.

#### Pineapple Jalapeno

- 2 cups pineapple
- 5 kale leaves
- 1 cucumber
- 1/2 to 1 jalapeno pepper, seeded

Directions: Place in juicer and process.

## Smoothies and Juicing

### Cleanse, Detoxify, Lose Weight and Reverse Disease with Juicing!

1. Juicing helps you absorb all the nutrients from the vegetables. This is important because most of us have impaired digestion as a result of making less-than-optimal food choices over many years. This limits your body's ability to absorb all the nutrients from the vegetables. Juicing will help to "pre-digest" them for you, so you will receive most of the nutrition, rather than having it go down the toilet.
2. Juicing allows you to consume an optimal amount of vegetables in an efficient manner. If you are a carb type, you should eat one pound of raw vegetables per 50 pounds of body weight per day. Some people may find eating that many vegetables difficult, but it can be easily accomplished with a quick glass of vegetable juice.
3. You can add a wider variety of vegetables in your diet. Many people eat the same vegetable salads every day. This violates the principle of regular food rotation and increases your chance of developing an allergy to a certain food. But with juicing, you can juice a wide variety of vegetables that you may not normally enjoy eating whole.
4. Improving the cardiovascular system and heart health: Both antioxidant vitamins C and E prevent the damaging effect of free radicals on artery walls helping to lower triglycerides levels. For the health benefits of vitamin E you can use blackberries, kiwi, asparagus and spinach in your juicer recipes. Potassium and magnesium are essential for proper heart function and a regular heartbeat.
5. Detoxifying the liver – this is fundamental for good health: One of its main functions is to clean the blood and remove toxins and metabolic waste. Antioxidants beta-carotene, vitamin C, vitamin E, and N-acetyl cysteine are potent liver cleansers. In addition, B-vitamins riboflavin and niacin also aid liver cleansing. Cabbage, brussel sprouts and cauliflower have been found to be great for the liver.

## Smoothies and Juicing

### Why Juice?

Fresh juice provides us with minerals, vitamins, essential fatty acids, carbohydrates, proteins and much more. All of these factors are vital to maintaining good health. You will find that when you make fresh juice a daily part of your diet, you will have increased energy, a glowing complexion, strengthened immune system, stronger bones and a reduced risk of disease. It is recommended that you drink at least 16 ounces of freshly squeezed juice each day.

Although eating fruits and vegetables in their natural state does provide us with a substantial amount of vitamins and minerals, we only obtain the maximum benefits from them when they are juiced. Much of their goodness is locked in the fiber which is expelled from the body. When we juice the fruits and vegetables, their goodness is released from the fiber and we are able to drink their highly concentrated nutrients which are then able to enter our bloodstream very quickly. Fiber is essential to health, so be sure to continue eating raw fruits, vegetables, legumes and whole grains in conjunction with fresh juices to gain the maximum amount of nutritional value from what you eat. Very few people eat enough raw fruits and vegetables. Juicing provides a quick and easy way to increase your consumption of these foods, and is recommended in addition to a high fiber diet.

There are many bottled juices available on the market today. One of the problems with these is that many of their valuable nutrients are lost during the bottling process. If you make your own juice and drink it fresh, you will have control over the quality of the fruits and vegetables you are consuming, and in many cases you will save money. Your local Farmer's Market is a great place to buy fresh, inexpensive and often organic produce.

The USDA, National Cancer Institute, Surgeon General, and the secretary of Health and Human Services all agree that Americans need to increase their consumption of fresh produce to include 2 to 4 servings of vegetables every day. One of the easiest ways to add them to your diet is to juice.

No matter what your age, it is never too late to start drinking your fruits and vegetables. Juices can flush toxins from your body, are good for your weight, heart, circulation and overall well-being. Juices contain no saturated fats or added sodium and can be helpful in lowering your cholesterol. (Always follow your pediatrician's advice when introducing babies to juice.)

Remember: Apple seeds contain some cyanide, so be sure to remove the seeds before juicing. Do not juice carrot greens or rhubarb greens because of their toxicity. The skins of oranges and grapefruits also contain toxic substances, so it is not wise to juice them (however, the white, pithy part just below the skin contains very valuable bioflavonoids and vitamin C, so make sure you don't peel that away). The leaves of celery are often bitter, so you may wish to remove them. The skins of fruits such as kiwi and papaya should also be removed prior to juicing, however the skins from lemons and limes may be left on. Be sure to wash them thoroughly to remove any waxes and pesticides. All pits, such as plum pits and peach pits should be removed. Seeds from lemons, limes, grapes and melons etc. may be put into your juicer.

## Smoothies and Juicing

### **Antioxidants: The Real Story**

There are few subjects on which opinions are as divided as nutrition. Nearly everyone agrees: an excellent diet with lots of fruits and vegetables is healthy and will prevent many diseases. Such a diet is full of essential nutrients and antioxidants. Then, how come condemnation of supplemental antioxidants gets so much press coverage worldwide?

### **How antioxidants work**

Oxygen is necessary for life, but on the other hand it inevitably generates reactive molecules throughout all the tissues of the body. These free radicals are dangerous for any cell because they can damage essential molecules such as DNA and the enzymes necessary for proper function of the cell. Antioxidants capture these reactive free radicals and safely convert them back to normal. Although the body does produce antioxidant molecules, these work together with antioxidants that are delivered by the diet, mainly from fruit and vegetables but also from supplements.

Antioxidants can be divided into several groups. In addition to the 'classic' antioxidants vitamin C, vitamin E and selenium, another group includes the carotenoids, such as beta-carotene, lycopene, lutein and astaxanthin. Another subgroup comprises the flavonoids found in most fruits. All these antioxidants are molecules that plants use to protect themselves against environmental factors as solar radiation, heat, toxic chemicals, molds, etc. But these antioxidants also protect animal life. Antioxidants protect all life on earth – plants, animals and humans – against the damaging effects of oxygen radicals, which are always formed in an oxygenated environment. Over eons of time all living forms evolved together and thus depend on each other for survival. So it happened that fruit and vegetables, especially rich in antioxidants, are needed for humans and animals to preserve their health.

### **Conclusion**

From many studies over the past five decades, antioxidants are known to prevent cancer and other age-related diseases especially when taken long-term by healthy people. In cancer patients or those at great risk of cancer, antioxidants in appropriate doses can also be of great benefit in treatment, taken in consultation with a nutrition-aware doctor. Thus, the best advice for maintaining health continues to be: eat a diet based on whole grains, dark green leafy vegetables, fruits, and nuts, with minimal amounts of meat, avoid processed foods that lack essential nutrients, and supplement with adequate doses of essential vitamins, nutrients and antioxidants such as vitamins C and E, zinc, carotenoids and flavonoids.

## Smoothies and Juicing

### Carrot Nutrition and Health Benefits

Carrots are famously rich in beta carotene, which the body processes into vitamin A. We've all grown up with the knowledge that carrots are good for your eyesight. Carrots also pack a well-rounded nutritional punch including vitamins C, B3, B6, E and K as well as minerals such as iron, magnesium, phosphorus, calcium, molybdenum and potassium. They are also a great source of dietary fiber. Nutrients in carrots may help reduce the risk of cardiovascular disease. Carrots are famous for protecting vision, especially night vision. Beta carotene, of which carrots are one of the richest sources, has been studied for its potential in reducing the risk of certain cancers.

### Cucumber Nutrition and Health Benefits

Cucumbers are a good source of vitamin C and also contain vitamin A (as beta-carotene), molybdenum, folate, manganese, silica, potassium and magnesium. Cucumbers are an excellent source of dietary fiber. Cucumbers are known for their ability to improve the complexion of skin and studies suggest that they can even help lower blood pressure.

### Romaine Lettuce Nutrition and Health Benefits

Crisp romaine lettuce is a highly nutritious leafy green to use in a green smoothie. It has a mild flavor that is easily masked by fruit so it's perfect if you're new to green smoothies or making it for picky eaters. You can add an entire head of lettuce to a fruit smoothie and not impact the taste at all. I typically toss in an entire head of romaine in my morning smoothie. It provides 106 calories and gives me a super jolt of nutrition first thing in the morning. Here are some surprising nutrition facts about this wonderful smoothie (and salad) green:

1. **Protein.** Romaine lettuce is 17% protein with 7.7 grams per head. It is also a complete protein! That means that it has all 8 essential amino acids, 9% RDA of some and up to 26% RDA of others.
2. **Calcium.** One head of romaine has 206mg of calcium (about 21% RDA). Blend it with calcium rich fruits like papaya and oranges and you'll get more calcium than a glass of milk!
3. **Omega-3s.** One head of romaine lettuce contains 44% RDA of Omega-3 essential fats. Forget the tainted fish oils, reach for some leafy greens instead!
4. **More Vitamin C than An Orange.** One head of romaine contains 167% RDA of vitamin C while an average sized orange contains only 92%.
5. **Iron.** One head of romaine contains 6mg of iron, which adds a significant source of iron to the diets of vegetarians and vegans.
6. **Romaine Lettuce is Rich in B-vitamins:** Thiamine (B1) – 38% RDA, Riboflavin (B2) – 32% RDA, Niacin (B3) – 12% RDA, Pantothenic Acid (B5) – 18%, Pyridoxine (B6) – 36%, Folate (B9) – 213%!
7. **Water.** One head of romaine provides 16% of daily water needs with about 20 ounces of water per head!
8. **Rich Source of vitamin A (as beta-carotene) and K.** As with most leafy greens, romaine is super rich in beta-carotene with 1817% RDA per head and has 535% RDA of vitamin K.
9. **Low Levels of Oxalic Acid.** If you have problems with calcium oxalate kidney stones, romaine lettuce might be a good choice for leafy greens since it is very low in this anti-nutrient.
10. **Mineral-Rich.** One head contains copper (33% RDA), magnesium (22% RDA), manganese (42% RDA), phosphorus (27% RDA), potassium (33%), selenium (5% RDA) and zinc (13% RDA).

## Smoothies and Juicing

### Spinach Nutrition and Health Benefits

Spinach is considered a super food as it is a good source of vitamins A (as beta-carotene), C, K, and folate, as well as dietary fiber, calcium and iron. Spinach also contains selenium, zinc, phosphorus, potassium, copper, omega-3 fatty acids and vitamins B1, B2, B3, B6 and E. Spinach is rich in antioxidants that may help protect against certain cancers of the stomach, skin, breast, prostate, ovaries and colon. Spinach is good for cardiovascular health and may help prevent heart attack and stroke. Anti-inflammatory properties may help with diseases such as asthma and rheumatoid arthritis. Spinach contains lutein, which may protect eye health. Studies suggest that eating spinach may help reduce the effects of age-related decline in brain function.

### Kale Nutrition and Health Benefits

Kale contains beta carotene, vitamin K, vitamin C, lutein, zeaxanthin (a carotenoid similar to lutein), calcium and fiber. A sulfur-containing phytonutrient in kale called sulforaphane is believed to have powerful anti-cancer, anti-diabetic and anti-microbial properties and is released when the leaves are chopped or chewed (or blended in a green smoothie!) Kale also contains powerful antioxidants that help protect against certain cancers such as ovarian cancer. Kale is an excellent green to use for detox smoothies as it has cleansing properties. The nutrients in kale help protect against cataracts while promoting healthy lungs, cardiovascular health and boosts the immune system. Kale has anti-inflammatory properties making it an excellent food for those with rheumatoid arthritis.

### Collard Greens Nutrition and Health Benefits

Collard greens are a cruciferous vegetable related to cabbage, kale and broccoli. They are large, flat, green leaves with a thick stem running down the middle. Collard leaves are a great source of vitamins, minerals and antioxidants. They have a mild flavor and are an excellent green for your smoothies.

Just two cups of collard leaves, (or two large leaves) contain 26% of your recommended daily allowance (RDA) of vitamin A (as beta-carotene), 34% RDA of vitamin C, 350% RDA of vitamin K and 2.2 grams of protein. Collard leaves are also a great source of fiber with 2.9 grams, (or 12% of your recommended daily allowance) in just two cups. Collards are not as high in calcium (4.5% RDA per cup) and iron (.1 milligrams in 2 cups) as more nutritionally potent greens such as kale and dandelion. Two phytochemicals in collard greens, diindolylmethane and sulforaphane, contain potent anticancer properties (read more [here](#), [here](#), and [here](#)).

### Swiss Chard Nutrition and Health Benefits

Just two large Swiss chard leaves contain 196% of your recommended daily allowance (RDA) of vitamin A (as beta-carotene), 32% RDA of vitamin C, 12% RDA vitamin E, 664% RDA of vitamin K and 1.7 grams of protein. While not as potent in calcium and iron as kale or dandelion, chard does pack in the minerals with copper, manganese, magnesium and sodium – the natural, healthiest type of sodium! Chard helps support bone, lung and heart health while boosting the immune system. All color varieties of chard are highly nutritious with the same nutritional value for each variety. Most of the nutrients are found in the dark leafy green, and not in the stem. You can add the stem to your green smoothie or discard if you prefer.

## Smoothies and Juicing

### Beet Nutrition and Health Benefits

Beets are particularly rich in folate. One 2-inch diameter beet contains up to 22% RDA of folate. Beets are also a great source of copper, iron, magnesium, manganese, phosphorus and potassium. A small beet provides 35 calories and 1 gram of protein. Beets have been used for centuries in folk medicine. The pigment in red beets, betanin, is said to have antioxidant properties.

### Hemp — A Miracle Food

The benefits of hemp are boundless. This wonder food balances your hormones, nourishes your skin and hair, calms post-workout inflammation, and relaxes your muscles. Once a mainstay crop in the United States, it's also embedded in history: The Declaration of Independence was drafted on hemp, and early American flags were made of the durable, plant-based fabric.

Tasting like what he calls a cross between a sunflower seed and a pine nut, shelled hemp seeds and hemp protein powders are pleasant-tasting protein powerhouses, containing all 10 essential amino acids to form a complete vegetarian protein source. Hemp is better for the planet, too. According to Environmental Working Group, animal proteins can create up to 20 times the climate-damaging emissions compared to plant-based protein sources.

With U.S. demand up 62 percent in the first quarter of 2013, hemp is turning out to be quite a trendy little seed. Industry data shows hemp is growing at a rate of 115 percent, compared to an 84 percent increase in chia seeds. It's a powerhouse in the protein powder category, too. As whey and soy proteins are slowing, hemp protein powder sales are up 30 percent in the first part of 2013.

Consider these facts.

- It is one of the world's most potent natural sources of magnesium—a mineral required for a healthy metabolism and one that as much as 75 percent of the U.S. population doesn't get enough of
- It's a key food for exercisers, thanks to its levels of iron and phosphorus, important trace elements that maximize oxygen levels
- It contains twice the protein found in chia and flax seeds
- It's naturally non-GMO.

Here's how to work hemp into your diet:

- Sprinkle shelled hemp hearts on salads, yogurt, and cereal
- Add shelled hemp seeds to soup for a creamy, nondairy protein boost
- Toss protein powder into smoothies and mix with any ingredients that would be complemented by hemp's subtle, nutty flavor.



## Smoothies and Juicing

### Nutrition Comparisons

	Broccoli	Kale	Spinach
Calories	31	33	7
Protein	3g	2g	1g
Carbs	6g	7g	1g
Fiber	2.4g	1.3g	0.7g
Calcium	4%	8%	2%
Iron	0.7mg	1.1mg	0.8%
Vitamin A	19%	343%	94%
Vitamin C	90%	89%	9%

### Nutrients Present in 100 –Calorie Portions of Selected Foods

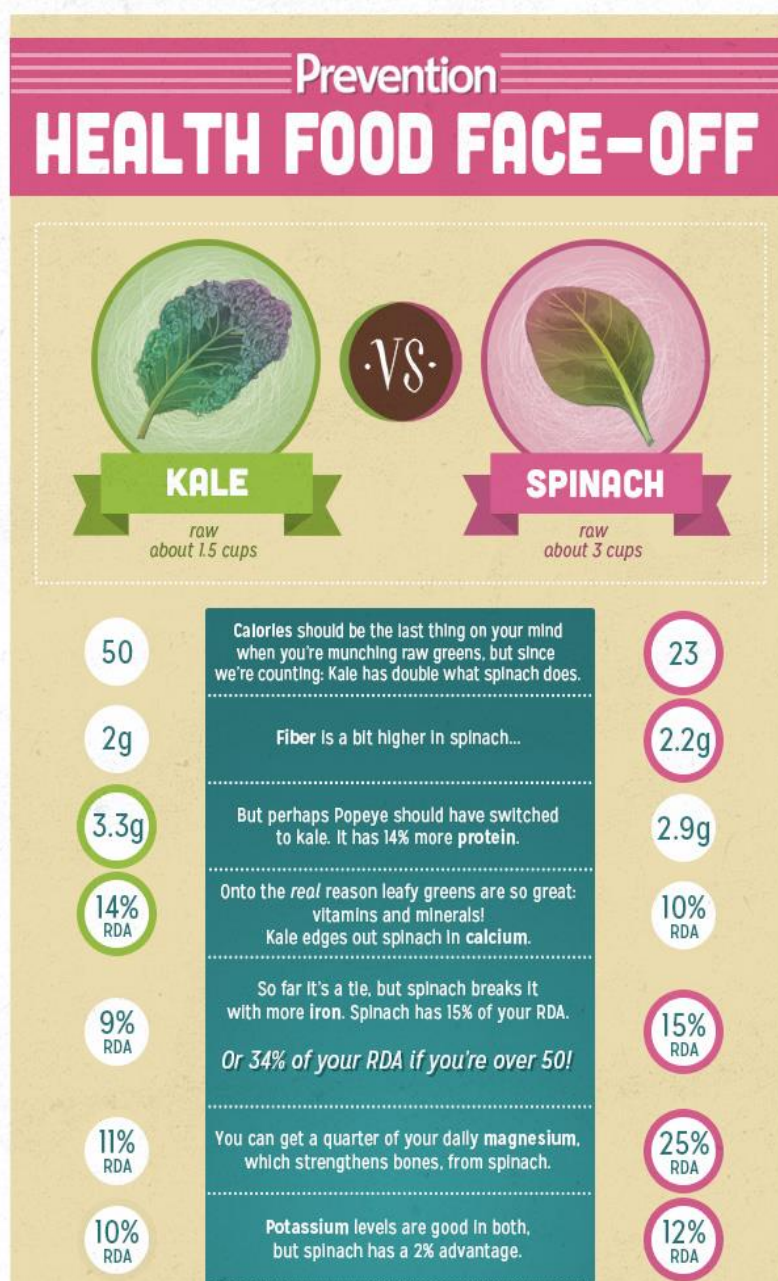
	BROCCOLI	SIRLOIN	ROMAINE LETTUCE	KALE
Protein	11.2 g	5.4 g	11.6 g	9.46 g
Calcium	182 mg	2.4 mg	257 mg	455 mg
Iron	2.2 mg	.7 mg	7.9 mg	3.1 mg
Magnesium	71.4 mg	5 mg	43 mg	59 mg
Potassium	643 mg	5 mg	43 mg	59 mg
Fiber	10.7 g	0	12 g	6.7 g
Phytochemicals	very high	0	very high	very high
Antioxidants	very high	0	very high	very high
Folate	107 mcg	3 mcg	971 mcg	47 mcg
B <sub>2</sub>	.29 mg	.04 mg	.71 mg	.38 mg
Niacin	1.64 mg	1.1 mg	3.6 mg	2.2 mg
Zinc	1.1 mg	1.2 mg	1.8 mg	.59 mg
Vitamin C	143 mg	0	171 mg	83 mg
Vitamin A	6,757 IU	24 IU	18,571 IU	21,159 IU
Vitamin E	5 mg	0	3.2 mg	1 mg
Cholesterol	0	55 mg	0	0
Saturated fat	0	1.7 gm	0	0
Weight	357 g (12.6 oz)	24 g (.84 oz)	714 g (25.1 oz)	333 g (11.7 oz)

Source: Adams, C. 1986. *Handbook of the Nutritional Value of Foods in Common Units* (New York: Dover Publications).

## Smoothies and Juicing

### CALCIUM IN 100 CALORIES OF

bok choy	1,055
turnip greens	921
collard greens	559
kale	455
romaine lettuce	257
tofu	236
milk	194
broccoli	182
sesame seeds	170
soybeans	134
cucumber	108
cauliflower	88
carrots	63
fish	38
eggs	32
T-bone steak	5
pork chop	2



## Smoothies and Juicing

160%  
RDA

But kale makes a comeback with more than 4 times the antioxidant Vitamin C!

37%  
RDA

659%  
RDA

Spinach and kale are both rife with Vitamin A, but kale has much more of it.

401%  
RDA

907%  
RDA

And Vitamin K *must* stand for Kale, with 900% your RDA. Vitamin K helps clot blood and prevents bone loss, especially after menopause.

537%  
RDA

\$2.19

### GREEN FOR YOUR GREEN

SPINACH	\$3.92
KALE	\$2.19
YOU SAVE:	\$1.73

\$3.92

SCORE

6

**KALE WINS**

SCORE

5

## THE BOTTOM LINE:

You really can't go wrong with raw greens, but when you want an extra-powerful nutritional punch, grab kale. It more than earns its "superfood" status with crazy amounts of vitamins A, K, and C. It's also packed with calcium, making this dark, leafy green a great source if you skip dairy. And here's an added bonus: It's heavier and denser than spinach, which means you can eat less of it to get the same serving size.

Of course, spinach is no slouch either. If you like the taste and are willing to splurge a bit, it's a better source of magnesium, iron, and fiber.

## WHAT TO BUY:

Best to go organic with both. Spinach is munched by all kinds of insects and pulls DDT residues into the leaf, which is still in soil even decades after being banned. Kale is also prayed for all kinds of bugs, including the beneficial ones.

**JUST SO YOU KNOW:** We used the National Nutrient Database for Standard Reference from the USDA. For food prices, we used the USDA Economic Research Service. These figures reflect your average spinach and kale.

## Smoothies and Juicing





Kale



Spinach



	Kale ▾	Spinach ▾
<b>Amount per</b>	100 g ▾	100 g ▾
<b>Calories</b>	49	23
	<b>% Daily Value</b>	
<b>Total Fat</b>	0.9 g 1%	0.4 g 0%
Saturated fat	0.1 g 0%	0.1 g 0%
Polyunsaturated fat	0.3 g	0.2 g
Monounsaturated fat	0.1 g	0 g
<b>Cholesterol</b>	0 mg 0%	0 mg 0%
<b>Sodium</b>	38 mg 1%	79 mg 3%
<b>Potassium</b>	491 mg 14%	558 mg 15%
<b>Total Carbohydrate</b>	9 g 3%	3.6 g 1%
<b>Protein</b>	4.3 g 8%	2.9 g 5%
<b>Vitamin A</b>	9990 IU 199%	9377 IU 187%
<b>Vitamin C</b>	120 mg 200%	28.1 mg 46%
<b>Calcium</b>	150 mg 15%	99 mg 9%
<b>Iron</b>	1.5 mg 8%	2.7 mg 15%
<b>Vitamin B-6</b>	0.3 mg 15%	0.2 mg 10%
<b>Vitamin B-12</b>	0 µg 0%	0 µg 0%
<b>Magnesium</b>	47 mg 11%	79 mg 19%

## Smoothies and Juicing

	 <b>Kale</b>	 <b>Milk</b>
	Kale ▾	Milk, 1% fat ▾
<b>Amount per</b>	100 g ▾	100 g ▾
<b>Calories</b>	49	42
	<b>% Daily Value</b>	<b>% Daily Value</b>
<b>Total Fat</b>	0.9 g                      1%	1 g                              1%
Saturated fat	0.1 g                      0%	0.6 g                      3%
Polyunsaturated fat	0.3 g	0 g
Monounsaturated fat	0.1 g	0.3 g
<b>Cholesterol</b>	0 mg                      0%	5 mg                      1%
<b>Sodium</b>	38 mg                      1%	44 mg                      1%
<b>Potassium</b>	491 mg                      14%	150 mg                      4%
<b>Total Carbohydrate</b>	9 g                              3%	5 g                              1%
<b>Protein</b>	4.3 g                      8%	3.4 g                      6%
<b>Vitamin A</b>	9990 IU                      199%	47 IU                      0%
<b>Vitamin C</b>	120 mg                      200%	0 mg                      0%
<b>Calcium</b>	150 mg                      15%	125 mg                      12%
<b>Iron</b>	1.5 mg                      8%	0 mg                      0%
<b>Vitamin B-6</b>	0.3 mg                      15%	0 mg                      0%
<b>Vitamin B-12</b>	0 µg                              0%	0.5 µg                      8%
<b>Magnesium</b>	47 mg                      11%	11 mg                      2%



## Smoothies and Juicing

	 <b>Collard greens</b>	 <b>Milk</b>
	Collards, raw ▾	Milk, 1% fat ▾
<b>Amount per</b>	100 g ▾	100 g ▾
<b>Calories</b>	32	42
	<b>% Daily Value</b>	<b>% Daily Value</b>
<b>Total Fat</b>	0.6 g      0%	1 g      1%
Saturated fat	0.1 g      0%	0.6 g      3%
Polyunsaturated fat	0.2 g	0 g
Monounsaturated fat	0 g	0.3 g
<b>Cholesterol</b>	0 mg      0%	5 mg      1%
<b>Sodium</b>	17 mg      0%	44 mg      1%
<b>Potassium</b>	213 mg      6%	150 mg      4%
<b>Total Carbohydrate</b>	5 g      1%	5 g      1%
Dietary fiber	4 g      16%	0 g      0%
Sugar	0.5 g	5 g
<b>Protein</b>	3 g      6%	3.4 g      6%
<b>Caffeine</b>	0 mg	0 mg
<b>Vitamin A</b>	5019 IU      100%	47 IU      0%
<b>Vitamin C</b>	35.3 mg      58%	0 mg      0%
<b>Calcium</b>	232 mg      23%	125 mg      12%
<b>Iron</b>	0.5 mg      2%	0 mg      0%
<b>Vitamin B-6</b>	0.2 mg      10%	0 mg      0%