

acid has been found recently in several lactic acid bacteria.⁸

The authors wish to acknowledge with thanks the gifts of nicotinic acid and N'-methyl nicotinamide kindly provided by Dr. E. Kodicek and Dr. H. P. Sarett.

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SUPPLEMENTARY NUTRITIVE VALUE OF SOME SUBSIDIARY CEREALS

DURING recent years unfamiliar cereals such as 'Kodra' (*Paspalum scorbiculatum*), 'Rajgira' (*Amaranthus paniculatus*) and 'Wari' (*Panicum miliaceum*), have been used to supplement the staple food grains like rice and wheat. The supplementary nutritive value of these food-stuffs was studied by the growth and nitrogen balance methods and the results are reported here.

1. *The protein being supplied by the cereals under test and red gram (Growth Method).*—24 albino rats, 40-50 g. in weight, were divided into 4 groups and given a diet containing 8 per cent. protein, of which 3.25 per cent. protein was derived from the different subsidiary cereals under test in each group and the rest was from the pulse red gram (*Cajanus indicus*).

TABLE I
Biological values of mixed proteins of subsidiary cereals and red gram

Group	Wt. of rats in g.		Gain in wt. I	Duration in weeks	Food intake in g.	Protein intake in g. P	I./P.	
	Initial	Final						
Rice + red gram	..	43	85	42	11	376	30.08	1.483 ± 0.55
Wari + do	..	43	68	25	11	378	30.24	0.837 ± 0.23
Rajgira + do	..	43	81	38	11	372	29.76	1.253 ± 0.45
Kodra + do	..	43	102	59	11	472	37.76	1.595 ± 0.36

The rest of the diet consisted of 8 per cent. groundnut oil, 4 per cent. salt mixture (Osborne and Mendel), 1 per cent. shark liver oil (containing 1,000 I.U. vitamin A and 100 I.U. vitamin D per gram), the whole being made to 100 g. with starch. Animals were also given 0.1 ml. of vitamin B complex solution containing thiamine 25 mg., riboflavin 20 mg., calcium pantothenate 100 mg., pyridoxine hydrochloride 25 mg. and niacin 100 mg. in 100 ml. Food consumption was recorded daily and animals were weighed twice a week. The results are given in Table I below.

Of the four diets investigated, that containing the proteins of red gram and Kodra was found to have the highest biological value, whereas the Wari-red gram mixture had the lowest biological value.

2. *The protein being supplied by the cereal under test and rice (Nitrogen Balance Method)*—Here adult albino rats weighing 150-70 g. were used. The diets contained 5.68 per cent. of protein, half of which was derived from rice and the other half from the different cereals under test. In all other respects the diets were similar to those used in the growth experiment. The technique employed is similar to that used by Chick *et al.*^{1,2} and Swaminathan.³⁻⁵ The results obtained are given in Table II below.

TABLE II
Biological value of mixed proteins of rice and the subsidiary cereals

Group	Biological value %	Digestibility coefficient
Rice alone	.. 89.8 ± 0.8	86.9 ± 1.1
Rice + Wari	.. 71.8 ± 5.8	90.5 ± 2.3
Rice + Rajgira	.. 86.2 ± 4.2	88.3 ± 1.8
Rice + Kodra	.. 91.5 ± 2.1	89.6 ± 2.4

It is clear from the table that the Kodra-Rice and the Rajgira-Rice diets give almost the same biological values as the rice diet alone. Wari is definitely inferior to the other cereals tested,