

Germ of Health

SOME germs promote health and life, instead of acting as enemies.

Elie Metchnikoff, pioneer Russian bacteriologist, found a connection between the long and healthy lives of Slavic peasants and their habit of using large quantities of sour milk. Milk is soured by a particular kind of bacillus, and this bacillus seems to be a very assertive kind of a creature, quite unfriendly toward almost all neighbors. At any rate, it makes life impossible for the swarming miscellaneous mob in the digestive tract, that so readily poisons us and makes us feel headachy and miserable. So now we have "acidophilous milk," inhabited by a particularly husky strain of this milk-souring bacillus, sold at many groceries and all the drugstores.

To some animals, microbes are necessary to life itself. The classic example is the termite. Termites eat wood, as many of us know to severe cost. Termites live on wood, yet they cannot digest wood. Termites with their bellies full of well-chewed wood will starve to death, unless they also have in their insides a population of a certain species of protozoön, which do their digesting for them. It was long thought that termites were the only insects thus dependent for their digestive powers upon microorganisms, but the same condition has been found in others, notably certain forest-inhabiting cockroaches, which are zoological second-cousins of termites.

A curious situation, that may involve the activities of internal microorganisms (possibly bacteria) has been turned up recently at a number of widely separated research centers. It was found that hoofed animals could put on flesh when a considerable part of their ration consisted of inorganic nitrogen compounds. This is completely unorthodox, for all animals are supposed to be able to form their

own proteins only out of the broken-down proteins of plants or of other animals. Only plants are supposed to be equipped to make proteins out of inorganic substances containing nitrogen. The explanation, very cautiously and tentatively offered, for this unanimal-like conduct on the part of the livestock was that bacteria or other organisms in their digestive tracts built up proteins out of the inorganic salts, and that the animals then digested the proteins.

Microbial assistance to larger plants is of course an old story. Here the classic examples are the legumes, plants of the pea-bean-clover family. Just as animals are supposed not to be able to make proteins except out of previously-existing proteins, the higher plants are unable to capture and weave into their life substance any of the almost limitless supply of free nitrogen in the air. But colonies of bacteria that find shelter in lumps or nodules on the roots of legumes do capture this nitrogen and convert it into compounds which their hosts are able to utilize. It is this alliance with nitrogen-capturing microorganisms that makes legumes so useful in maintaining the fertility of the soil.

Science News Letter, May 23, 1942

PUBLIC HEALTH

Live Mouse Found On Airliner From Puerto Rico

THE U. S. Public Health Service has published a report of what it believes is the first discovery of a live mouse on a passenger plane in quarantine.

The animal was found in the galley of an airliner from San Juan, Puerto Rico, after the plane landed at the quarantine station in Miami, Fla.

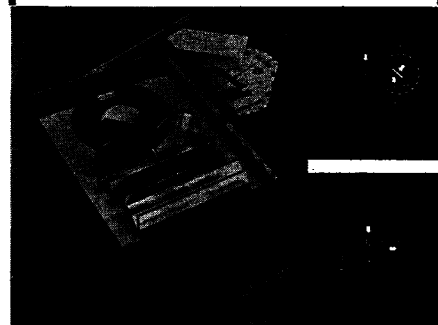
The Federal health service points out that mice have been found to carry the germ of lymphocytic chorio-meningitis, a dangerous but little known disease which attacks humans. More important, they state, is the possibility of plague-infected rats boarding planes unknown to passengers or crew. The possibility is not remote now that foodstuffs, which attract rats, are carried in increasing amounts by transport planes for passenger meal service.

Plague germs have been found on fleas from rats and wild rodents in a number of western and mid-western states.

Redoubled vigilance on the part of plane companies and quarantine officers is urged.

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