

I overheard someone the other day ask why a potato is a winter vegetable. In today's age, we can get almost whatever we want, whenever we want, and have access to fruit and vegetables that our ancestors didn't even know existed. And if they did grow in the area, they could only be had at certain times of the year. We often forget that plant products do have seasons. Potatoes are considered a winter vegetable because they can store well in cool, dry, dark places for up to several months. Notice that I said that they can store well, but they don't always. I'm going to be looking at some of the issues with potatoes and why they happen.

One of the most common problems with storing potatoes is that sometimes they turn green. But to understand why potatoes turn green, we first need to look at what potatoes are. They are not a root vegetable like carrots or turnips, they are actually classified as a tuber. Tubers are defined as a thickened underground stem. That's right, potatoes are actually stems, not roots. Tubers serve as food storage for the plant, and contain buds. Because they are actually underground stems, they have the ability to perform photosynthesis, the process through which plants use sunlight to make food. While they are buried underground, they do not receive any sunlight, so the chloroplasts, the structures that perform photosynthesis, are dormant. If you have ever accidentally uncovered some sneaky weeds growing under a weed mat or other covering, you know that it doesn't take long for these pure white plants to turn a vibrant green. When the sunlight hits the dormant chloroplasts, known as etioplasts, it triggers a response in the plant to start producing chlorophyll, the green pigment used in photosynthesis.

Chlorophyll is edible and isn't a problem. In potatoes however, the green material is a sign that the potatoes are producing solanine. Solanine is a poison found in plants that are members of the nightshade family, such as tomatoes, eggplant, and potatoes. This is why we don't eat potato or tomato plants, only the fruit. The plants use it as a way to keep animals from eating the plant, or the tubers. Solanine isn't a fatal poison, but if eaten in large enough quantities, it can make you sick. If you can cut off the green section, it will get rid of most of the solanine, but never eat a potato that is green under the skin.

Remember that potatoes are actually underground stems and have buds? Another common problem are the buds, or eyes, can sometimes sprout while in storage. This happens when potatoes have been in storage long enough to come out of their dormancy period. Potatoes are naturally dormant for around three to four months after harvest depending on environment, and they will start to form new plants. If your potatoes start to form eyes, there are three options. If the eyes are small, the potato is still edible, but needs to be used soon. The eyes will leach the sugars out of the potato and use them to grow a plant. If the eyes are large and the potato is wrinkled, too many of the sugars have been taken out of the potato and it will not taste very good. If this has happened, you can either throw the potato away, or use it to start new plants. The potatoes can be cut into pieces with at least one eye per piece and planted.

Potatoes store relatively well, but if they get too much sunlight, they will start to produce chlorophyll and solanine, which could make you sick. If potatoes are stored for too long, they will break dormancy and start to produce plants. Both of these issues can be avoided with proper storage and timing. If you have any questions or would like to suggest a topic for me to write about, feel free to contact me at the Buffalo County Extension Office, at 308-236-1235, or mearnest2@unl.edu.