

Commercial production and distribution of breast milk has for some years been carried on by institutions in a number of cities, so that mothers who have a surplus of milk can sell it for the benefit of young babies whose mothers cannot supply it.

Attempts to preserve this milk, so that its use could be extended, have been made, and experiments with animals show that dried human milk retains much of its nutritive value. The feeding experiment made by Dr. Emerson with the baby squad is the first practical application of the investigation.

Importance of the situation is indicated by the statement made by Dr. B. R. Hoobler, of Detroit, who has pointed out that the greatest percentage of infant mortality is among premature and sickly infants during the first one or two months of life. There seems to be no satisfactory substitute for breast milk so far as these young babies are concerned, he declared, and if breast milk were available many of these lives could be saved.

BLISTER RUST THREATENS SUGAR PINES OF THE WEST

The blister rust which has wrought such havoc with the white pines of the East is less than two hundred miles from the great sugar pine forests of Oregon and California. The western white pine and sugar pine are among the most valuable timber trees of the West, and the Federal Government, itself a large owner of these species in the national forests, is vitally concerned in their preservation from the pest.

S. B. Detwiler, in charge of the office of blister rust control, U. S. Department of Agriculture, stated that recent advances of the rust while greatly to be regretted were inevitable; The continued spread of the disease is to be expected until it reached the limits of white pine growth, but while it can not be prevented it can be materially slowed down.

The Bureau of Plant Industry has had under way a program of local control in the East since 1922. Through the cooperation of state forestry officials and state extension agents efficient measures have been in operation that have cut down appreciably the loss in the white pine forests of New York and New England.

Curiously enough, this parasitic menace of the white pine is eradicated by uprooting currant and gooseberry bushes in the neighborhood of the pine timber stands. The blister rust is a fungus with a complicated life history, part of which is spent on the leaves of the botanical Genus Ribes, a group which takes in all the cultivated and wild currants and gooseberries. It cannot spread from tree to tree like chestnut blight, but has to go from the pine to the leaves of the currant or gooseberry; and this gives the forester the means of control. Trees cannot be conveniently rooted up but bushes can; so all the currants and gooseberries must be eliminated, particularly the cultivated black currant, which has proved to be a host par excellence for rust spores from pine trees even as far away as a mile. For while the spores from pine trees cannot infect other pine trees the ones from currants can infect other currants so that the disease spreads rapidly through a whole patch, thus materially increasing the radius of the spores. The blister rust control agents, with the assistance of state and county officials as well as the general public, are clearing about a million acres of black currants a year in the forest regions of the Northeast.

The blister rust first reached the West at Vancouver, B. C. in a shipment of pine seedlings from France. It was discovered by forest officials in Washington and British Columbia in 1921 and in Oregon in 1922. By 1924 a program was under way to keep it under control, in which Federal and state officials as well as private interests were coordinated.

The vast acreage of western forests, running into millions, made the problem much more difficult than in the East. The first step was to put into effect a field quarantine to prohibit any of the host plants of the rust being shipped into the West. Next a systematic effort was made to completely eradicate the black currant from the states of Montana, Washington, Idaho, Oregon, and California. Through this foresight it is hoped to cut down the chances of infection before it can make any very damaging spread in these states. Already the end of 1925 has seen Idaho and Oregon, practically clear of dangerous black currants.

Effective control work can only be done before the trees are seriously attacked. In consequence a general campaign is under way to educate the people in the knowledge that if the timber is to be saved the currants and gooseberry bushes must go.

PROTECTION AGAINST VOLCANOES URGED

Precautionary measures to prevent loss of life from volcanic disaster are being urged by European scientists.

In a paper published by the Geographical Society of Geneva, Dr. Albert Brun stresses close scientific observation of all the phenomena attending active volcanoes as the best means of guarding against catastrophe. He mentions the study of earthquakes at the volcanoes, registration of sound waves, chemical analysis of gas, use of aviators for reconnoitering and the steady observation of the performances of craters and hot springs as necessary means of being forewarned for trouble.

Dr. Karl Sapper, of the University of Wurzburg, maintains, on the other hand, that the disturbances characteristic of active volcanoes such as appearance of new vents, underground noises, earth tremors, exhalation of gas and the like are not sufficient evidence of a coming eruption. He cites Cotopaxi, Kilauea, Keliet and others as eruptions that have broken out without any such advance warnings. 190,000 people have been killed by volcanoes in the last four centuries, he says. 93 per cent. of which were about the Pacific, the maximum loss having occurred at volcanoes erupting only once with much violence and after a period of long inactivity.

Dr. Sapper advocates as the most effective method of attack, popular propaganda and education of the public in the schools concerning precautions, building sites, steep roofs to shed ash, and readiness to migrate in case of danger. Valley bottoms, the natural paths of the lava flows, should be avoided as places in which to settle. Governmental insurance reserves and rehabilitation are the only means of meeting the emergency of famine and disease, caused by the heavy fall of ash, destructive to plant and animal life alike.