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Finding the Prefect Apple

They are all beautifully displayed, those red and yellow orbs of clean shapely apples in the grocery store. You make your variety selection between the Fuji, Gala, Honeycrisp, Red Delicious, Comic, Pink Lady, Granny Smith, and others. You'll probably check out the 'sweet to tart' and 'soft to crisp' chart that some bags have on the side now. You get them home, wash one off, and bite in.... not what you were expecting. Instead of a crisp sweet apple, it tasted more like wet cardboard. What gives? Well, it's not the apple's fault. Probably not the grocery store either. As it turns out keeping apples fresh all year around is a specific and difficult science.

To get the answers I interviewed Washington State University's Marcella Magby, the Apple State's expert on fruit breeding and storage. Marcella explained that apples are kept long term in a number of ways. The apple industry uses large storage rooms where they have modified the oxygen and CO2 levels, specific near refrigeration temperatures, and are now even experimenting with low air pressure environments to preserve apples longer. Marcella explained that because we expect apples to be available all year around, "Grocery store apples can be up to a year old. Apples can look good on the outside but start to go bad on the inside." She says that the apple farmers in her state follow science and do regular testing to ensure they are delivering the best product. However, some varieties are notoriously hard to store. Fuji and Honeycrisp are two classic varieties that can have storage issues. Fuji apples can get watery with age, while Honeycrisp can bruise and have internal discoloring.

However, Marcella states that, "Storage success ALWAYS starts in the orchard." As apples ripen the starches in the apples get converted to sugars. Apple farmers use a special starch scale and an iodine test to determine just how much starch has been converted. If the apples are harvested too early, they won't be as sweet. If they are harvested too late, they won't store well.

Each variety has a different starch scale, harvest point, and specific storage conditions. Marcella also explains that, "apples continue to develop and ripen in storage, or in a customer's fridge." Don't be fooled by natural blemishes or a couple of bug bites. Marcella says that, "looks can be deceiving. The shine of an apple is from the wax coating on apples used for presentation and preservation. Sometimes a fruit that does not look perfect on the outside can taste even better than a fruit that looks shiny and beautiful." Marcella continues, "purchased apples need to go into the refrigerator but can be taken out and left on the counter for a couple of days before consuming. Apples need to be kept separate from bananas, pears, and other fruit." This is due to the ethylene gas that nearly all fruit and some vegetable produce as part of the ripening process.

Personally, I would think that brand and country of origin could be an important factor for apple selection as well. While we might know that apple producers in the U.S.A use exacting science and storage, in our global economy, apples could be coming in from all over the world. It's hard to say what storage methods other countries use and what storage was like in the months long journey into the grocery store. Also, it should be said that since apples continue to age faster at room temperatures, it's best that they don't sit on the grocery store shelves for long periods of time.

What about apples harvested from your own tree? Since you likely don't have modified atmosphere chambers to store your apples, we need to make sure they are refrigerated in a timely manner after harvest. Marcella recommends cooling fruit right away after harvest for most varieties, and that it could be best to harvest apples in the evening when things have cooled down. Once I explained that in this part of Kansas it can still be above 90 degrees in the evening during the summer, she stated "early morning works too."

Marcella says that while apples can be preserved for long periods of time, they are one of the more complex fruits to keep in storage because they continue to ripen and age. "Cherries are easier as they are completely ripe when harvested. However, they only store for about a month." Cherries being another Washington grown fruit she works with. So, if you've had bad luck with apples in the past, don't give up. Consider the variety, consider the time of year, where they came from, and how they were stored. When you get that perfectly sweet and crisp apple, it will be totally worth it. If you have any questions about growing or storing your own apples, please give your local K-State Research and Extension office a call.

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