POSSIBLE USE OF ROSE BENGAL AGAR AS DIFFERENTIAL MEDIUM FOR THE ISOLATION OF BACTERIA IN THE FAMILY RHIZOBIACEAE

S. J. R. GAMBLE AND FRED S. ORCUTT

Department of Biology, Virginia Polytechnic Institute, Blacksburg, Virginia

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The rose bengal agar developed by Smith and Dawson (Soil Sci., 58, 467–471, 1944) to count soil fungi has a number of advantages over the normal acidified medium. In addition to having a neutral pH, the dye in the medium will confine the growth of the fungi, particularly those showing aerial and spreading growth. These authors note, however, that a few bacteria are tolerant of the rose bengal used in this differential medium and characterized them as “soft, raised, glistening colonies that would not be confused with the fungal colonies.”

Mold counts using rose bengal agar were made in this laboratory involving approximately 500 plates. Although no accurate check of the numbers of bacterial colonies was made, the incidence of these colonies provoked a preliminary study. After isolating about 50 of the colonies, all were found to be small, gram-negative rods. Good growth was obtained on ordinary glucose nutrient agar. Further tests showed utilization but no acid or gas on lactose, glucose, or sucrose. These preliminary tests suggest that most if not all of the bacterial colonies observed on the rose bengal agar used for isolating molds belong to the family Rhizobiaceae. There is a possibility that this medium may prove useful as a differential medium for isolation of bacteria in this Family.

ISOLATION OF BACTERIAL, CELL-FREE, STARCH SACCHARIFYING ENZYMES FROM THE MEDIUM AT 70 C

EGON STARK AND P. A. TETRAULT

Laboratories of Bacteriology, Department of Biological Sciences, Purdue University, Lafayette, Indiana

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Militzer, Sonderegger, Tuttle, and Georgi (Arch. Biochem., 24, 75, 1949; 26, 299, 1950) and Militzer and Tuttle (Fed. Proc. Am. Soc. Biol. Chem., 10, 224, 1951) described a heat stable malic dehydrogenase, cytochrome oxidase, cytochrome c and adenosinetriphosphatase, obtained at 65 C from a stenotherophilic bacterium, strain no. 2184. They were not able to demonstrate amylase or protease formation in the medium at this temperature because the protein precipitates were without activity.

Insenecki, Solntzewa, and Kuzyurina (Mikrobiologiya, 11, 29, 1942) reported

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