

BIOLOGY 4454/5454

FORMAL LABORATORY REPORTS

Dr. Jim Bidlack

FORMAL LABORATORY REPORTS

There are five (5) formal lab reports that are required for this class and they must be handed in before class **ON THE SPECIFIED DUE DATE**. Reports will be graded on the basis of completeness, organization, clarity, neatness, and creativity. Lab reports with improper organization and/or excessive spelling or grammatical errors will not be acceptable. The format for your lab reports will be as follows:

Title: Try to convey the objective of the experiment(s) in a brief title. For example, “Use of Polyacrylamide Gel Electrophoresis for Protein Qualitative Analysis.”

Introduction: Briefly explain the purpose of the experiment(s) and give the reader an idea of practical applications. This should be about 1 to 4 sentences in length. You will be required to integrate at least one reference in this section.

Materials and Methods: Provide a summary of materials used and procedures implemented during the experiment(s). Make it short and simple. Briefly explain how equipment and specimens were used. This section should be less than one paragraph in length.

Results and Discussion: Include all of your observations, drawings, and results with the laboratory report. Highlight the major points of the experiment(s) and provide a discussion of your results. This is the most important and exciting part of your laboratory report. You will be required to integrate at least one reference in this section.

References: List at least two references - one from the Introduction and one from the Results and Discussion. You may include additional references, but they must also be integrated in the formal lab report. An example of how to integrate references and how to list them in the References is shown on the back of this handout.

EXAMPLE

INTRODUCTION

Digestibility and potential intake of forages by ruminants is associated with cell wall (CW) and CW component concentration (Van Soest and Robertson, 1980; Waldo, 1985). Of CW components, lignin is usually the factor correlated with lowering digestibility of maturing forage tissues (Harkin, 1973; Buxton et al., 1985; Buxton and Russell, 1988; Jung, 1989).

REFERENCES

- Buxton, D. R., and J. R. Russell. 1988. Lignin constituents and cell-wall digestibility of grass and legume stems. *Crop Sci.* 28:553-558.
- Buxton, D. R., J. S. Hornstein, W. F. Wedin, and G. C. Marten. 1985. Forage quality in stratified canopies of alfalfa, birdsfoot trefoil, and red clover. *Crop Sci.* 25:273-279.
- Harkin, J. M. 1973. Lignin. p. 323-373. In G. W. Butler and R. W. Baily (ed.). *Chemistry and biochemistry of herbage*. Academic Press. New York, NY.
- Jung, H. G. 1989. Forage lignins and their effects on fiber digestibility. *Agron. J.* 81:33-38.
- Van Soest, P. J. and J. B. Robertson. 1980. Systems of analysis for evaluating fibrous feeds. p. 49-60. In W. J. Pigden, C. C. Balch, and M. Graham (ed.). *Proc. Int. Workshop on Standardization Anal. Methodology Feeds*. Ottawa, Canada. 12-14 Mar. 1979. Unipub, NY.
- Waldo, D. R. 1985. Regulation of forage intake in ruminants. Forage legumes for energy efficient animal production. p. 233-237. In *Proc. Trilateral Workshop, Palmerston North, New Zealand*. 30 April-4 May, 1984. USDA Agric. Res. Serv. Washington, D.C.