

Academy Garden Club Thymes

A NEWSLETTER FOR THE MEMBERS OF THE ACADEMY GARDEN CLUB OF LENOX

FEBRUARY 2026

Page One

Horticultural Column

SEEDS

By Harriet Wetstone

Even though my vegetable garden consists of four raised beds that don't get enough sun, I have begun to daydream about fresh kale and parsley and broccoli and oregano and nasturtiums, which is what my beds will produce. And of course, what new planting adventure I might get into despite my obvious limitations. There is a reason seed catalogues are so seductive! They engage in our sense of adventure, they hold forth promises of wondrous outcomes, they stimulate our imaginations! They are the embodiment of what could be.



In the face of all this romance it never hurts to cool things off with science. A seed is a plant structure containing an embryo and stored nutrients in a protective coat. Seeds are the product of the ripened ovule which has been fertilized by sperm from pollen. Therefore, all seeds, by definition, are the offsprings of some sort of fruit. By definition, a fruit is container for seeds. We think of fruit as sweet, as opposed to vegetables which are not; but we all know that both fruits and vegetables are defined as fruit.

There are several ways to categorize seed. One way is according to how they are sourced, be it from native plants, from hybridization, from open field source, from organic origins or not, transgenic or GMO, improved or heirloom.

Improved seeds are the result of selection and genetic improvement programs conducted using conventional techniques such as controlled pollination with goals towards greater production, uniformity of plant characteristics, disease resistance, etc. These seeds are not genetically modified, but they have been selected and reproduced with specific goals.

Transgenic seeds, or GMOs, are seeds whose DNA has been modified using genetic engineering techniques to give them specific characteristics such as resistance to certain herbicides, greater pest tolerance, or improved nutrition. GMOs are the subject of debate and regulation in many countries: while they offer some advantages, they also pose ethical, environmental and food sovereignty questions.

Some seeds are naked, some are coated. Seeds are coated for better visibility and easier handling; while more expensive they are said to be easier to plant and space and to have higher germination rates due to better water retention. Some coatings include fertilizer, fungicides or insecticides that protect the seed.

There are viable seeds, ready for germination and production of healthy plants, such as bean, tomato, and pepper seeds. There are dormant

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Page Two

seeds which need a period of rest, or exposure to cold, or other specific conditions before they germinate: such as apples, cherry and rose seeds. And there are sterile seeds, seeds that lack a valid embryo because they are sterile hybrids; some grape and banana seeds fall into this category.



Seed sprout

The fact is that while there are sterile seeds, there are almost no fruits that are naturally seedless. There are a few species in which the growth of the flower ovary develops some fruit independently with no pollination resulting in a seedless or sterile seeded fruit. This is called natural parthenocarp and occurs in plants like bananas, pineapples, figs, and some types of oranges and grapes.

Artificial parthenocarp occurs when developers induce seedless development of fruit to produce seedless varieties for the market. Artificial parthenocarp is accomplished using plant hormones that mimic the natural signals initiated by fertilization. Genetic engineering can also accomplish parthenocarp as can temperature manipulation or even physical manipulation of flowers. Parthenocarp is useful in producing fruits out of season, in the absence of pollinators or under unfavorable environmental conditions.



Sprout coco

I could go on and on, but let me tell you about dehiscent fruits, which split open when mature to release their seeds (think pea pods) and indehiscent fruits which stay shut and keep the seeds inside (think nuts and grains). But last is the coconut which can be thought of as all three, a fruit, a nut, and a seed. Coconuts are classified as a one-seeded drupe (think peach or olive). Coconuts and all drupes have three layers: the woody layer on the outside, the exocarp which nourishes the seed, and the mesocarp, a fleshy middle layer. But it is also a nut, which holds its fruit without opening, and a seed as it is the whole coconut that sprouts to produce the next coconut palm!

Happy garden daydreams!

<https://www.scienceabc.com/nature/is-coconut-a-seed-a-fruit-or-a-nut.html>;
<https://fruitslist.com/examples-of-dehiscent-fruits/>;
<https://microbenotes.com/parthenocarp/#natural-parthenocarp>; <https://biologyinsights.com/do-all-fruits-have-seeds-the-botanical-truth/>;
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<https://agriculturistmusa.com/classification-of-seeds-with-example/>

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