

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

one year after treatment and almost without exception all have had more normal defecations after, than before, treatment.

3. The use of lactose during and after ingestion of *B. acidophilus* does much to enhance the beneficial effects.

4. A transformation of the intestinal flora from a proteolytic to an aciduric type as shown by microscopic and plate counts may generally be induced. Such transformation is usually accompanied by almost daily defecations regardless of the severity of the constipation.

5. Two cases of diarrhea have been successfully treated by the ingestion of *B. acidophilus*.

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Studies on the nature of bacillus acidophilus therapy.

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1. In order to study the influence of physical and chemical factors, *B. acidophilus* milk was centrifuged and run through a Mandler diatomaceous filter. Thus the chemical constituents were little altered. When fed to constipated patients it was practically without effect. Regular *B. acidophilus* milk ingested subsequently resulted in an increase in the number of normal defecations.

2. *B. acidophilus* milk was sterilized and lactic acid added, thus again approximating the original chemical composition. When fed to constipated patients, little change was noted. Regular *B. acidophilus* milk ingested subsequently resulted in an increase in the number of normal defecations.

3. These data indicate that *B. acidophilus* therapy is essentially bacteriological rather than physical or chemical in nature.