

2016: The Year of the Pulse

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“Pulses are important food crops for the food security of large proportions of populations, particularly in Latin America, Africa and Asia, where pulses are part of traditional diets and often grown by small farmers,” said FAO Director-General José Graziano da Silva, in a news release. “They have been an essential part of the human diet for centuries,” he added, “Yet, their nutritional value is not generally recognized and is frequently under-appreciated.”

The United Nations has declared 2016 to be the Year of the Pulse. Now, we gardeners know that every year is declared the year of something—or of several or many somethings—but this is one worth visiting a bit about. Do you know what a

pulse is? How about a legume? Are they different or just synonyms for the same thing? In popular usage, and even in many books and gardening magazines, the two words are used interchangeably to mean some of the foods we eat, specific plants in the garden, or both.

Technically speaking, pulses are the seeds of legume plants—and some sources further specify that they are only the dried seeds, although others include non-dry. So, pulses include lentils, dried beans, field peas, soybeans, peanuts, chickpeas, etc. Legumes, respectively, would include *Lens culinaris* (the lentil plant), *Phaseolus vulgaris* (the bean plant), *Pisum sativum* (the pea plant), *Glycine max* (the soybean plant), *Arachis hypogaea* (the peanut plant), *Cicer arietinum* (the chickpea plant), etc.—as well as some plants we do not generally consume the seeds of, such as *Medicago sativa* (alfalfa), *Trifolium* spp. (clover), and *Vicia villosa* (hairy vetch). A legume is any plant in the Fabaceae Family engaging in symbiotic relationships with special bacteria that “fix” nitrogen in the soil.



Having made this distinction, I will note that for every 2 sources that support what I've just written, there is a source that gives a completely different (sometimes completely opposite) definition. . . . And I prefer that our readers just assume I'm

correct, so I'll move on from etymology to what's really important about pulses and legumes.

There is a funny thing about nitrogen. Although it forms a whopping 78% of our natural atmosphere on Earth, it floats around up there in tightly bound pairs (N_2) that cannot be used by plants in nitrogen's critical role as a primary plant nutrient. "Fixing" nitrogen means converting atmospheric nitrogen into more complex nitrogen molecules (e.g., NH_3 —ammonia) that can be used by growing plants. That atmospheric nitrogen converted by the root bacteria is stored in the top growth of legume plants, which is why they make fantastic cover crops and green manure—once they are turned back into the soil at the end of the season, that soil receives nitrogen fertilizer without additional amendments.



Now that we know what legumes are and why they can be crucial agricultural crops, let's take a look back at why the pulse is so important. Nutritionally, it's packed with protein (twice as much as wheat), iron, and folate. Agriculturally, it requires far less energy input to grow than animal sources of protein (important in

many areas of the world) and will grow in challenging agronomic conditions (also very important to those struggling with drought). Logistically, pulses have a very long storage life, making them a practical food, as well.

And culinarily, they're delicious! What's not to love?

So whether you call the plant, some of the plants, the seeds, or some of the seeds legumes, pulses, leguminous plants, pulse crops or anything else, be aware of what horticultural and nutritional heavyweights they are. Use legumes for their soil enhancement qualities and the pulses for homegrown food. It works in your own Maine garden and in regions of the world struggling with famine and drought.

(Sources: <http://www.un.org/apps/news/story.asp?NewsID=52505#.Vy35cMdWJg0>, University of Minnesota Cooperative Extension, Iowa State University Cooperative Extension, Food and Agriculture Organization of the United Nations, University of Maine Cooperative Extension. All photos courtesy of University of Maine Cooperative Extension.)