EXPERIMENTS IN THE PREPARATION OF PENICILLIN FROM LOCAL RAW MATERIALS

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With 1 photograph in the text

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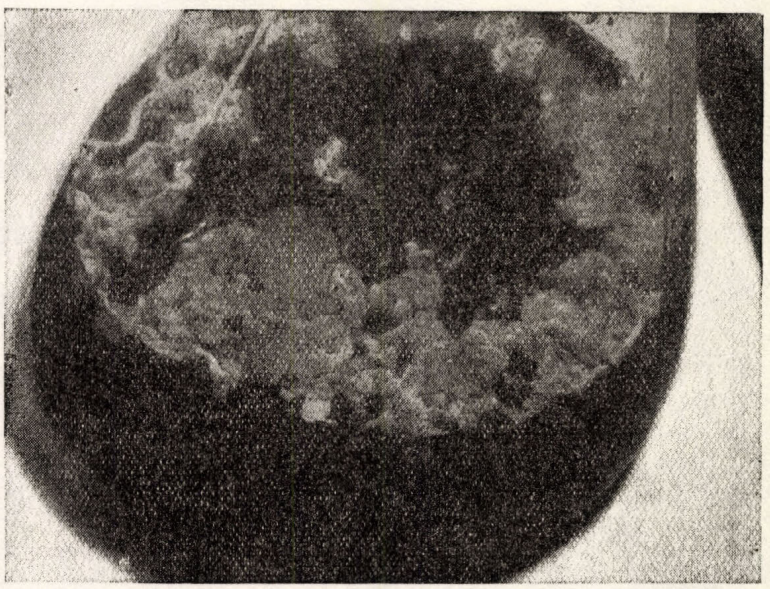
The purpose of these experiments was to make use of cheap local raw materials for cultivating *Penicillium*, and producing penicillin. It was our idea to seek first of all a complex organic material which, besides



Penicillium culture.

being a source of nitrogen, possessed substances which stimulate growth. The most expedient for this purpose seemed to be sertamin, which is manufactured in this country for cheap alimentation and which is in reality nothing but a strain of beer yeast further cultivated with a top ferment, characterised by its high vitamin and protein content. To prepare it, the yeast suspension heated to 90° C, is dried on a vapour rotary dryer. Aside from the standpoints given above, we turned to this material especially, because we wanted a liquid culture, for which sertamin is particularly suitable, as it is a substance which suspends well. To assure a source of carbon we emplayed buckwheat as chief mass in

the culture medium. To liquify the medium we fermented the milled buckwheat with 5% malt in the presence of a few drops of HCl at 80° C.

The composition of the culture medium was as follows: To a water solution of 0.5% $NaNO_3$, 0.2% KH_2PO_4, 0.05% KCl, and 0.05% $MgSO_4.7H_2O$, which also contained traces of $FeSO_4$, we added 10% buckwheat flour which had previously been fermented with 2% malt. 2% sertamin was finally suspended in the solution thus prepared. The medium was then fixed at pH 7 with NaOH and decanted into 1-liter slope culture retorts. The amount of culture medium was 500 ml. We sterilized the medium at 1.5 Atm. and inoculated it with *Penicillium* from a solid medium prepared for spore formation. In the first phase of our experiments we kept in evidence to what extent the *Penicillium* strain breeds without aeration in the medium described. The accompanyig photograph (Fig. I) shows the increase of the *Penicillium* cultivated for 10 days. Its colour was a homogeneous apple-green. The filtrate contained 25 Oxford U/ml penicillin. Further experiments are in progress.