



Ready, Set, **JUICE!** Why slow juicers finish first

BY MICHAEL A. MILLER

No one denies the health benefits of reaching for an emerald glass of kale, apple, and pear juice instead of a sugar-loaded caffeine spike.

By juicing, you're concentrating the raw nutrients of fresh, basic foods into an elixir of health that can replace processed drinks with added sugars. And with the right juicer, your access to fresh produce and your imagination are your only limitations when packing vitamins, minerals, and antioxidants into your cup. But which juicer is the right one?

Your two main choices are centrifugal and slow juicers, and you'll want the one that extracts liquid nutrition with the most flavor, output efficiency, and nutrient preservation. We spoke to Davison Westmoreland of Hurom to find out why slow juice wins the race.

EATING NATURALLY: *How is the process of slow juicing mechanically different from fast juicing?*

DAVISON WESTMORELAND: The name "slow juicing" is actually somewhat deceiving in that it takes roughly the same amount of time to juice with a slow juicer as with a fast (aka centrifugal) juicer. The term *slow* comes from the number of rotations per minute of the juicer. Hurom's newest models rotate at only 43 RPMs, whereas blenders and centrifugal juicer often rotate at over 10,000 RPMs.

EN: *How does that affect the juice from a chemistry standpoint?*

DW: High-speed juicers heat up juice, which is known to destroy nutrients. The high-speed blades also destroy cell walls, which brings a large inflow of air bubbles, causing the juice to become oxidized. Slow juicing preserves the cell structure, color, and taste of original ingredients as well as their various nutrients.

EN: *What are the advantages and disadvantages of slow juicing?*

DW: Advantages of slow juicing include: noise (there's only a quiet hum), energy efficiency, safety (no blades), and the juice is healthier and more delicious. The main disadvantage is price. Centrifugal juicers tend to be less expensive than slow juicers.

EN: *What are the differences in the taste and texture of the end juice products?*

DW: If you've ever had truly fresh-squeezed orange juice, you know the huge difference in taste. Slow juicers give you that same taste with other fruits and vegetables given that they were designed to mimic hand-squeezing juice. Hurom juicers also allow you to control the amount of pulp in your juice, unlike centrifugal juicers.

EN: *What are the differences in vitamin and mineral content?*

DW: Slow juicers maximize the amount of vitamins and nutrients available in juice given that they are not damaged due to heat, destruction of cell walls, or oxidation. Specifically, a study found that juice made from a slow juicer had higher amounts of polyphenols, flavonoids, and antioxidants. As such, the juice from the slow juicer had greater anti-cancer activity.

EN: *How is oxidation affected in slow and fast juice?*

DW: High-speed juicers cause tiny air bubbles to get mixed with the juice. If you juice a tomato with a centrifugal juicer, the juice will actually look pink for this reason. Tomato juice from a slow juicer ends up looking the same color as the original tomato.

EN: *Please explain how the slow juice lasts longer.*

DW: You know how when you take a bite from an apple, it will begin to turn brown after a few minutes? The same thing happens to juice that is oxidized. Juice from a centrifugal juicer begins to

oxidize (and even separate into layers) almost immediately given that the air bubbles come into immediate contact with most of the juice, including the nutrients.

EN: Please compare the juice yield of fast and slow juicers.

DW: I don't want to group all centrifugal juicers into one category. The yield from a slow juicer and a high-quality centrifugal juicer should be roughly similar. However, the yield of a slow juicer will likely be substantially more than a lower quality centrifugal juicer.

EN: What is the difference between horizontal and vertical slow juicers, and how should consumers choose between them?

DW: A horizontal juicer means that the auger that squeezes out the juice is placed horizontally in the juicer instead of vertically. The advantages of horizontal juicers are that they are superior at juicing leafy greens and wheatgrass. They also can be used for other functions like making noodles, grinding coffee and making baby food. A vertical slow juicer is superior at juicing fruits and most other vegetables. It also takes up less space on your countertop. Which one you choose depends on your needs. If you're juicing citrus fruits I would choose a citrus juicer. If you juice primarily leafy greens and especially wheatgrass, I would go with a horizontal slow juicer. Otherwise, I'd go with a vertical slow juicer.

According to the most recent (2013) survey by the Behavioral Risk Factor Surveillance System, which recorded fruit and vegetable intakes for all 50 states and the District of Columbia, only

9% of respondents met veggie intake recommendations

13% of respondents met fruit intake recommendations

Source: Centers for Disease Control and Prevention

Sweet Potato Latte

The season for pumpkin spice beverages and morsels will soon fizzle out, and it may leave you clamoring for more. Opt for the sweet potato instead, and brew up this delicious drink to top up on vitamin A and a host of other nutrients without giving up the flavor of fall. For a dairy-free version, replace milk with fresh nut milk made with your juicer.

7 ounces milk
1 tablespoon honey
2½ ounces sweet potato
⅓ banana
6g almonds, soaked overnight

Boil the sweet potato and slice into appropriate sizes. Make sure the lever on your juicer is set to "close" so it is not dispensing liquid as you juice. Pour in milk, then insert the sweet potatoes and other ingredients to extract. For best results, use the smoothie strainer. Source: *Hurom*

Top 5 tips FOR "GREEN" JUICERS

- 1** In terms of health, aim for about $\frac{2}{3}$ vegetable to $\frac{1}{3}$ fruit juice so that you don't drink too much sugar.
- 2** Carrot juice and beet juice are surprisingly delicious.
- 3** If you're low on time, freeze fruit juice into ice trays. You can use the cubes to flavor water throughout the week.
- 4** If you wash the juicer immediately after using it, it's easier to clean.
- 5** Don't forget that slow juicers can also make almond and other nut milks.

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