

General Biology: Plants and People

Spring 2007

Independent Project: Plants and People 80 points

Calendar of Deadlines:

March 9: Research question and preliminary references due (40 points)
March 22: Instructor will return topics, with or without approval
March 29: Deadline for Submission of Revised Topic and References (if original submission not approved)
April 19 or 20: Presentation to Class (40 points)

This assignment will allow you to consider the impact of plants in human cultures. As we have seen and will see, plants affect much of our day-to-day lives --- in fact, it's hard to avoid them!

There are effectively three parts to the assignment: 1) select a research question and locate references related to your question; 2) revise your question and seek additional references, in accordance with the instructor's evaluation; and 3) develop and give a short oral presentation to the class about your findings.

In general, your work will be evaluated on how well you follow the guidelines. The three components of the assignments are divided into a series of three deadlines (see above).

This handout provides you with instructions on how to develop a topic and select an initial set of references. Details about the remainder of the assignment will be provided in future class meetings.

Guidelines for Development of a Topic and References:

Choose a research question that demonstrates the impact(s) of a plant or group of plants on people. The impacts can be positive or negative.

Be careful to choose a question of an appropriate **scope**. If your question is too broad (such as "Are plants useful in medicine?"), you will be overwhelmed with information ... and so will your audience! If your topic is too narrow (such as "What is the effect of lemongrass on a village in Viet Nam?"), likely you have some difficulty finding adequate references.

While there are many possibilities for research question, note that you are restricted to directly considering questions (topics) about the plants and their impact on humans. As examples, the following topics are appropriate: "Do herbal remedies effectively treat psoriasis?" and "Does consumption of castor oil effectively treat the common cold?" A suitable topic can be considered at several *conceptual levels*, represented by a *target diagram*. A conceptual level is a fundamental component of your topic. Examples are on the following page.

Would the following topics be suitable? Why?

"Wood properties and the paper industry"

"Humans and the deforestation of the Amazon"

"Why do leaves change color in autumn?"

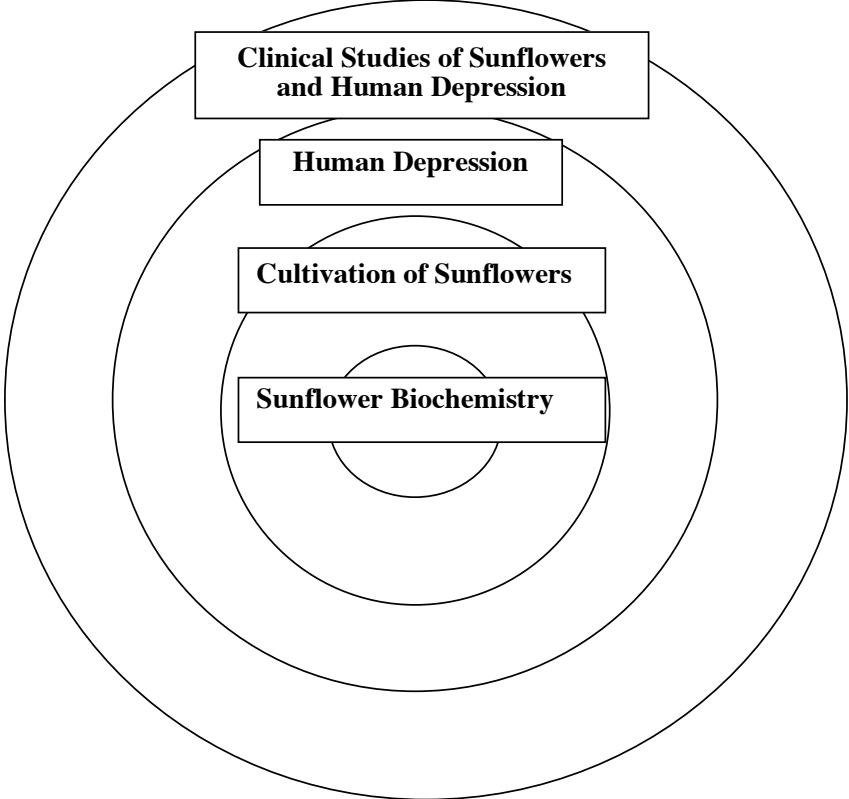
"Why do sunflowers track the sun each day?"

"Are perfumes romantic?"

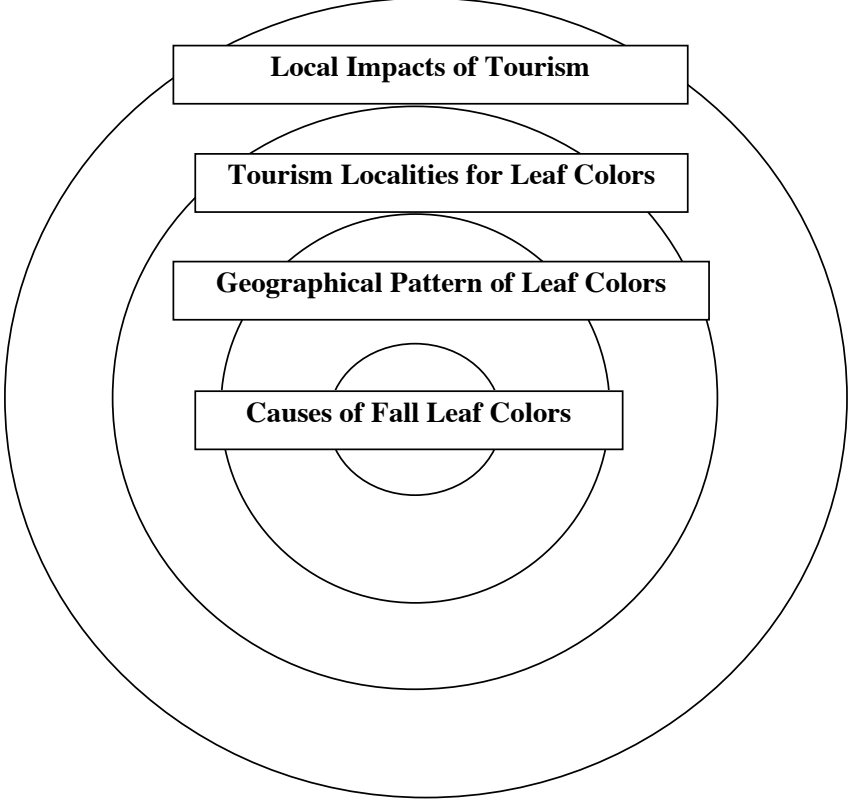
"Why do potatoes contain starch, and seeds contain oil?"

You will represent your topic with: 1) a clearly stated research question that connects plants and people; and 2) a *target diagram* with *conceptual levels*. Your target diagram should include at four conceptual levels. Two of the conceptual levels must be directly concerned with plants, and two must be directly concerned with people.

Research Question: Are sunflowers effective in treating depression?



Research Question: Does latitudinal variation in fall leaf colors affect tourism in Eastern North America?



Where can you get ideas for your research question? What resources are available to you? You could rely on one or more of the following:

- your textbook
- any other academic resource in print (for example, other textbooks or scholarly books)
- the popular press (such as The New York Times, or Time magazine)
- the world wide web (a starting point could be the "Botanical links" listed in the instructor's web page: <http://www.rowan.edu/biology/faculty/obrien/index.htm>)
- the instructor
- commercial products (have you read the labels closely on products in your home?)

Research questions that are centered on the following concepts may not be used: alcohol, cocaine, heroin, tobacco, marijuana, or any of the concepts represented in the example diagrams on the preceding page.

Your objective in naming each concept level is to create a "frame" to be investigated more closely. It does not imply that your goal is to consider all aspects of the concept. For example, in the target diagram on the previous page, you would not need to consider all aspects of sunflower biochemistry --- the title of that concept level merely implies that some aspects of sunflower biochemistry will be considered.

Locate at least two references for each of the four conceptual levels of your research question, and at least ten references in total. You may use a reference for two or more concept levels, but you still need at least ten total references. You cannot count your textbook as one of the references. Prepare a list of references with complete citations (see below).

At least one reference for each conceptual level must be from primary scientific literature. (What are examples of primary scientific literature? What are examples of literature that is not primary?)

Are links on the web primary scientific literature? It depends, but many links certainly are not. Articles or similar works electronically published by professional scientific journals generally are often primary references. You can generally expect that most links electronically published in commercial (.com) websites are not primary literature. Neither are most course web pages posted by educators. Articles published in the popular press are uncommonly primary literature. It is important to ask: Who wrote the information, and what is their professional affiliation? Is there any evidence that the literature has been extracted from previously published work? Is there any evidence that the authors have are publishing original results?

What is a complete citation?

If the reference is book or periodical article, it must include the author, date of publication and title. Periodical articles also include the periodical title, the volume or issue number and page numbers. Books must include the publisher. Examples of correct citations are:

Anonymous. 1999. The origin of maize. International Organization of Corn. www.cornstory.edu/summary. (March 10, 2006) [webpage]

Plant, Ima. 1999. The origin of maize. Scientific American 47:121-134. [periodical article]

Plant, Ima. 1999. The origin of maize. Ten Speed Press, Berkeley, CA. [book]

Plant, Ima. 1999. The origin of maize. Pp. 121-134 in Anna People (ed.), *How We Use Plants*. Rowan University Press, Glassboro. [chapter or article from an edited book]

Note: the [bracketed] comments above are strictly for descriptive purposes here. These do not belong in your reference list.

If the reference is a world wide web address, it must include the author's name or the name of the organization, title of the home page, URL address (the "http:" address) and the date of access of the material. Please note that you should cite the home page that is *directly responsible* for posting the material used as a reference: do not cite a link from an outside website as a reference.

Reference list format

Other than following the style in the citation examples above, your reference list should have the following format:

- Arrange the list alphabetically by the last name of the first author.
- Use a consistent format of authors --- do not change them from reference to reference.
- Indent the second line and following lines of each citation.
- Use a consistent format of dates and places --- do not change them from reference to reference.
- Mark the peer-reviewed references (for example, use an asterisk, or bold-faced font.)
- Proofread carefully

Due March 9, in Class:

1) **Two copies** of a target diagram representing your research question, either neatly drawn by hand or prepared with software (this can be done in Word, for example).

2) **Two copies** of a **printed** reference list, including complete citations for **all** references. **Clearly indicate which references are primary scientific literature.**

3) **One copy** of documentation of your references. Printed materials are documented by photocopying the first page only of the reference. If you have no printed references, you need only provide web documentation. Web pages are documented by e-mailing the complete URL ("http:" address) to: obrien@rowan.edu In the e-mail, it is only necessary to provide your name and a working web address directly to each reference. Each reference on a separate line. The complete citation is not necessary. It is your responsibility to make certain that you have provided a working link to your reference.

Mandatory Stapling: The Instructor is Not a Stapling Service!

Staple one copy of items 1-3 together, and separately staple the second copy of items 1-2. The staple must be secure. Assignments not stapled in this fashion will not be accepted.

What happens if you don't follow instructions?

Points will be deducted. The topic may be returned to you ungraded for corrections.

What if my assignment is late?

5 points penalty per day, including weekends and Spring Break. If you turn it in after Spring Break, you would earn no points. In short, git 'er done before Spring Break.

As a reference, here is the form that will be used to evaluate your assignment:

Evaluation of Topic and References
Independent Project: Evaluation of Topic and References
40 points

Name: _____

Target Diagram (10 points) _____

- adequate number of conceptual levels
- two levels consider plant diversity, and two people
- title is concise and descriptive

References (15) _____

- correctly cited
- sufficient number, both in total and for each concept level
- appropriate for your project
- includes correct number of peer-reviewed references

Documentation of your references (5) _____

- URLs submitted by e-mail
- First page of printed references is provided

Correct number of copies (10) _____

Late penalty (5 points deducted per day) _____

Total: _____

Your topic is: approved not approved

IMPORTANT: If your topic has not been approved, a score of zero will be entered for this assignment until you complete the requested work. If no requested revisions are made and the presentation is based on a topic that is not approved, the presentation will also receive a score of zero. [Hint: you should really make revisions, if you're asked to make them ;)]

Explanation, if not approved:

Additional Comments: