

## Exotic Fruits – Nutrition Trove or Hype?

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Rambutan looks like an alien's egg that might hatch and kill us all. Even the fruit's white, pulpy flesh is creepy. Why would one eat it, except out of curiosity? With no obvious vitamin content,



nutrition certainly is no motivator. Should we should just take a picture and devour a banana?

Until the nutrition community, and subsequently the rest of the population, woke up to the notion that plant foods contain healthy

polyphenols, vegetables like iceberg lettuce and celery didn't get much respect. At first glance, iceberg lettuce wins the useless contest. A list of celery's nutritional content, were it to have a label, would look bleak. A whole stalk has essentially no fat, minerals or protein and only 2-3% of the Daily Value recommended for Vitamins A and C.

That changed when scientists identified plant foods' polyphenolic health value. Vegetables like celery, containing flavonols, flavones, dihydrostilbenoids, phenolic acids, phytosterols and furanocoumarins, suddenly became healthy. Those unhealthy-sounding chemicals give the plant and those of us who eat them an anti-oxidant, anti-inflammatory and possibly anti-tumor and anti-bacterial boost.

Some exotic/tropical fruits lack well-known nutrients, as seen in the Table, but the Internet often touts them as wonder foods. Miraculous health claims derive from traditional herbal medicine lore

and may or may not be justified. We need science to confirm or refute those claims and identify plant foods' chemical components which confer health benefits. Good science takes much longer than it does to make an unjustified health claim.

Science hasn't analyzed the phytochemical content of every fruit to the same extent. What follows, therefore, probably woefully underreports the nutritional content of these fruits. Guava reigns as queen in recognizable nutrients. It also is a rich source of healthy carotenoids, anthocyanins and flavanols, and supplies moderate amounts of folate, magnesium and manganese. The juice has much less nutritional value than whole fruit but would at least retain the water-soluble vitamins.

<b>Nutrient Table: Content of one fruit or, for large fruits, one cup. (I chose this portion size for reporting rather than a consistent quantity by weight because these are portion sizes that people actually eat. DV = U.S. recommended amount, called the Daily Value.</b>					
	<b>Vitamin C</b>	<b>Vitamin A</b>	<b>B6</b>	<b>Fiber</b>	<b>Potassium</b>
	<b>% DV</b>	<b>% DV</b>	<b>% DV</b>	<b>grams</b>	<b>% DV</b>
Guava 1 cup	628	21	10	8.9	20
Kiwi 1 fruit	106	1	0	2.1	6
Papaya 1 cup	147	28	5	2.5	8
Mango 1 cup	100	2	0	2.6	9
Starfruit 1 fruit	52	1	0	2.5	minimal
Breadfruit 1 cup	46	0	5	4.7	13
Jackfruit 1 cup	34	3	25	2.3	19
Lychee 1 Fruit	12	0	0	0.1	0
Mangosteen 1 cup	10	1	0	3.9	2
Passion fruit 1 fruit	9	5	0	1.9	2
Rambutan 1 fruit	0	0	0	0.1	0
<b>For Reference, some non-exotic fruits:</b>					
Orange	85	4	5	2.3	4
Tomato	20	15	0	1	11
Apple	14	1	5	4.4	5
<i>Source – various, including Wikipedia, government tables and scientific articles, which report sometimes widely different values. This results from the fact that plant nutritional content is different for specific cultivars, and changes with geography and climate conditions under which it is grown.</i>					

Mangos supply a veritable treasure trove of phytochemicals – carotenoids, catechins, tannins, terpenes, flavonoids, alkaloids and phenols. It's unclear to me if we've found more of these

nutrients in mango because it's better studied or because nature actually packed it with more of them. Papaya also contains considerable quantities of micronutrient, - magnesium, folate, carotenoids, isothiocyanates, alkaloids and tannins. Kiwi fruit is rich in folate and anti-oxidant flavones and flavonols.

Starfruit has a measurable amount of vitamin B5, copper and potassium. It also contains beneficial flavonoids, alkaloids and phenols. As a rich source of oxalates, people with kidney stones should avoid it, which is not hard to do in the mainland U.S. It also potently inhibits the liver's role a detoxifier, which might seriously alter medication levels in the body of a regular starfruit consumer. The inhibition is even greater than that of grapefruit, which we routinely advise against for patients taking affected medications.

Passion fruit contains a slew of phytochemicals, some of which might affect medication metabolism. Its alkaloids inhibit monoamine oxidase, important for metabolism of some anti-depressants and catecholamines like adrenaline. Theobromine and coumarin have medicinal effects that are likely insignificant unless one develops a passion for passion fruit.

The edible part of purple mangosteen contains a few bioflavonoids. In the early 2000s, purveyors of its juice made a lot of money after creating a mangosteen fad. Read my 2006 analysis of it at [http://www.healthychoicesformindandbody.org/Me disense\\_Articles/06126-Mangosteen\\_Mania.pdf](http://www.healthychoicesformindandbody.org/Me disense_Articles/06126-Mangosteen_Mania.pdf).

In addition to potassium and vitamins C and B6, jackfruit supplies useful amounts of magnesium, manganese and carotenoids. Breadfruit contains anti-microbial phenols, but its not clear that they would be absorbed well enough to help fight an infection.

Longan is either too obscure for anyone to analyze or it truly has no nutritional benefit. Though it has zero nutrients in a standard nutrition table, that hasn't kept various websites from touting its "amazing benefits." Lychee and longan are related to rambutan. Lychee contains epicatechin (a

polyphenol tannin like in tea), rutin (a flavonoid) and some copper.

Back to rambutan: It's hard to find accurate information about its nutritional content. The pulp contains fruit sugar and the hairy skin contains some polyphenolic anti-oxidants, vitamin C and fiber, but is too hard for most people to eat. Scientists probably haven't fully analyzed rambutan's phytochemical content, leaving an information void and no justification for claims of wondrous health properties.

Curiosity drove my choice to eat one, and with it I might or might not have consumed an as yet undiscovered healthy nutrient. Variety is important in nutrition, Eating apples and citrus fruits is healthy, but wouldn't it be boring if those were the only fruits we ate?