The Utilization of Various Carbon Compounds by Nocardia Corallina and Nocardia Asteroides[1]

J. B. CLARK and LESLIE L. HITTLE

University of Oklahoma, Norman

McClung (1954) studied 43 isolates of *Nocardia* species, two strains of *Streptomyces*, and *Jensenia canicruria* for their ability to utilize 39 carbon compounds as the sole source of carbon in a chemically defined medium. This was a study for the possible classification of such species by correlation between morphology and metabolic characteristics. Webb, 1956, studied the utilization of various carbohydrates, fatty acids, and amino acids as sole sources of carbon for *Nocardia corallina*, ATCC 4273. Batt, Maurer, Midwinter (1961 examined the range of biochemical activity of *Nocardia corallina*, strain S, with 160 carbon compounds using standard manometric procedures. They found that many of the carbon sources were used immediately, fewer were used after a time lag, and many were not utilized at all.

The standard procedure of testing for substrate utilization by determining acid production is not satisfactory with *Nocardia* because of the proteolytic activity of these organisms. Therefore, the only acceptable approaches are the testing of utilization of a compound as a sole carbon source in a basal medium, or by resorting to manometric procedures to measure oxygen uptake. In the work described here, oxygen uptake was used as the criterion of utilization of various carbon compounds.

[1]This work was supported in part by a grant from the National Intsitute of Allergy and Infectious Diseases, U.S. Public Health Service, under contract E-3923.

LITERATURE CITED

Ginsberg, D. M. and J. Jagger. 1962. Possible errors arising from the use of fritted-glass filters for bubbling of cell suspensions, especially in irradiation experiments. J. Bacteriol. 83: 1361-1362.