

vantage. We have not as yet succeeded in obtaining similar results with Fleischmann's yeast treated in the same way.

The slow and lasting action of the yeast substance suggests strongly its non-identity with insulin. It seems possible that the substance undergoes slowly a change into insulin. The demonstration of a blood-sugar reducing substance in various foods will perhaps explain the marked hyperglucemia that one of the authors has described in pigeons on a diet devoid of vitamine B (blood sugar of 30 normal pigeons was found to be 0.170 per cent., of 32 animals fed on polished rice 0.243 per cent., with occasional figures as high as 0.3-0.5 per cent.). It may be that the increase of sugar found is due to deficiency of an insulin-precursor in the food. If this should prove to be true diabetes might be caused by non-functioning of the pancreas, or theoretically, at least, by a deficiency of the insulin precursor in the food.

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Extraction of vitamines from yeast and rice polishings using various water-miscible solvents.

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The comparative values of the following solvents in extracting vitamine from yeast were studied: ethyl alcohol (50, 60, 70, and 80 per cent.), methyl alcohol (60 to 70 per cent.), propyl alcohol (70 per cent.), butyl alcohol (70 per cent.), isobutyl alcohol (70 per cent.), acetone (70 per cent.), methyl ethyl ketone (70 per cent.) and acetic acid (70 per cent.). The extracts and *residues* were tested on pigeons and rats, and the extracts were also tested for their content of vitamine *D* (yeast growth), co-ferment, total nitrogen and total solids.

If inactivity of residue be taken as a criterion, then 70 per cent.

alcohol has proved to be the best solvent for vitamine among the solvents used. If, however, we stress not only the activity of the extract, but also the quantity of nitrogenous and other impurities accompanying the extract (selecting the one that gives a minimum of such impurities), then the best among the solvents is acetone.

Vitamines *B* and *D* tend to run parallel with one another, so that, as a rule, the higher the content of vitamine *B*, the higher in vitamine *D* is the extract apt to be.

The co-ferment shows no definite relation to either vitamine *B* or *D*.

On the whole, the higher the nitrogen content of the extract, the greater the percentage of total solids, and the greater the activity of the extract.

Using these solvents on rice polishings instead of on yeast, we find that 60 per cent. alcohol is better than 70 per cent.

The extracts from rice polishings seem to be particularly active when tested on rats, and, by comparison, far less so when tested on pigeons.

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Clinical results obtained with *bacillus acidophilus*.

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1. A series of 30 constipated subjects were under observation before, during, and after treatment with *B. acidophilus*. A comparison of these periods shows that the number of normal defecations has been significantly increased during treatment. The usual daily dose was 1,000 c.c. containing 200,000,000 viable *B. acidophilus* per c.c.

2. The beneficial influence of *B. acidophilus* usually persists for a considerable period of time after treatment has been stopped. Patients have been observed for from one week to about