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WHEAT bran has been frequently used as an ingredient in media for culturing micro-organisms. Good results have been recorded from this laboratory for penicillin production by *P. notatum*[1] and streptomycin formation by *S. griseus*[2]. Detailed systematic investigations carried out to discover the factors in wheat bran extract responsible for these results have shown that the ash of the extract is mainly concerned so far as streptomycin is concerned.

Streptomycin fermentations were conducted in a manner described previously[3]. Streptomycin titre and the reaction of the culture fluids were studied daily. Antibiotic activity was determined from a standard curve obtained by the cup plate method. The following media were used :

I. Aqueous extract of wheat bran with total solids adjusted to 2 gm. per 100 ml. ; pre-adjusted to *p*H 6·8.
II. 'Difco' peptone, 0·5 gm. ; glucose, 1·0 gm. ; sodium chloride, 0·5 gm. ; distilled water, to 100 ml. ; pre-adjusted to *p*H 6·5–7.

The inoculum consisted of a spore suspension of a Waksman's strain of *S. griseus*. The ash of the wheat bran extract was obtained by heating the total solids in an electric furnace at a temperature of about 1,000° C. for 10–14 hours. No attempt was made to dissolve the ash before adding it to the medium.

The accompanying table shows that addition of the ash at 500 mgm. per 100 ml. to medium II increased the streptomycin production to practically the same as that when *S. griseus* was grown in medium I. The ash content of medium I is 453 mgm. per 100 c.c.

Effect of wheat bran extract ash on streptomycin formation

Medium	Ash in medium (mgm./100 c.c.)	Reaction of medium (days)						Streptomycin in μgm. per ml.					
		4	5	6	7	8	9	4	5	6	7	8	9
I	Nil	7·1	7·2	7·6	7·7	7·9	7·9	69	111	114	109	92	91
II	Nil	6·9	7·4	7·4	7·5	7·6	7·6	24	24	25	28	24	24
	100 mgm.	7·1	7·2	7·3	7·4	7·6	7·9	24	28	36	64	64	48
	200 ,,	7·3	7·3	7·4	7·6	7·8	7·9	22	28	45	78	76	78
	400 ,,	7·4	7·5	7·6	7·8	7·9	7·9	28	28	54	98	85	88
	500 ,,	7·5	7·6	7·8	7·9	7·9	7·9	25	28	61	108	93	92

A similar observation regarding the role of inorganic constituents of corn-steep liquor in penicillin formation has been recorded[4]. Recently fatty acid-like components have been isolated[5] from solid wheat bran, and it has been suggested that these might explain the good antibiotic production by micro-organisms in wheat bran. Neither the aqueous extract of wheat bran used by us nor its petrol-soluble fraction has shown any antibacterial activity. The data presented above suggest that the good yields obtained by using the bran or its aqueous extract is independent of any influence likely to result from the antibacterial activity of the fatty acid component of the bran. Further work regarding the role of the different elements present in the ash is in progress.

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