

Dear Dr. Fill

I had a good crop of onions this year and last year, but they don't seem to store well at all. I'm wondering what I'm doing wrong. I left them lying out on my deck for several days after harvest, and then put them in my basement. They always seem to rot long before I'm able to use them. I also find that even if I buy onions from the store that they often don't keep very well and I'm assuming that they were very carefully harvested, so I'm thinking that I must be doing something wrong when I store them. I'd appreciate any tips you can offer.

Thank you

Crying Over Onions.

Dear Crying Over Onions

What we call "rot" is actually a fungal disease, and the problem is that just one onion with mushy rot can spoil an entire harvested crop. Onions that have some sort of injury to them, which often occurs at harvest, are more prone to the introduction of the fungal spores that were living in your soil, so being VERY careful when you dig your onions is crucial. Onions that are stored in high humidity and have not been properly cured are most often affected. The excess moisture provides a perfect breeding ground for the fungus. This fungus overwinters in soil, so once you've had a problem, you'll want to rotate your crop and find a new spot to plant your onions next spring. Any form of Allium can become infected by the fungal disease, so rotations should avoid any member of the family (including the pretty allium flowers) planted in that area for at least 3 years.

I know it can be very disheartening to spend a season growing a crop only to see that it is not living up to expectations. If you are rotating where you grow your onions, their storage life is largely determined by 3 factors - the variety (cultivar), the harvesting and drying procedures, and the storage conditions.

I'll start with the varieties that you are growing. There are two main types of onions: pungent and mild. Mild onions are typically large and juicy with thick rings and thin, papery skins that peel easily. Some people do prefer to cook with them, but most people prefer this type eaten raw on sandwiches or burgers or chopped in salads. Unfortunately, mild onions are poor keepers. Even in ideal storage conditions, they will only maintain their eating quality for a few weeks or MAYBE a couple of months. So if you know you want to store the onions you grow, those are not the ones you need to plant. And if you opt to grow both mild and pungent onions, eat the mild ones first. If you had a bumper crop of mild onions you could preserve them by making pickles or salsa. Mild onions would include Spanish onions, Bermuda onions, Vidalia onions and Walla Walla onions. If you know that you want to store them, you want to grow onions that are considered pungent. They can be stored for a long time if properly cured for 2 to 4 weeks. Pungent onions are usually smaller in size, have thinner rings, tighter skins and, of course, they're the ones that really make your eyes sting when you cut them. But it's actually those sulfur compounds that make us cry that also inhibit rot, so it makes sense that the more pungent the onion, the longer it will store. Some popular varieties are Candy, Stuttgarter, and Copra, but there are several others.

Once you've grown the right type of onions, you also need to take care in harvesting and curing. In late summer or early fall, the leaves on your onion plants will start to flop over. This happens at the "neck" of the onion and it is your sign that the plant has stopped growing and is ready for harvest and storage. Onions should be harvested soon after the tops are flopping. If you pick them too soon, they won't store well at all, but of course you can always pull a few early to enjoy in a meal if you are using them right away. But for long time storage, you should wait until most of their tops have fallen over and begun to dry. As I mentioned earlier, any little nick or cut in the onion's outer skin when you are harvesting will allow the fungal spores to enter, so careful harvesting is really important.

The next common issue is curing. Many gardeners also aren't patient enough, and try to store them too soon. Pungent onions that will be stored for the winter should be cured for two to four weeks. You'll get lots of different methods if you ask lots of different gardeners! Most will suggest laying them out in a warm, dry, well-ventilated location for anywhere from 3 days to 2 or 3 weeks. The key is being sure that the tops are really dry, so longer is usually much better. A few days is simply not enough if you want them to last any time at all. If the weather is dry and there's no danger of frost, you could pull your onions and lay them right in the garden IF the soil is really dry. But if the soil is damp, or the weather is wet or if frost is possible, move the onions immediately into a protected spot - on the floor of a garage or on a covered porch. Spread the onions out in a single layer, trying to keep them from touching each other, and taking care not to bump them which can cause bruising, and which could cause a tear in the outer skin and allow those fungal spores to enter. Warm days (23° or more) with a good breeze are ideal curing conditions. As the onions are curing, their necks will gradually wither and the papery skins will tighten around the bulbs. Once the necks are completely tight and dry, and the stems contain no moisture, you can use scissors to trim the roots off the bottom of each bulb. The leaves can also be trimmed to within about an inch of the bulb. If you find any that

still have green or moist looking necks after their drying time, don't attempt to store them. They will simply risk the rest of your well dried onions from storing well.

You can store your crop in mesh bags, a bushel basket, or a large flat cardboard box with some ventilation holes punched in it. For best results, onions should be stored in a dark, cool location (barely above freezing – under 4° is preferable). Your onions will sprout if storage temperatures are too warm and they will rot in any damp location.

While they do like cold temperatures, they will NOT keep in your refrigerator. When an onion is chilled, the cold, humid temperatures in a refrigerator convert the starch to sugars (the same happens with potatoes), and onions tend to become soft or soggy a lot faster than if they hadn't been refrigerated.

The difficulty for most of us, and I suspect it's what's causing your problems, is that we just don't have an area that is cold and dry unless we have a true cold room in our home. Modern homes are just too warm. Another issue is that they do need air to "breathe", so they can't be stored in bags or crates without ventilation. Lastly, make sure you keep the onions separate from potatoes if you grow them as well, as potatoes can excrete moisture that will speed up onion rot.

One thing worth noting, since you signed your letter "Crying Over Onions", is that refrigeration CAN help with that! If you want to reduce the amount of tears when you cut onions, the National Onion Association recommends chilling the onion in the fridge for about 30 minutes before slicing the top off and peeling off its outer layers. They also suggest that we leave the root end alone, as it has the highest amount of sulphuric compounds that tend to get our eyes watery.

Hopefully some of these tips will help, and thanks for the great question.

Sincerely

Dr. Fill