

**A Botanical Field Trip to Eugene's Farmer's Market
To Make Connections with People, Place & Sustainability**

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People, Place & Sustainability: “Apples from Dean”

The concept of sustainability has many different dimensions and interpretations but I think most would agree that it includes human activities that utilize local resources that are aligned with the local environmental conditions and limitations. The inspiration for including a visit to the Eugene Farmer's Market as an activity in my botany courses seems obvious in retrospect but it wasn't an immediate connection. The activity was a synthesis that developed as a result of watching my students as they discovered what a plant really was, doing research about how to engage students in the study of biology, including the course objective of learning how to be connected with our bioregion and supporting local endeavors and my weekly forays to our Farmer's Market that have given me a deep sense of how agricultural produce availability follows the seasonal progression of plant development in natural ecosystems.

The models for my watercolor were apples purchased from Dean Mordhorst of Mordhorst's Coburg Hillview Farm. I have been buying apples from Dean & his wife for at least 20 years; he is in his mid-80's and a very active and vital person. His apple booth only appears at the Farmer's Market for a few months each fall, it highlights the seasonality of these fabulous fruits and the important connection of renewing my yearly acquaintance with Dean & his family.

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Is fresh apple and rhubarb pie or a lettuce & tomato sandwich really a seasonal possibility in Oregon?

In the last decade, using edible plants to engage students in botanical study has become a standard activity called “Supermarket Botany” (Smith & Avery 1999, Levetin & McMahon 2006, Graham, Graham & Wilcox 2006, Saupe 2005, Austin et al. 2005, Keller & Harrison 2005, Paye 2000). In “Supermarket Botany,” students visit local supermarkets to examine the produce from a botanical perspective as well as from a food or product perspective. Students determine which part of the plant is eaten or used by applying their knowledge of diagnostic characteristics that distinguish a leaf from a stem from a root. Not just “because it looks like a leaf”. The students improve their observations skills and gain an increased awareness of plant parts that have major economic importance.

Moving this activity from the Supermarket to the Farmer's Market opens up even more opportunities for students to explore how their lives are related to plants and their bioregion. Supermarket botany hones skills such as the ability to identify what part of the plant is being consumed (*many misconceptions about what is actually being eaten surface during this activity*), to scientifically classify a plant and to describe how different plants are related to each other. However, by taking my botany classes from Lane Community College in Eugene, Oregon on a field trip to our local Farmer's Market, the focus becomes place-based and additional biological concepts and skills can be included such as being able to match the plant life cycle with the region's seasonal climate sequence. This gives students a chance to specifically determine the

importance of the timing of flowering, pollination and fruit maturation and the influence of climatic events on plant growth and development.

The Lane County Farmer's Market is a vibrant place full of color, texture, smells and activity that has been in continuous operation since 1979. An earlier farmer's market was established in 1915 but disappeared with the rise of supermarkets in the 1950's. The current market has a well-established group of vendors that sell their produce from April through November. Our class visits the Farmer's Market in late May near the end of the course, when students have gained a good foundation of knowledge about our native plants and their ecology, and at a point where the farmer's market has a full offering of late spring crops. This sets the context for students to observe the seasonal availability of our food crops and consider the economic and ecological costs and benefits of where and when our food is grown.

At the Market students are given approximately 1 hour of the 2-hour excursion to visit five vendor booths selling produce, live plant starts, and cut flowers. At each booth students complete a **Farmer's Market Data Sheet** while observing the produce for sale. The data sheet is designed around produce listed for sale at the Lane County Farmer's Market (<http://www.lanecountyfarmersmarket.com/>), and is a modification of the standard Supermarket Botany data sheet. Data taken includes vendor name (for example, Hayhurst Valley Organic Farm), their location (Yoncalla, Oregon) and the major plants offered on that day. On the data sheet, edible produce is organized by plant family and requires students to identify and note specific plant parts and how the part functions on the plant (for example, a potato is a modified stem that functions as a storage organ). To do this, students have to be very observant and use their knowledge of plant anatomy to distinguish vein patterns, the presence or absence of nodes or buds and know the botanical definition of a fruit. Students also speak with vendors about growing conditions required for their crops but are to be mindful not to interfere with sales.

After their visit to vendors the class gathers at tables and benches adjacent to the Market to organize and analyze notes and data while eating some of the local produce. At this time, students are given **The Lane County Farmers Market Seasonal Crop Calendar** (<http://www.lanecountyfarmersmarket.com/>) that lists all the produce sold throughout the year and the month(s) that each is available. Students draw a vertical highlighter line through the month of our visit (May) and horizontal highlighter lines for each product seen, especially

recurring types of produce observed at each booth (species and plant part), and put an “f” by each product that is a fruit. At this point, the **Farmer’s Market Data Sheet** and **The Lane County Farmer’s Market Seasonal Crop Calendar** can be used together to answer the following questions:

1. What plants and what edible parts (important distinction) did you observe to be most abundant at this date?
2. What month(s) have the highest abundance of fruits available according to your observations and the Framers Market Seasonal Crop Calendar?
3. What is the relationship between plant part abundance, leaves, stems, roots and specifically fruit, and the plant life cycle?
4. Based on conversations with vendors what growing season requirements are related to product availability? Relate this information to your knowledge of plant growth and development sequence.

These questions guide students through their notes and data and initiate their thinking and discussion about relationships between seasonality and the complete sequence of events in a plant life cycle as it applies to agriculture as well as wild plants. Data showing the overlaps, or lack thereof, in abundance of type of plants and plant parts for sale is of particular importance in answering this last question.

5. Are culinary combinations of certain types of fresh vegetables really a possibility? For example can you bring home lettuce and tomatoes the same day to make a sandwich or buy just picked apples and fresh rhubarb to make a pie?

The data are now available to answer this question. Students compare the vertical highlighter line through the month of our visit (May) and horizontal highlighter lines for each product seen. The Lane County Farmers Market Seasonal Crop Calendar shows lettuce (salad greens), a leaf crop, being abundant early in the growing season from April and continuing through October, while tomatoes, a fruit, aren’t available until July and continue through October. During our May visit we could add lettuce to our sandwich but not tomatoes. In Eugene, that combination is possible with local produce only from July through October. Other culinary combinations are not possible or only have marginal overlap at best. For example, if you have a fancy for fresh apple

and rhubarb pie or crumble, you might be out of luck. Although apples, a fruit, are listed as available at our Farmer's Market from July through November the high season for good apples seems to be September & October. Rhubarb, the stalk of a leaf, is only available between April and July. This may seem to limit our food options. No so, the diversity of culinary options and combinations of seasonal produce have been championed by people like Alice Waters (2003, 2004, McManus 2004) and Mollie Katzen (1977), practiced by many of our local restaurants and are good models of how our food options may actually be broadened.

Ecological and Economic Awareness: The costs and benefits of buying and eating locally.

As background to the economic side of agriculture, the students read articles about the benefits of buying and eating locally produced foods by Nabhan (2002) and Schildgen (2004). When we buy our food in large chain supermarkets we have the luxury of not only making a lettuce and tomato sandwich year-round but also making a fruit salad using mangos and bananas, fruits that don't grow even close to our bioregion. How? Why? Students now think about, discuss and research where their foods comes from, the resources used to get it to Eugene and how farmers often modify growing seasons using greenhouses, irrigation, fertilizers and various forms of natural genetic modification or bioengineering to develop plant varieties that tolerate cold or drought or have a longer shelf life or growing season.

The Farmer's Market provides a venue for reviewing course topics, gives students an opportunity to apply their knowledge to a new situation and to develop their "sense of place." Not only do students have a direct experience learning about the biological relationship between their native habitats, the climate they experience and its influence on plant growth, but they also experience a human connection with local farmers.

Comparisons of the differences in availability of produce throughout the year leaves a strong impression on students. To expand this activity and further establish connections to place, students can embark on comparisons of place by investigating geographic produce availability at Farmer's Markets across the continent. The key piece of data that is most helpful for this endeavor is the Seasonal Crop Calendar for each Farmer's Market. Not all Farmer's Markets provide them but some of those currently online are from Eugene, Oregon; Abingdon, Virginia and Saco, Maine. Popular books such as *Botany of Desire* (Pollen 2001), *Fast Food Nation*

(Schlosser 2002) and *The Forgotten Pollinators* (Buchmann and Nabhan 1996) complement and integrate basic botanical knowledge, a connection to time and place and the potential effects of small, local agricultural operations and agri-business on human health and well-being, local economies and regional ecology.

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Confessions of a farmer's market addict

http://www.anchorapress.com/food_and_drink/food_review/confessions-of-a-farmer-s-market-addict/article_e22f497e-ea61-11e2-93a4-001a4bcf887a.html

Biographical Statement for the Community College Moment 2006

Gail A. Baker, Assistant Professor of Biology, Science Division, Lane Community College

Gail is a biology instructor who loves to take students out in the field as much as possible. She has concentrated on introducing students to the variety natural ecosystems in our area from the coast to the Cascade crest. Recently she has broadened her field sites to include Eugene's Farmer's Market and is thinking about adding local Native Plant Nurseries, restoration projects and small farms to her field trip options. During the summer of 2003 she enrolled in a watercolor painting course at LCC with her two colleagues, Stacey Kiser & Sarah Ulerick. Farmer's market produce became her subjects of choice for her painting endeavors and she has been in her "fruit phase" for several years.



*Cabbages in High Summer at the Eugene Farmer's Market
Photographed by Gail A. Baker*