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Organic Gardening Independent Study
Final Project

A Light Inquiry into the Eligibility of a Native Herb Garden at the Pomona College Farm

Introduction:

Native gardening is a subset of organic gardening that relies on natural environmental conditions for the prolonged sustenance of indigenous plants. In theory, native gardens do not need to be amended using soil additives or advanced tilling techniques because indigenous plants should be able to grow there naturally, without any human assistance. For this experiment, I planted a small selection of native herbal plants in the plot behind the farm's outdoor classroom to augment the farm's preexisting herb garden. This project was designed to see how a selection of native Los Angeles-region plants developed with minimal human assistance.

The intended plot is partly shaded throughout most of the day and located on a permanent waterline. Six native plants were selected from the native plant nursery at Rancho Santa Ana Botanical garden. The plants were selected based on their herbal properties and suitability for planting in the intended plot. The plant selection is listed below:

Coyote Mint (*Monardella villosa)*

- Mint family
- Dark green leaves grow in cross-hatch pattern
- Produces lavender or pink flowers
- Grows to height of 2 feet
- Requires shade/part shade, supplemental water
- May be used as remedy for upset stomach, respiratory problems, or sore throat
- May be brewed as tea

California Huckleberry (*Vaccinium ovatum*)

- Small, dark green, teardrop-shaped leaves
- Requires full sun/partial shade, moderate water
- Grows to height of 3-5 feet
- Produces edible black berries

Sierra Currant (Ribes nevadense)

- Requires full/part shade, good drainage, moderate water during summer
- Grows to height of 3-6 feet
- Green, spade-shaped leaves
- Leaves are thin and have paper-like texture
- Produces bunches of pink flowers
- Produces edible berries

Black Huckleberry (*Vaccinium membranaceum*)

- Small, kiwi green, teardrop-shaped leaves
- Grows to height of 2-6 feet
- Requires sun/partial shade, good drainage, moderate water
- Produces edible black/red berries

White Flowering Currant (*Ribes indecorum*)

- Dark green, resinous, spade-shaped, leathery leaves
- Produces white flowers
- Grows to height of 5-6 feet
- Requires partial/full shade, good drainage
- Drought and heat tolerant
- Produces edible purple berry

San Miguel Savory (*Satureja chandleri*)

- Small, green, fan-shaped leaves
- Grows to height of 1 foot, with 3 feet spread
- Requires full sun/part shade, moderate water
- Produces fragrant white flowers
- Produces edible fruit

Measurements of plant height and other observations were collected over the three weeks following planting. I predicted that plant height would probably not change over three weeks but that the plants might undergo some physical change in preparation for winter. I hypothesized that the plants probably would not die because the selected location suited their growing needs and provided a hospitable environment.

Materials:

- One *Satureja chandleri* plant
- One Ribes nevadense plant
- One *Ribes indecorum* plant
- One *Vaccinium membranaceum* plant
- One *Vaccinium ovatum* plant
- One *Monardella villosa* plant
- One shovel
- One Wheelbarrow
- 6-9 pounds of compost

Method:

1. Dig a small hole and bury the first plant, covering it with dirt to about an inch below where the leaves start
2. Sprinkle 1-1.5 pound(s) of compost at the base of each plant
3. Record the plant height and any other noteworthy physical traits
4. Repeat steps 1, 2, and 3 for each plant (measure length instead of height for *S. Chandleri*)
5. Repeat step 3 once a week for three weeks

Results:

Plant Name	Height (inches)	Physical condition
S. Chandleri	[Week 1] 14.8 [Week 2] 14.9 [Week 3] 15	[Week 1] Normal/healthy [Week 2] Slight yellowing at leaves closest to roots [Week 3] More yellowing of leaves closest

		to roots
R. nevadense	[Week 1] 12 [Week 2] 12 [Week 3] 12	[Week 1] Normal/healthy, mostly green leaves [Week 2] No noticeable difference from first week [Week 3] Slight yellowing of leaves at base of plant
R. indecorum	[Week 1] 13 [Week 2] 13 [Week 3] 13	[Week 1] Normal/healthy, green leaves [Week 2] No noticeable difference from first week [Week 3] Slight yellowing of leaves at base of plant
V. membranaceum	[Week 1] 5.5 [Week 2] 5.5 [Week 3] 5.2	[Week 1] Mostly green leaves, one or two yellow leaves [Week 2] More yellow leaves than in first week [Week 3] Most of the leaves are dry and brown or have fallen off, but stems/branches are green and appear healthy
V. ovatum	[Week 1] 11 [Week 2] 11 [Week 3] 11	[Week 1] Healthy looking, many green leaves [Week 2] Leaves are plentiful and green [Week 3] Leaves are plentiful and plant seems healthy. Some leaves are turning red
M. villosa	[Week 1] 9 [Week 2] 9 [Week 3] 9	[Week 1] Plenty of healthy, green leaves, mostly located near base of plant [Week 2] Some leaves starting to yellow [Week 3] Some more leaves are turning yellow

Most of the plants fared well in the three weeks since transplanting them in the plot behind the outdoor classroom. Most of the plants show some sign of yellowing on the leaves but do not appear to be severely affected. The *V. membranaceum* plant exhibits the most extreme change, having lost the majority of its leaves. However, as noted in my observations, even though the *V. membranaceum* specimen is nearly leafless, the leaf stems are still green and waxy, which suggests that the plant is not completely dead. None of the plants grew significantly in the past three weeks. Only *V. membranaceum* appears to have shrunk, most likely because it lost so many leaves and that influenced my measurement.

Discussion:

The primary objective of this project was to see how Native Los Angeles plants fared after being transplanted in the Pomona College Garden. In order to

simulate the plant's natural growing conditions, I did not interfere with the plants after planting them. This non-interference entailed no weeding, no tilling, and no drastic soil augmentations. However, the plants were located on permanent irrigation lines, meaning that they received regular doses of water. Additionally, I added a little compost to the planted beds after planting.

For the most part, my results supported my hypotheses. Most of the plants did not grow. The plants also appear to be undergoing some sort of preparation for winter, as exhibited by increasing discoloration in their foliage. The most extreme example is the *V. membranaceum* plant, which has almost completely shed its leaves. Unfortunately, I do not know how these plants change during the winter and make this assumption with no authority. In the end, even though my hypotheses were supported, my questions still remain unanswered. This is primarily due to flaws in my experimental design.

The purpose of this experiment was to simulate "all-natural" growing conditions for a selection of native herbs. However, I botched the results from the beginning by planting the plants alone irrigation lines and by adding compost to the plant beds. While these may only be minor augmentations, they still constitute a level of human interference that may significantly impact the plants' lives in the short term.

In addition to these design flaws, my project was further hindered by time. There is no way to adequately assess how these plants develop at the farm in just three weeks. All of the herbs planted in this experiment are perennial plants, therefore, we would need at least two growing seasons to see if they self-revive or not. I will have to keep an eye out for these plants next semester to really get an understanding of whether they have what it takes to make it through a few seasons at the farm.

References

"*Ribes indecorum*, White flowering currant and White Chaparral"
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"*Ribes nevadense*, Pink Sierra Currant"
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"Saturejia chandleri, Shrubby Yerba Buena, Mountain Balm and San Miguel Savory"
http://www.laspilitas.com/nature-of-california/plants/satureja-chandleri

"*Vaccinium membranaceum*"
http://en.wikipedia.org/wiki/Vaccinium_membranaceum

"*Vaccinium ovatum*"
http://en.wikipedia.org/wiki/Vaccinium_ovatum

"*Monardella villosa*"
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