

Lab Second Report

Due: October 19, 2006

Lab reports should be word-processed and should begin with a cover page containing the lab title and your name. You must write the report ON YOUR OWN.

For this report, written following the Lab Report Format (see following section), you will combine the data gathered by the whole class.

The following data should appear in your Results section (along with any other observations that you consider important).

1. Tables or graphs to summarize the results of the qualitative tests for the presence of ammonifying and nitrifying bacteria. Don't just report whether a test was positive or negative, but include as well some information on how long it took for positive results to show up and whether the results were weak or exceptionally strong, in order that some meaningful comparisons can be drawn between the soils.
2. If the results allow you to make a quantitative estimate of the microbial activity, do so and explain your methods.

Begin your Discussion section with statements summarizing the class's findings. Where patterns can be discerned, describe them, and attempt to explain them in light of your reasoned expectations regarding the effects that environmental variables (organic content, microclimate, disturbance) of the two sampled sites might have on bacterial activities. Where any group's results (including your own) seem to be at odds with those of most other groups that examined the same soils, you should acknowledge that.

YOU MUST select and use **at least TWO scientific articles** to explain the relevance of your experiment (in the introduction section) and support your conclusions.

All sections except the Methods and Materials should be written in paragraph form with complete sentences. The Methods and Materials sections can be numbered.

Lab Report Format

Abstract: An overview of the entire laboratory. What was the purpose of the laboratory? What did you do? What was the conclusion?

Background Give the reader all of the information s/he needs to be able to understand the experiment, such as the reason for choosing two different sites. Clearly state your question, or what you were trying to find out.

Methods and Materials Explain how you collected the samples and what procedures you followed to test them for microbial activity. Be precise. Someone reading this section should be able to duplicate the experiment to verify the results. This section should be a few paragraphs and no longer than one page.

Results What did you find out? This section should be a description of all the data (observations, measurements, tables and graphs) that were collected and the results of your analysis. Tables and graphs must be clear, numbered, and have a title. Use the numbers to refer to these results when you discuss them

Conclusion /Discussion Answer the problem or question you started with, if possible. Remember, all experiments teach us something, even if they do not answer the question you asked. Some experiments have inconclusive results. Refer to the data to back up and support your conclusion.

List of cited references You must cite all information gathered from your sources according to the guidelines (see next section) used by major scientific papers.

Referencing and Literature Citation

You must cite all information gathered from your sources, whether or not the information is presented as a direct quotation. **In the body of the paper** you must use parenthetical notation (author's name and date) next to the information you have gleaned from that paper. Below are a few ways to construct a citation in the text. Note that only a direct quote from a source is put into quotation marks, that "*et al.*" is used when there are more than two authors for a citation, and that multiple citations are listed alphabetically.

Television is topic of great interest to college students (Prop al., 1999; Micro, 2003; Vett and Mist, 2000).

According to Prop (2003), infants are not very interested in human reproduction.

When offered textbooks on poetry, teen-agers ignore them (Prop, 2003).

Micro et al. (1999) and University Trends Site (2002) found that

In the literature cited section, list all citations alphabetically by author. Do not include papers not cited in the text, even if you read them. If you used a chapter from an edited volume, the author's name is cited, not the book editor. The following examples are a journal article, a chapter from an edited book, a book, and a web site.

Gina, V.A., O. Varies, F.A. Lopian and C. Ervix. 1999. College students and the study of human reproduction. *J. Reprod. Res.* 45:136-155.

Terus. U. 2003. Juvenile and adult responses to human reproduction. In P. R. Ostate and S. Emen (eds.), *Human reproduction across the ages*, pp. 67-93. Wile E. Kyote Press., Ithaca, New York.

Varies, O. and T. Estes. 2000. *College students' study topics*. Hotoff Press, Chicago.

University Trends Site [web page] 15 March 2002; <http://www.univ.trnds.edu/repr/info.html> [accessed 10 August 2002].

Web citations should be listed by author(s). *Title of Article. [web page] date of publication or date last modified; the URL. [date you accessed it]. Be sure to have the correct URL.*

Special Note: Anything discussed in your paper should come from articles you have read personally. However, on rare occasions you may need to use information cited in a paper and you can't get the original journal article*. In such an infrequent event, you will need to cite the information in your text as shown below. In the literature cited section you would include the complete references for BOTH Cowpers, 1996 and Varies and Estes, 2000.

Eighty-six percent of college students have relatives who read books about reproductive biology (Cowpers, 1996, cited in Varies and Estes, 2000).