



“NEW AND IMPROVED”

Benjamin Franklin famously said that nothing is certain except death and taxes. Every gardener would add a third certainty: come February, the seed catalogs will arrive. I learned this lesson as a raw beginner. In my first year, I ordered from just one mail-order nursery, but by the second year, at least a dozen catalogs arrived. They multiply faster than the Tribbles of Star Trek.

It seems to me that catalogs were simpler back then, though it's also likely that I, as a novice, didn't always notice or understand the meaning of some of the descriptors. I remember lavish praise of new hybrids and sentimental recommendations of old favorites. But while the concept of hybridization goes back centuries, well before Gregor Mendel's meticulous experiments, I don't think those catalogs had much to say about GMOs, heirlooms, open pollination, or organic seed. What do these terms mean, and how should they affect your seed-buying choices?

In the beginning, all plants were *open pollinated*, meaning pollen moved by natural processes, whether wind, insects, or animal activity. Usually, this limited pollination to a smallish area, and therefore to a single variety. When plants are pollinated by others of the same variety, their offspring will generally “breed true,” meaning they will resemble their parents. If you're a seed saver, these are for you, since the seeds of the plants you grow this year will produce the same plants next year.

Also in the beginning, all plants, and therefore all seeds, were *organic*, meaning they were produced without the use of synthetic pesticides or fungicides. The qualifying standards for seed to be classed as organic are set by the FDA. Seeds from plants which have been proven to thrive and produce new seed on their own, without having to depend on these synthetic “crutches,” are likely to be stronger, more disease resistant, and more able to succeed in adverse conditions than non-organics. If you're committed to organic gardening, why would you support seed growers who continue to use harmful chemicals?

Heirloom seeds come from plants whose seeds have been harvested and passed down from generation to generation, usually for at least 50 years but often one hundred years or more. They are all open-pollinated, but, over time, gardeners kept only the seeds from those plants with the best flavor, the biggest or brightest flowers, and the most dependability, and discarded the weak or less-impressive ones. As a result, the

positive traits were reinforced with each summer's new crop of seed. Most vegetable gardeners will agree that the best flavors are found in heirloom varieties. In the catalogs, you'll see references to "Grandma grew these!" Grandma still does.

Hybrid seeds are the result of intentional cross-pollination of two plants of the same species, but with different characteristics. The goal is to create a plant having the best characteristics of each. For example, a hybridizer might cross a notably sweeter-than-average corn with one that boasts larger-than-typical ears. It will probably take several years of selecting the best and re-breeding them, but eventually the grower will have a variety with reliably larger, sweeter corn.

Every seed catalog tries to tempt buyers with the newest hybrids, which are always more expensive than older varieties. There's no question that new varieties can result in exciting new colors or shapes. Coral bells (*heuchera*) used to have green foliage, but now you can buy it in reds, oranges, silver, and yellow. Lilies and tulips used to have a single row of petals; now you can buy varieties with double or even triple the number.

But there are trade-offs, and they are many. Old roses bloomed only once a year, in June, but had a knock-your-socks-off fragrance. Tea roses were painstakingly bred to extend the bloom season, but somewhere along the way, fragrance was lost, and has to be bred back in. All year round we can buy perfectly shaped, uniform, but hard and tasteless tomatoes, bred to be easy to ship, but lacking that summertime flavor. In general, modern vegetables are intentionally sweeter than older varieties, as if our American diet doesn't have enough sugar already. And those double-petaled flowers sometimes make it impossible for insects to reach pollen, or even eliminate it altogether. As you plan, keep in mind that there is no benefit to saving seeds from first-generation hybrid plants, called F1, as they won't breed true.

Genetically modified organism (GMO) seeds, like hybrids, are the result of intentional manipulation of genetic characteristics. The difference is that, while hybrids are selecting for characteristics already present, GMO plants and seeds result when foreign genetic material is inserted into the cellular structure. Less-than-reputable mail-order nurseries sometimes claim to offer "The first real blue rose!" in breathless copy accompanied by an unconvincingly bright illustration, but the actual flower, when it arrives, will be a muddy lavender, because there is no blue in a rose's genetic makeup. If there is ever a genuinely blue rose, it will be developed in a laboratory.

I'll be brightening some dreary winter afternoons with a fire in the woodstove, a cat on my lap, and a pile of seed catalogs. Much as I try to follow science, I always end up buying at least a few varieties purely on whim. While I take my garden seriously, a few impulse buys keep it interesting. Never apologize!