

## SHANGHAI MILK SUPPLY

### The Problem of Dairies Beyond Settlement Limits

To the description given in last week's "North-China Herald" of existing conditions in many of the establishments supplying the local population with milk, the question follows inevitably:—How can these cesspools of disease be made sanitary?

The Mixed Court officials are handicapped, because the proprietors do not often deliver in person the impure product to the Settlement, but delegate these duties to some ignorant coolie, who perhaps further interferes with the milk before the consumer gets it into his possession. The Health Inspectors are also lacking in authority, for though they are cognizant of the exceedingly poor and squalid hovels in which the stock is kept and the methods of handling it, they are powerless to act, for the majority of the dairies are outside the bounds of the Settlement, beyond which lines their powers are purely advisory. The three visited last week by a representative of this paper come within this category. No remedy will be of the slightest use here. It is the greatest part of the problem that so much milk comes from across the borders, and even when the Health Department inspectors can catch the coolies, the Mixed Court magistrate frequently refuses to convict on the ground that there is no evidence of their actually selling the milk.

#### A CAMPAIGN IN VIEW.

At an informal gathering of several members of the community on Wednesday of last week it was decided to attempt some practical step towards eliminating these eyesores and their disease-laden commodity. It was agreed to call in other advocates of sanitation and a further discussion will be held, when the first organized effort will be made to concentrate public opinion on the gravity of the occasion.

Those who have studied the question at all have come to opinions which are to be brought before this gathering. One plan, certain to be introduced, will be the appointment of an official whose duties will be to conduct a thorough investigation of conditions under which milk is produced, paying especial reference to the cleanliness of all persons who come into contact with the animals or the product either in the cooling, straining, or bottling process. Further, he should be a man with highly specialized veterinary training. He should be able to detect the first case of rinderpest, both for sanitary and financial reasons. His knowledge should include a thorough training in dysentery, diphtheria, cholera, cow-pox, and all the kindred fevers, which may be transmitted by the animals to both children and adults. It was actually found that during the past week an at-

tendant at a certain establishment beyond the limits of the Settlement was tending the stock while suffering from scarlet fever.

This specialist should be a man of experience and after he has proved his worth should be given autocratic powers over the dairies: if in his opinion an animal is dangerous to the health of the community, his word should condemn it to death; if a place is filthy beyond remedy, his word should condemn it to fire.

#### HEAVIER PENALTIES.

Another proposal surely to be advanced is that of heavier penalties for infringements of the laws with respect to dilution with water or addition of preservatives, which may be harmful to the consumer's digestion. It has been suggested that a simple expedient for stopping these delinquencies is to raise the fines inflicted: an initial offence to be punished by a fine of \$100, the second to receive three times that amount, while the third to be either a fine of \$500 or closure of the premises as a dairy for a definite period of time.

Another check on dilution can be arrived at by compelling Chinese dairymen to show their books. It has been reliably estimated how many pounds of milk can be produced per cow per month in certain times of the year. By limiting the sales to a normal percentage over this, the law breaker is easily detected if a large excess be found in his possession.

A campaign for "better health" by the aid of printed circulars illustrated with views of the establishments in question, showing the differences found between the best dairies and the worst should also stir up the public to a sharper interest in their own welfare and that of their children.

Without doubt the Municipal Health Department will also bring forward some suggestions as to further necessary measures. This gathering will be but in the nature of the formation of plans to stimulate and interest Shanghai. The Ratepayers' meeting in March will then have some concrete proposals to work upon and get something done before the next warm season.

#### DREADED RINDERPEST AND TUBERCULOSIS.

In the research into the milk problem of Shanghai, there has come to light, besides the filth and general conditions under which the cattle exist, the prevalence of diseases which affect the beast that provides the milk we drink. The two main sicknesses which affect cows are tuberculosis and rinderpest, sometimes called cattle plague, the English for the original German name. The disease is sometimes compared to the typhoid of the human race, its symptoms and course being much the same. The germs are easily transmitted and either direct or indirect—healthy stock being infected by contaminated fodder, litter, clothing, water, sheds, and railway rolling stock. It has even been

shown that men have carried rinderpest from ill stock to perfectly healthy. In the more malignant forms fever often mounts to F. 107 or more, with the characteristic symptomata plainly evident, dulness, irritating discharges from eyes, nose and mouth, shivering fits, infections of the gums, diarrhoea and a general appearance of lassitude. In former times veterinaries were unable to cure rinderpest, but in recent years both preventive and curative serums have been prepared. Pleurisy and asphyxia usually ended the suffering of the animal, before the injection of remedies. The lowering of the temperature and a desire to eat indicates that the animal is on the way to recovery.

But the unlicensed dairyman beyond settlement limits reasons that his customer will not know whether the milk has come from a healthy or a sick cow, and has no scruples against combining the product of the sick and well. The sickly and ill smelling fluid goes into the common vat for distribution to the gullible public, perhaps with water added to give volume. The reader will remember that in a former issue, details were given about dairies visited in which there were stabled stock producing milk totally unfit for human consumption.

The second most common disease among the cattle is tuberculosis. Statistics, reliable in nature, inform us that in European centres more than 15 per cent. of all animals brought to slaughter were infected by the disease. The relation between the human and animal tuberculosis bacilli has long been debated—there being a very striking resemblance in them. Medical men have come to the conclusion that human and bovine germs belong to the same family. This then brings up the question, can the bovine bacilli affect man? and the answer is in the affirmative. Further, that the bovine "kind" are causal agents in the disease in the human being. The manager of the American Milks Products Corporation has stated that in America, if a cow is affected by this germ, not only the cow, but also the entire herd is condemned to slaughter. So highly do the governmental officials fear the spread to man, that the meat is also prohibited from sale in the shops.

#### WHAT MILK SHOULD BE.

The fat content under American Bureau Standard rulings must be 3.5 per cent. Breeds such as the Durham and Jersey often double this figure, though the Holstein, the best average milk producer, by inbreeding may average from 4 to 4½ per cent. Around each globule of fat is a layer of albumen, a substance required by the system. Casein, the protein content in milk, the true food value, should come to about 7 per cent. of the volume, while the other solids totalling not over 2 per cent. are magnesia, calcium or lime, sugar, and iron. The greatest values found in the lacteal fluid are the vitamins, which science has proclaimed as the most necessary to our daily life. The body cannot

make them nor can the body store them, they must be daily introduced into the system. Fodder fed cattle produce the most vitamins, as these organisms are primarily and solely produced by the plant kingdom.

Would goitre, so common in the Orient, come from a properly fed cow, given the minute amount of iodine necessary to prevent it? Would children have rickets and badly diseased teeth if fed on the best milk? Can sick and diseased cattle give off this true and full milk which the consumer thinks he is receiving? Such beasts should be eliminated from Shanghai by authoritative emergency measures. The ratepayers must investigate the dairy question for their own welfare.