

BACTERIOLOGY

Chairman: F. A. MILLER, Eli Lilly & Co.

Dr. Stanley E. Hartsell, Purdue University, was elected chairman of the section for 1947.

ABSTRACTS

Mycology for the Bacteriologist. C. L. PORTER, Purdue University.—The Bacteriologist has regarded the fungi in the past as some of the less promising step children of his family of microorganisms. The many new industrial and medical products, results of fungus fermentations, have given the fungi preferred standing with the Bacteriologist. The mycological training of most Bacteriologists is inadequate to cope with fungus problems in the most efficient manner. The author outlines areas of information which should be considered as the minimum essentials of Mycological training.

Biosynthesis of Penicillins. OTTO K. BEHRENS, Lilly Research Laboratories.—Early in the course of the program on the determination of structure and synthesis of penicillin it became apparent that the synthesis was by no means assured. Interest in biological production was therefore maintained. It seemed probable that one of the factors limiting the biological production was the mold's metabolic inability to supply one or more of the fragments which appear in the penicillin molecules. This has been found to be the case. Additions to the medium of certain precursor compounds which provide the acyl portion of the molecule either directly or after metabolic transformation, cause a marked stimulation in yield. This work has also led to the discovery that use can be made of precursors to induce the formation of new penicillins containing different acyl groups. In many cases these new penicillins are formed in good yield (60 to 100 percent of the total penicillin formed). A number of the new penicillins have been crystallized and characterized.

On Friday afternoon the Bacteriology Section met with the Indiana Section of the American Society of Bacteriologists where the following program was presented:

1. Interference between the Cambridge Swine Strain of Influenza and the PR8 Human Influenza Virus. M. Michael Sigel, 1st Lt., SnC. Fort Benjamin Harrison.

2. The Experimental Evidence Supporting Canine Anti-rabies Vaccination. Samuel R. Damon, Bureau of Laboratories, Indiana State Board of Health, Indianapolis.

3. A Method of Inoculating Embryonated Eggs for the Propagation of *Rickettsia prowazekii*. H. A. Dettwiler and F. A. Darling, Lilly Research Laboratories, Indianapolis.

4. Estimation of Biological endpoints by semi-logarithmic graph paper. Frank Streightoff, Lilly Research Laboratories, Indianapolis.

5. On the relation between penicillin resistance and production of penicillin inactivators in staphylococcus. S. E. Luria and Rachel M. Arbogast, Indiana University and Indiana and Carnegie Institution, Cold Spring Harbor, N. Y.

6. Improving Streptomycin yields by strain selection and inoculum development. Alfred R. Stanley, Research Department, Commercial Solvents Corp., Terre Haute.

7. Nutrition of *Streptomyces griseus* in relation to Streptomycin titer. Ralph E. Bennett, Research Department, Commercial Solvents Corp., Terre Haute.

8. Isolation of a pure culture of a cellulose digesting bacterium. L. Y. Quinn, Bacteriology Department, Purdue University.

9. Use of kittens for demonstration of enterotoxin production by strains of *clostridium prefringens* implicated in human food poisoning. Rafael Marinelarena and L. S. McClung, Bacteriological Laboratories, Indiana University.

10. Flagellar and Somatic agglutination of *clostridium bifermentans* and *clostridium sordelli*. Helen Michael and L. S. McClung, Bacteriological Laboratories, Indiana University.

11. Lecithinase production by *clostridium hemolyticum*. L. S. McClung and Ruth Toabe, Bacteriological Laboratories, Indiana University.