Q. Do fruits that are ripe have greater vitamin value than those that aren’t? And what about sugar?

A. “Generally speaking, yes,” said Dr. Rui Hai Liu, a professor of food science at Cornell University. In most fruits, Dr. Liu said, the vitamin content and the amount of valuable phytochemicals — antioxidants called phenolics, flavonoids and carotenoids — are higher in ripe fruits than in under-ripe fruits.

The phytochemicals are relatively stable when ripe fruits are stored, but the content of water-soluble vitamins, like vitamin C, may drop.

As for sugar, “in my opinion, fruits are supposed to taste sweet,” Dr. Liu said. “The sugar content increases in most fruits as they ripen and reach their peak. Most fruits when they are under-ripe do not taste good and may be unhealthy, like an under-ripe persimmon.”

The complex chemical reactions that produce the valuable antioxidants are accompanied by changes in color and sweetness that make fruits more attractive to birds and animals, he said, so they will consume more and spread the seeds for propagation. One of the main evolutionary reasons for waiting for ripeness is that the seed is not ready, he suggested.

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