Old Seed: To Sow or Not To Sow

Can I get away with using last year's seed in this year's garden? This is the question gardeners everywhere ask themselves as they peruse catalogs and websites, shopping for varieties that will make their gardens shine.

Start with fresh seed for reliable stands of peas, multicolored ornamental peppers, globe amaranth, and zinnias!

Before risking the success of your garden on seed that may of may not be viable, ask yourself these questions:

How old is your seed?

Check the seed packet for the "packed for" year. Certain crops, including onions, leeks, and parsnips, retain good germination rates for just one to two years, so it's wise to buy new seed every year. Others, such as cucumbers and cantaloupes, can be successfully saved for five years or more, assuming you store them properly. Consult the chart below, reprinted from Colorado State University Extension, for relative longevity of common vegetable seeds under good storage conditions. If in doubt, test for germination (see below).

SHORT-TERM STORAGE DOS AND DON'TS

1. **DO** buy your seed from a reputable seed company (check the HGSA member list), so you'll be confident that it is fresh.
2. **DO NOT** store leftover seed in a garage or shed.

Did the storage temperature exceed 80°F? Was the humidity of the storage area high?

Studies show that the *optimum* seed storage temperature is 40-50°F. Storing seed at normal house temperatures, however, is not necessarily calamitous. In fact, just the opposite: Your home, assuming it's not overly humid, is probably your best option for short-term storage. Keeping seeds in a space where *both* temps and humidity are high, or where there are wild fluctuations of temperature and/or humidity, will likely lead to disappointment when you plant them in your garden.

The Organic Seed Alliance (link to http://www.seedalliance.org/) offers this formula to help determine the range of good seed storage conditions:

The Sum of Temperature (°F) + Relative Humidity (%) should = less than 100

To put this in the context of our own comfort zone, 30-50% relative humidity is a comfortable level for indoor living. Therefore, storing seed in a cool spot (60°F or cooler) in your house is a better choice than storing it in the chilly temps (40-45°F) but high humidity of the average refrigerator. If you choose to store seeds in the refrigerator or freezer, package them in a moisture-proof container.

Whatever the temperature, relative humidity levels of greater than 75% will affect both the percentage of seeds that will germinate and the time it takes them to sprout.

Were the seeds protected from pests?

Store seeds in pest-proof tubs, jars, or tins to prevent insects and rodents from consuming them.

Were the seeds stored in the freezer?

Seed banks store their seed supplies at zero or sub-zero temps with the intention of preserving varieties for the future. You can do likewise, but remember to package seeds in moisture-proof wrapping, such as a ziplock-type freezer bag. Though freezing can increase longevity, long-term storage is generally not a gardener's priority.

Seed Longevity Chart

Federal and Colorado minimum germination, seed count and relative longevity of selected vegetable seed.

Kind of seed	Minimum germination (percentage)	Average number of seed per:		Relative longevity (years)
		gram	ounce	
Asparagus	60	50	1,400	3
Beans	70	4	100	3
Beets	65	70	2,000	4
Broccoli	75	290	8,100	3
Brussels sprouts	70	300	8,500	4
Cabbage	75	280	7,700	4
Cabbage, Chinese	75	250	7,000	3
Carrot	55	790	22,000	3
Cauliflower	75	310	8,600	4
Celeriac	55	1,800	50,000	3
Celery	55	2,700	76,000	3
Chard, Swiss	65	50	1,500	4
Chicory	65	710	20,000	4
Corn, sweet	75	5	140	2
Cucumber	80	40	1,100	5
Eggplant	60	260	7,200	4
Endive	70	610	17,000	5
Kale	75	360	10,000	4
Kohlrabi	75	330	9,200	3

Leek	60	350	9,900	2
Lettuce	80	930	26,000	1
Muskmelon	75	40	1,100	5
Okra	50	18	500	2
Onion	70	300	8,500	1
Parsley	60	640	18,000	1
Parsnip	60	240	6,800	1
Pea	80	7	200	3
Pepper	55	160	4,500	2
Pumpkin	75	7	200	4
Radish	75	110	3,100	4
Rutabaga	75	390	11,000	4
Salsify	75	70	2,000	1
Spinach	60	100	2,900	3
Spinach, New Zealand	40	20	430	3
Squash	75	10	300	4
Tomato	75	360	10,000	4
Turnip	80	500	14,000	4
Watermelon	70	10	300	4

If in Doubt, Test!

A simple germination test will help you determine whether your seed is worth planting.

Dampen a few layers of paper towels, and spread 10 seeds over the surface. Use a separate towel for each seed type.

Roll the damp towels, with seeds inside. Stand them on end in a jar.

Place the jar in a warm place. Check it daily to see that the towels are still moist. After 3 or 4 days (or the germination time specified on the seed pack) open the roll. If seeds have not yet germinated, wait another several days.

If germination is less than 70%, sow more thickly than recommended; less than 50%, buy new seed.