

History of Bacteriology at Butler University

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A course in general bacteriology has been offered at Butler University for twenty years. It has been given within the Department of Botany, was first organized and taught by Dr. R. C. Friesner, and since 1926, has been taught by the writer. The course has not been planned for any one particular group of students and almost every year the class has been composed of students with various major interests, such as home economics, chemistry, pre-nursing, botany, zoology and pre-medical technology. Another large group of students has included those who are interested in work in industrial and government laboratories and who wish to prepare themselves more adequately for such service. This is particularly true of those who have taken the course in the evenings.

The content of the course has, from the first, been rather unusual at Butler University in that it is organized to permit every student to learn to carry out the complete technique in each laboratory exercise, rather than having laboratory assistants hired to run the autoclaves, tend the incubators, prepare the culture media and wash the dishes. This has made it necessary to limit the course to a small number of students at any one time, the maximum now being sixteen. However, those few receive a training which is so complete and thorough that they have an excellent comprehension of the subject and of the special laboratory technique which is a necessary part of the field of study.

From the time the course was first organized, particular stress has been laid on the identification of bacteria, each student being given the problem of attempting to identify to species three "unknowns." This takes the student almost one month and we have found it to be an excellent exercise to give to him, not only an insight into taxonomic bacteriology, but also additional experience in staining, culturing, measuring, checking for spores, testing for physiological characters, etc.

Nine years ago, a course in Applied Microscopy was organized and offered by the writer. It was intended primarily for those students interested in microscopic analysis of tomato products, dairy products, ground foods, fibers, lumber, etc., but it has turned out to be a course to be recommended for all students majoring in botany or microbiology. It includes a considerable amount of microbiology, such as the culturing and identification of molds, the recognition and counting of bacteria in milk and the qualitative and quantitative study of plankton. The morphology and the identification of plankton and of other algae are cared for in the courses in phycology which have been given at Butler University for about fifteen years.

These three fields, bacteriology, microscopy and phycology, constitute the work in microbiology offered at Butler University. The

laboratory manuals for all three courses have been edited and mimeographed at the university. The one for bacteriology is now in its fourth edition.

Students who wish additional training in the field of microbiology have been given specific problems to work on and are required to report in writing the results of their research. Frequently these problems have dealt with the analysis of foods in the condition which they reach the consumer; and such problems, long neglected, have turned out to be very stimulating ones for the students. Some of this research, carried on by graduates, has been published in the Butler University Botanical Studies.