Do you have the right information available?

As a juicing business owner, you want to know a lot about juicing to help others with the best knowledge available. And if you have started to do some research about juicing, then you might have run into a lot of contradicting information. We definitely experienced how challenging it is to make sense of all the information available about juicing today.

For example, you might run into a situation where a potential customer says the following: Juicing is bad for me because of the high sugar content, right? Or, I’d rather blend than juice, because then I can get all of the fiber, and fiber is healthier for me.

Is there truth in this? How will you respond? Do you have the right information available to know if it’s actually good or bad for you? Because if you don’t have the right information, how can you help other people to live a healthier life?

We decided to put the 5 juice topics you will definitely get asked about into one document!

It will save you tons of research about the topic. You could be familiar with some of the information in here, and this will serve as a great reminder. But I am sure there will be quite a few surprising facts.

The next time you run into a situation where you are not sure what to answer, you will be prepared with the right facts and knowledge about juicing.

The 5 Juice Topics You Will Definitely Get Asked About

1. The Nutrients Inside of a Juice
2. Why We Need “Real 100%” Juice in the World
3. The Truth About High Amounts of Sugar in Juices
4. Blending vs Juicing; Which is Healthier?
5. Slow Juice vs. Fast Juice vs. Cold Pressed Juice; and The Winner is...
We know that juices contain lots of vitamin and mineral content, but why are these microscopic nutrients so important? This is because our bodies cannot produce all of the nutrients that we need to function properly. That’s the reason why we need to eat them. Contrary to common understanding, there is actually no value in consuming “extra” vitamins, above what is necessary. But it is important that you don’t develop a deficiency in them.

So, what are the essentials and key players you need every day?

### Daily vitamin and minerals

<table>
<thead>
<tr>
<th>Key Players</th>
<th>What we need:</th>
<th>Man</th>
<th>Woman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biotin (a.k.a. Vitamin B7 or Vitamin H)</td>
<td>30 mcg</td>
<td>30 mcg</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>1,000 mg</td>
<td>1,000 mg</td>
<td></td>
</tr>
<tr>
<td>Chlorine</td>
<td>350 mg</td>
<td>425 mg</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>35 mcg</td>
<td>35 mcg</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>900 mcg</td>
<td>900 mcg</td>
<td></td>
</tr>
<tr>
<td>Fluoride</td>
<td>4.5 mg</td>
<td>10.3 mg</td>
<td></td>
</tr>
<tr>
<td>Folic Acid (a.k.a. folate or folacin)</td>
<td>400 mcg</td>
<td>400 mcg</td>
<td></td>
</tr>
<tr>
<td>Lutein</td>
<td>150 mcg</td>
<td>150 mcg</td>
<td></td>
</tr>
<tr>
<td>Iodine</td>
<td>8 mg</td>
<td>18 mg</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>400 mg</td>
<td>310 mg</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>2.3 mg</td>
<td>1.6 mg</td>
<td></td>
</tr>
<tr>
<td>Molybdenum</td>
<td>45 mg</td>
<td>55 mg</td>
<td></td>
</tr>
<tr>
<td>Nickel (a.k.a. Vitamin B3 or Nicotinic Acid)</td>
<td>16 mg</td>
<td>14 mg</td>
<td></td>
</tr>
<tr>
<td>Pantothene Acid (a.k.a. Vitamin B5)</td>
<td>3 mg (AI)</td>
<td>3 mg (AI)</td>
<td></td>
</tr>
<tr>
<td>Phosphorus</td>
<td>700 mg</td>
<td>700 mg</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>4,700 mg</td>
<td>4,200 mg</td>
<td></td>
</tr>
<tr>
<td>Riboflavin (Vitamin B2)</td>
<td>1.2 mg</td>
<td>1.1 mg</td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td>55 mcg</td>
<td>52 mcg</td>
<td></td>
</tr>
<tr>
<td>Sodium Chloride (a.k.a. salt)</td>
<td>300 mg of sodium; 750 mg of chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thiamin (a.k.a. Vitamin B1)</td>
<td>1.1 mg</td>
<td>1.1 mg</td>
<td></td>
</tr>
<tr>
<td>Vitamin A (a.k.a. retinol, retinal, retinoic acid)</td>
<td>1000 mcg</td>
<td>1000 mcg</td>
<td></td>
</tr>
<tr>
<td>Vitamin B12 (a.k.a. pyridoxal, pyridoxamine, pyridoxaline)</td>
<td>1.3 mg</td>
<td>1.3 mg</td>
<td></td>
</tr>
<tr>
<td>Vitamin B6 (a.k.a. ascorbic acid)</td>
<td>4.4 mcg</td>
<td>3.4 mcg</td>
<td></td>
</tr>
<tr>
<td>Vitamin D</td>
<td>15 mcg</td>
<td>15 mcg</td>
<td></td>
</tr>
<tr>
<td>Vitamin E</td>
<td>15 mg</td>
<td>15 mg</td>
<td></td>
</tr>
<tr>
<td>Vitamin K</td>
<td>120 mcg</td>
<td>90 mcg (AI)</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>11 mg</td>
<td>8 mg</td>
<td></td>
</tr>
</tbody>
</table>

A deficiency often happens slowly over time and can be caused by a number of reasons. From your body needing an extra dose of a certain mineral (because you age or have a certain health condition), or the lack of a mineral in your diet, to your body having a difficulty absorbing it, these can all be factors.
And mineral deficiencies can lead to a variety of health problems, such as weak bones, fatigue, or a decreased immune system. Unfortunately, even if you do eat well, how and where your food was grown can influence your nutritional intake. Soil quality, for example, significantly influences the level of nutrients in your food, even when you eat organic.

A published study of the Austin’s Department of Chemistry and Biochemistry compared the nutritional data from both 1950 and 1999 for 43 different vegetables and fruits, finding reliable declines in the amount of protein, calcium, phosphorus, iron, vitamin b2 and vitamin C over the past half century! It is likely that there has also been a decline in magnesium, zinc and other vitamins that haven’t been studied.

The biggest vitamin and mineral deficiencies in our society today are:

**Vitamin D, Vitamin C, Vitamin K2, Calcium, Iron, Magnesium, Potassium and Zinc**

Vitamins, A, D, K2, magnesium and calcium, for example, are related to each other. If one is lacking, it will affect one or more of the others. And, as you know, juicing can play an important part in a healthy diet.

Let’s take calcium, for example.

![Image of kale, kale juice, and calcium bottle]

Each of the examples below contain 1000 mg of calcium

<table>
<thead>
<tr>
<th>Kale raw</th>
<th>Kale cooked</th>
<th>Kale Juice</th>
</tr>
</thead>
<tbody>
<tr>
<td>740 gram</td>
<td>1388 gram</td>
<td>326ml/11fl.oz</td>
</tr>
</tbody>
</table>

An adult needs 1000mg of calcium every day. You could eat 740 grams of kale (which is a lot!). Not a lot of people would consider this an option. Actually, I don’t know anyone that eats that much kale. When you cook kale, which will significantly bring it down in size, you will also lose some of its vitamins and minerals; you would have to eat 1388 grams to reach 1000mg of calcium.
Or, you could drink 326ml of kale juice; that’s one large glass. Drinking 326ml of pure kale juice is a stretch for your taste buds. But, by mixing it with other ingredients, there is also the benefit of drinking tons of other great vitamins and minerals.

What’s really interesting about juice is that, on average, the juices have a minimum of 75% of the nutrient concentrations of the whole fruit or vegetable. For example, 100 grams of kale contains about 135mg of calcium. When you juice that same 100 grams of kale, you are still left with 100mg (74%) of calcium.

If we call foods that are high in nutrition super foods, we could easily call this Super Mineral Water! :)

This makes drinking the freshly juiced juice from fruit and vegetable a positive alternative to the whole fruit or vegetable, and can provide a nutritious and delicious way to consume these “missing in our daily values” nutrients!

But aren’t we missing fiber when we juice?

When you juice, you miss out on the fiber. This is an argument that is raised a lot by people who prefer to drink smoothies or eat whole foods because of the fiber. Which percentage of kale would you think consists of fiber? 60%? 75%? What’s your guess?

It has more than 100% of your recommended daily intake of Vitamin A, Vitamin C and Vitamin K, and lots of other goodies such as high levels of Vitamin B1, B2, B6, Calcium, Iron, Magnesium and Manganese. But it is made up of only 1.7% fiber!

If we look at the following most juiced foods and compare them to foods we would regularly eat, then the fruits and vegetables that we juice aren’t the best sources of fiber.

<table>
<thead>
<tr>
<th>Food</th>
<th>Fiber Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chia Seeds</td>
<td>34.4%</td>
</tr>
<tr>
<td>Almonds</td>
<td>12.5%</td>
</tr>
<tr>
<td>Popcorn</td>
<td>15.1%</td>
</tr>
<tr>
<td>Carrots</td>
<td>2.8%</td>
</tr>
<tr>
<td>Apple</td>
<td>2.4%</td>
</tr>
<tr>
<td>Kale</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

It’s best to consume other high fiber whole foods, next to your juices, to make sure you are getting all of your essential nutrients.
WHY WE NEED “REAL 100%” JUICE IN THE WORLD

When you walk into a supermarket, you tell yourself you will be totally focused, bypassing the pastries and the chocolate and walking straight to the fruits and vegetable aisle. Now you grab one of those healthy juices or smoothies, and you look at the label. Made from 100% fruits and vegetables, no sugar added or juice from concentrate. Seems healthy, right? It probably is not. 98% of all juices in the supermarkets are pasteurized. Are you confused yet? What do all these different labels mean?

If we are creating juices for a living, it’s good to know what the difference is between your 100% fresh and cold pressed juice and the ones you can buy in your supermarket.

So, what makes fresh juice different?

You purchase your whole fruits and vegetables, cut them up and then press them. Within a few minutes or even seconds, your fresh juice is created. The process stops there. Creating juice from concentrate has up to 6 additional steps! Pasteurization, dehydration, freezing, thawing, dilution and then reintroducing flavors.

In most countries, this is still considered 100% juice. How is this possible? Because the flavors that are added back are created from ingredients (for example, derived orange peels) that are still considered “natural”. So, no other ingredients are added to the juice. That’s why they can still call it 100% juice fruit juice! And, of course, without added sugars.

So how would you know if it is really 100% fresh? The expiration date! Besides High Pressure Processing (which we won’t go into detail about here), the shelf life of real 100% fresh juice is limited to only 2-5 days. When a juice claims to have a longer shelf life, then it’s processed in some way that affects the nutrients inside.
THE 6 DESTRUCTIVE STEPS TO PROCESSING JUICE

1. Pasteurization
   Pasteurization is the process of heating the juice to at least 75 degrees Celsius, and sometimes even higher. By cooking the juice for a few seconds, all of the bacteria will get killed. But you will also kill most of the naturally occurring soluble vitamins, such as Vitamin C and many other vitamins and enzymes.

2. Dehydration
   Dehydration will extend the shelf life and will also reduce shipping costs, because all of the water within the juice is boiled or evaporated. What’s left is a high concentrated paste or syrup, which is made up of about 67% sugar. The weight is only 15% of the original juice!

3. Freezing
   Now the juice is stored at very low temperatures.

4. Diluting
   Water is added to make it drinkable again.

5. Thawing
   Then, the juice is defrosted.

6. Adding back vitamins
   Because of this process, most of the nutrients are gone, so vitamins and flavors are added back into the drink to try and replace what was lost during the entire process.
‘Fruit juice is just as unhealthy as a sugary drink. What many people fail to realize is that fruit juice is also loaded with sugar. In fact, fruit juice contains just as much sugar and calories as a sugary soft drink...and sometimes even more.’

You have probably heard this statement before, with the following comparison:

Coca Cola: 140 calories and 40 grams of sugar (10 teaspoons)
Fresh Apple Juice: 165 calories and 39 grams of sugar (9.8 teaspoons)

The above example states that most type of fruit juice contain a similar amount of sugar as a sugar-sweetened beverage, sometimes with even more calories!

Luckily, we already know that not all calories are created equal. Your body metabolizes very differently from both drinks, where the fruit juice also contains a lot of healthy vitamins and minerals.

But it is still true that pure FRUIT juice can contain lots of sugar (fructose) that will raise our blood glucose levels quite quickly! It’s best to drink 100% fruit juice with a meal or a snack to slow down the absorption of the fruit sugars and reduce raising your glucose in your bloodstream. And we do need to be concerned about sugar intake, because an overconsumption of sugar contributes to obesity and diabetes.

Too much fruit = too much sugar

Fruit contains higher sugar levels than most vegetables. Eating a whole piece of fruit such as an apple is pretty satisfying. But when you juice the apple and separate the fiber from the nutrients, you also strip away the fiber from the sugars. Now, there isn’t suddenly more sugar in the apple, but it’s easier to overconsume fruit sugars. Eating 4 apples can take some time, and you probably wouldn’t even want to, but drinking a juice containing 4 apples can be sipped in one big gulp.

More veggies = less sugar

We find for juicing that the 80:20 rule works well, with 80% being vegetables and 20% fruit. Vegetables are low in sugar content and provide you with even more vitamins and minerals than fruits. For example, oranges are popular for which vitamin?
Yes, vitamin C. In a 100 gram orange, there is 53mg of Vitamin C. But did you know how much vitamin C 100 grams of broccoli contains? 89mg of vitamin C! And in 100 grams of kale, there is 120mg of Vitamin C! That’s about 200% of your daily value! Or, how about yellow bell peppers? Per 100g, 183mg of Vitamin C.

Combining the right vegetables and fruits for optimal nutrients will be powerful in improving the health of your customers. Juice mostly vegetables, and use fruits to add a little dash of sweetness.

4 BLENDING VS JUICING
WHICH IS HEALTHIER?

What’s the difference between smoothies and juice?
There’s a huge difference!
When you blend something, although the food gets ground into little pieces, you still end up consuming the entire fruit or vegetable. So, if you blend an apple and a cup of kale, your body still digests an entire apple and that cup of kale.

When you juice that same apple and cup of kale, you will get all of the micronutrients, but you won’t get full the way you would if you blended them because you are only extracting the liquid. So, which one is better? Here is where it gets a little bit more complex.

Could juice be twice as nutritious?
The experts behind the Sage’s juice and blending equipment that have also started the website Juicing science illustrates this situation perfectly and has done some insightful laboratory tests.

DR. BRIAN CLEMENT, HIPPOCRATES HEALTH INSTITUTE:
“Blending food... kills about 90% of the (nutrition) within about a minute and a half to two minutes. And how it does it is oxidation... (that’s why) I drink a quart and a half of juice each day.”

DAVID WOLFE, AUTHOR:
“This machine (a blender called “the Nutribullet”) is designed to break down the cell walls of your food, releasing, unleashing the nutrients inside, transforming ordinary fresh foods into super foods!”

The statements of these two respected individuals are quite different. Dr. Brian Clement believes that blenders kill up to 90% of the nutrition, while David
Wolfe claims that you can turn any food into a super food by blending it in his “NutriBullet”. We have always had the same question. In regards to science, which one has the most nutrients? Which one is actually better for you?

In December 2013, a laboratory test was conducted at the Australian Government National Measurement Institute in Melbourne, Australia. So, who was right? Dr. Clement.

The Green juice had 142% more Vitamin C, 73% more Alpha Carotene, 109% more Beta Carotene and 54% more Potassium than a green smoothie! Both drinks where made with the exact same ingredients (kale, orange, celery, carrots and apples).

Although with creating a smoothie, it’s necessary to add water, otherwise you would get a thick mesh of ingredients. But even when you compensate for the added water, the juices still have almost double the amount of Vitamin C.

It’s important to notice the length of processing, which is a big factor in destroying the nutrients. In the test, the ingredients where blended for 60 seconds in a Vitamix blender, and it would destroy about 23% - 63% of the Vitamin C, Carotenes, Calcium and Potassium, but less for other minerals. If you blend for a longer period of time, it is expected to destroy even more nutrients. But why does this happen?
We are not sure why it happens, because this is very difficult to study. According to Dr. Clement, it’s because of the air pushing against the cell walls of the fruits and vegetables that’s causing the most nutrient damage. True or not, one major difference between juicing and blending is the processing time. Fast and slow juicers take a really short amount of time to process the food and turn it into juice.

The blender takes about roughly 600 times more time. The result is that a juicer can maintain the vitamins and minerals for about 75% to 85% of the whole fruit or vegetable. But for blenders, this varies depending on each nutrient and ingredient.

Juices are, in terms of nutrient value, superior; or, as you could say, have sometimes even twice the nutrients than that of a smoothie!
What is the best juicer to start my business with? Which juicer gives me the best quality juice? We are going to mention the following three types of juicers. If you are not familiar with them yet, here’s a brief explanation:

**Centrifugal Juicer/Fast Juice**
The most common type of household juicers. It cuts up your fruits and vegetables at a high speed, anywhere around 30,000 rotations per minute.

**Slow Juicer/Slow Juice**
The new standard. In lots of homes, the centrifugal juicer has been replaced by the slow juicer. It crushes and then squeezes with a low auger operation of around 80 rotations per minute.

**Hydraulic Press/Cold Pressed Juice**
It works in two steps. In the first step, it shreds everything into small pieces. Then you put these small pieces into a mesh bag, and this bag is placed under the press. It then releases a lot of pressure on the mesh bag until all juice has been squeezed out.

**The nutritional differences between fast and slow juicers**
For years, we have thought slow juicers to be superior over centrifugal juicers. Why? Because centrifugal juicers spin at a much higher speed, which destroy all of the nutrients. At least, this thought has been spread over the juicing world for years! And it did make a lot of sense, because the juice that was created with a slow juicer does not separate that fast; the colors looked vibrant and it just tasted better. A lot of studies have been done, and the facts are surprising.

The nutritional difference between the best fast juicer and the best slow juicer is virtually nothing at all!

How is this even possible? It’s because the fast juicers process the ingredients for such a short time that it makes no noticeable difference to the nutrition of the juice when compared to a slow juicer. There is a difference in the type of juicer that you will use. High-quality built juicers (no matter fast or slow) will preserve nutrients in a better way. But there isn’t a substantial difference between slow or fast!
That doesn’t mean that the nutrient extraction is entirely the same between these two juicers. Some vitamins will show some variation. In some cases, the slow juicer will win; in others, the fast juicer.

As can be shown above, the differences between fast and slow juicers is minimal. That makes it virtually impossible to say that one is more nutritious than the other. Nor does either do a noticeably better job at protecting the key vitamins and minerals than the other.

**But what about cold pressed juices?**

Are slow juicers also cold pressed juice? No! Although sometimes a slow juicer is advertised as a cold pressed juicer, this isn’t the case. Cold pressed is an entirely different process than slow juice. The main reason why you can’t call slow juicing cold pressed juice is because there is still heat generated while processing the fruits and vegetables.

Cold pressed should be far superior than fast or slow juices, right?

Unfortunately, this was not measured in the above studies. Individual small laboratory tests have been done by juicing manufacturers. Although, as seen with the above comparison between the fast and slow juicers, every nutrient behaves differently.

Although we found an interesting alternative lab test done by Goodnature, where they looked at the vitamin concentration over time. After 24 hours, 48 hours and 72 hours, how much of the nutrients are still left in the juice? In this test, cold pressed juice easily won over centrifugal juicers. Here is the data:

**Average concentration of all vitamins & minerals vs the whole ingredient**

<table>
<thead>
<tr>
<th></th>
<th>Apples</th>
<th>Celery</th>
<th>Carrots</th>
<th>Tomato</th>
<th>Spinach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fast Juicer</strong></td>
<td>55%</td>
<td>76%</td>
<td>75%</td>
<td>79%</td>
<td>87%</td>
</tr>
<tr>
<td><strong>Slow Juicer</strong></td>
<td>53%</td>
<td>79%</td>
<td>81%</td>
<td>80%</td>
<td>86%</td>
</tr>
</tbody>
</table>

**VITAMIN A - IU/100G**

<table>
<thead>
<tr>
<th>Time</th>
<th>Centrifugal</th>
<th>Cold-pressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 hours</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>48 hours</td>
<td>65</td>
<td>102</td>
</tr>
<tr>
<td>72 hours</td>
<td>35</td>
<td>90</td>
</tr>
</tbody>
</table>

**VITAMIN C - MG/100G**

<table>
<thead>
<tr>
<th>Time</th>
<th>Centrifugal</th>
<th>Cold-pressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 hours</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>48 hours</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>72 hours</td>
<td>4</td>
<td>14</td>
</tr>
</tbody>
</table>
One reason could be that the centrifugal juice contains more pulp, and therefore breaks down faster than juice made on a press. Which would result in a faster breakdown of the nutrients.

What is clear, however, is that cold pressed juice always creates a higher yield (so more juice) in juice.

When starting a juicing business, you always want to produce larger volumes of juices. And when you are creating large batches of juice, a hydraulic press (cold pressed juicing) is the best option. You will have a higher yield, which saves you a lot of money in the long term, and with longer vitamin concentration over time, it’s the best option to bottle juices.

So, cold pressed juices are the winner for a juicing business. Although, the best juice to drink? When people are creating juice at home and will drink it immediately, the facts show that a homemade juice isn’t necessarily less nutritious.

Our goal is to get all of the complex information, facts and resources for juicing businesses, put them in our juicer, and then press them into simple, easy to follow solutions to start and grow your juicing business. Almost like a franchise, but without all of the fees.

And we are providing that knowledge to the entire juicing community. This will change our common beliefs about competition between businesses, where we don’t see each other as competition, but we embrace other juicing businesses around us. Because we all are part of the same goal; making the world a healthier place, one juice at a time. :)

Once again, thank you for being part of the juicing journey. And we hope you find this document genuinely useful and helpful.

SOURCES:
Daily Intake of Calcium: https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/
Vitamin C: https://www.healthaliciousness.com/articles/vitamin-C.php
Sugar in take: http://www.hookedonjuice.com
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