

Plants We Grow and Eat

by Alan Weakley, Curator, University of North Carolina Herbarium

Plants play a major role in each of our lives, whether we realize it or not. Plants are responsible for nearly all the oxygen we breathe, the food we eat and drink (directly or indirectly), and the clothes we wear (directly or indirectly). Plants even provide most of the energy we use, since fossil fuels (oil, natural gas, coal) are derived from extinct plants.

Yet we typically have little awareness of these roles plants play. Few of us now have any contact with farms and food production. As Barbara Kingsolver writes in *Animal, Vegetable, Miracle: A Year of Food Life* (2007):

We don't know beans about beans. Asparagus, potatoes, turkey drumsticks—you name it, we don't have a clue how the world makes it. . . .

"What's new on the farm?" asks my friend, a lifelong city dweller who likes for me to keep her posted by phone. She's a gourmet cook, she cares about the world, and has been around a lot longer than I have. This particular conversation was in early spring, so I told her what was up in the garden: peas, potatoes, spinach.

"Wait a minute," she said. "When you say 'The potatoes are up,' what do you mean?" She paused, formulating her question: "What part of a potato comes up?"

"Um, the plant part," I said. "The stems and leaves."

"Wow," she said. "I never knew a potato had a plant part."

This bespeaks a profound ignorance of and separation from the agricultural sources of our diet, and suggests that as an urbanizing society, we need to deliberately remind ourselves of our roots through educational activities at the Herbarium, the Botanical Garden, and the University.

This summer I became more interested than ever in the plants we eat, where they were first domesticated, and where they are currently grown. In preparing for teaching the fall "Local Flora" course at UNC-Chapel Hill, I read three books about our food, including Kingsolver's, and this led me to add a lecture on "plants we eat and wear" and a food log assignment: each student would keep a log of all the plants they ate over the course of 24 hours, and research the scientific name, family, place of domestication of the species and place where the crop was actually grown.

Results? Plants were eaten! The 53 of us ate at least 135 plant species in 47 plant families. The most diverse food families were the Fabaceae (Bean Family), with 14 species; the Poaceae (Grass Family), with 12 species; and Rosaceae (Rose Family), with 11 species. A fifth of us individually ate more than 30 plant species in a day!

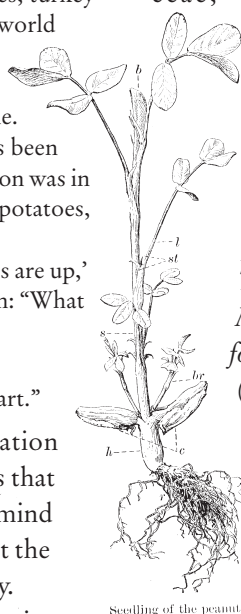
The four nearly universal food commodities, eaten on average at least twice a day by everyone in the class, were *Saccharum officinale* (Sugar cane; Poaceae; from Southern Asia), *Triticum aestivum* (Wheat; Poaceae; from the Middle East), *Zea mays*

(Maize, Corn; Poaceae; from Mexico), *Glycine max* (Soybean; Fabaceae; east Asia)—104 eatings.

Plants eaten by more than half of us on a fall North Carolina day, were: *Solanum lycopersicum* (Tomato; Solanaceae; South America), *Capsicum annuum* (Chili; Solanaceae; Mexico), *Allium sativum* (Garlic; Alliaceae; southwestern Asia), *Allium cepa* (Onion; Alliaceae; central Asia), *Olea europaea* (Olive; Oleaceae; southern Europe), *Oryza sativa* (Rice; Poaceae; southern Asia), *Avena sativa* (Oat; Poaceae; Middle East), *Hordeum vulgare* (Barley; Poaceae; Middle East), *Brassica napus* (Rape; Brassicaceae; northern Europe), *Daucus carota* (Carrot; Apiaceae; Europe and southwestern Asia), *Vitis vinifera* (Wine grape; Vitaceae; Mediterranean Europe), *Lactuca sativa* (Lettuce; Asteraceae; Mediterranean Europe), *Piper nigrum* (Pepper; Piperaceae; southern India), *Malus pumila* (Apple; Rosaceae; central Asia).

Other plants were eaten by only one or a few, as in this partial list: *Sambucus nigra* (Elderberry; Adoxaceae), *Trigonella foenum-graecum* (Fenugreek; Fabaceae); *Mangifera indica* (Mango; Anacardiaceae); *Ferula asafoetida* (Asafoetida; Apiaceae); *Elettaria cardamomum* (Cardamom; Zingiberaceae); *Lycium barbarum* (Goji; Solanaceae); *Diospyros virginiana* (Persimmon; Ebenaceae); *Pachyrhizus tuberosus* (Jicama; Fabaceae); *Urtica dioica* (Stinging Nettle; Urticaceae); *Vigna unguiculata* (Black-eyed Peas; Fabaceae); *Hibiscus esculentus* (Okra; Malvaceae); *Pyrus pyrifolia* (Asian Pear; Rosaceae).

We all came to realize that very few of the 135 plants we ate were native to North America (the most important North American food plant being sunflower), and that most meals included plants from many parts of the world (a typical meal has plants from Europe, the Middle East, Asia, and South America, all jumbled up together). This aspect of the globalization of our diets is a good thing! But we also learned that with very few exceptions, we had no idea where the plants we ate had been grown. I recently learned that over half the apple juice consumed in the United States comes from China, and I have to admit I took that as something of an affront. I'm sure that growing up in Virginia in the 1960s nearly every apple—and glass of apple juice, bowl of applesauce, spoonful of apple butter, serving of fried apples—I consumed (and there were a lot) came from the Shenandoah Valley, and that the rare non-Virginian apple or apple product that passed my lips came from somewhere far away and foreign like . . . West Virginia or Pennsylvania. Is it sustainable that so much of our diet is grown literally half a world away?



Scotling of the peanut