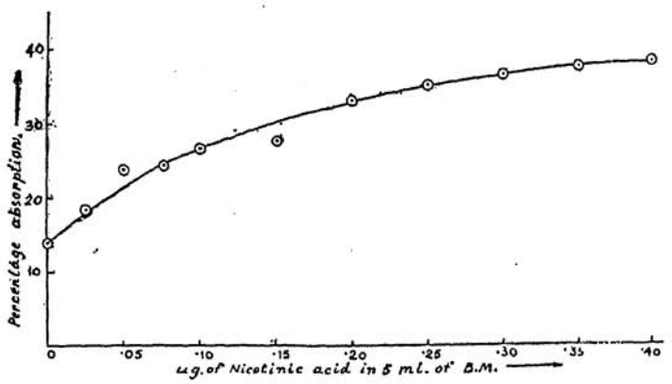
MICROBIOLOGICAL ASSAY OF NIACIN WITH A SACCHAROMYCES Sp.? ISOLATED FROM COCONUT TODDY

THE vitamin requirements of this organism have been determined and the indispensability of niacin and inositol for its growth established.[1] It was of interest to examine the adaptability of the organism for the assay of niacin, and determine the range of concentration which could be estimated.

Basal media containing all vitamins but niacin were compounded. 100 ml. of the medium contained :—Glucose 5 gms., ammonium sulphate 0·4 gm., *l*-aspartic acid 10 mg., *l*-tryptophane 1·2 mg., *l*-cystine 4 mg., *dl*-methionine 4 mg., thiamin 80 μg, riboflavin 80 μg, pyridoxine 80 μg, pantothen 80 μg, *p*-amino-benzoic acid 80 μg, blotin 100m μg inositol 200 μg, solution of salts 12·5 ml. and citrate buffer (pH 4·6) 10·0 ml.

Aliquots of the medium (2 ml.) were distributed into sterile tubes (22 mm. × 150 mm.), graded amounts of niacin added and the volume made up to 4·5 ml. with sterile water. The tubes were inoculated with a washed and uniform suspension of the organism (previously grown on an all-vitamin medium for 24 hours) and incubated for 24 hours at 28° C. Growths of the organism were photoelectrically measured and the results expressed as percentages of absorption (see Table I and Fig. 1).

Medium with μg Niacin	0·0	0·025	0·05	0·075	0·1	0·15
Per cent. absorption	14·5	18·5	24·0	24·5	26·0	27·0
Medium with μg Niacin	0·20	0·25	0·3	0·35	0·4	0·5
Per cent. absorption	32·5	34·5	36·0	37·0	37·5	38·5



It is concluded that (1) the organism is adaptable for the assay of niacin and (2) the assay-range lies between 0 and 0·04 μg per ml., and this method appears to represent a more sensitive method of assay than others so far known.

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1 Ramachandra Rao, Mistry and Sreenivasaya, *Curr. Sci.*, 1947, **16**, 145.