

CLEAN MILK

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A single drop of milk may contain on an average about a lakh of bacteria, as sold by vendors in the Coimbatore town. Milk is a very good medium for the growth and multiplication of almost all kinds of bacteria, good, bad and indifferent. Some bacteria such as those that produce curds, cheese etc., are beneficial and useful; there are a great many different kinds of bacteria which may be termed indifferent as they are not useful in any particular manner and at the same time do no harm in any way by their presence and growth in milk. But there is the third class which is positively harmful. Bacteria producing tuberculosis, diphtheria, typhoid, cholera, etc., grow luxuriantly in milk once they find their way in. A noted dairy scientist, Dr. Orla Jensen, claims that in parts of Europe, repeated epidemics of typhoid and cholera have been caused by infected milk. In a hot country like India especially, where milk remains at a high temperature, the bacteria tend to develop most marvellously, a single individual dividing into two within twenty minutes. Hence the need for clean milk containing as few bacteria as possible and no harmful bacteria at all. Even while in the udder, milk contains a few organisms mostly of the beneficial and indifferent kinds except in cases where the cow itself is diseased. The large numbers obtained in milk samples are most often due to outside contamination, e.g. from air and water, unclean vessels and the unclean person of the milker. Therefore, if outside contamination is limited to the minimum, it will be possible to obtain milk which would contain very few organisms indeed. Thus the Government Dairy at Coimbatore by virtue of its being clean, is able to produce milk which contains only about one thousand bacteria in a drop, whereas milk produced by vendors contain about a hundred thousand bacteria in the same quantity.

Cleanliness should be the watchword for every dairyman. The cattle-shed should be thoroughly cleaned and washed before milking. Prior to milking, the bodies of animals should be washed as also the exposed portions of the milkers' body, hands and feet. Great care should be bestowed on the utensils used for milking since it is there that the greatest amount of contamination occurs. The utensils should be thoroughly scrubbed, rinsed in boiling water and drained. If they are to be used in the afternoon they may be kept out in the sun, mouth downwards, to dry. If they are to be used for the morning milking and in the case of a small dairy where only one or two cans are used, they may be kept overnight on the hot fire-place where they will quickly dry. Rinsing the cans the next morning with a little boiling water will remove any ash or dirt, that might have found its way in. It should be also mentioned that any addition of water to dilute the milk is not only bad ethics but also a positively harmful practice as it is possible to introduce through the medium of one ounce of dirty water many millions of bacteria of the worst type.

The consumer should, as soon as the milk is bought, place it on fire and bring it to a boil at least three times, continuously stirring it all the

time to prevent the formation of the 'blanket' of albumin. The milk should now be cooled rapidly in several changes of water in a basin, and the vessel should be covered over with a damp muslin cloth to prevent any dirt falling and flies getting into the milk. Setting the milk vessel in a basin of cool water throughout the day, will keep the milk at a much lower temperature than that of the room and thereby prevent it from getting 'sour.'

A visit to the Government Dairy at Coimbatore to study the different processes the milk undergoes, will be invaluable to any dairyman.

A PLEA FOR THE INCLUSION OF AGRICULTURE IN THE SCHOOL CURRICULUM

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My plea for the introduction of Agriculture into our schools is based on a realization of the imperfections of the present system of education, a subject of frequent comment in the press and on the platform.

The system of education imparted in our country is imperfect in many ways. Nearly 80 per cent. of the population in India live by agriculture and yet we do not find schools in which Agriculture is taught as a compulsory subject. In Japan, a country which has moulded its destiny in the course of the last 50 years by a change in its educational policy, Agricultural schools are to be found in thousands, whereas here they can be counted on one's fingers' ends.

Firstly, in a national system of education due regard must be given to the feelings and sentiments of the people for whom the education is intended. Paulson says, 'The ideal of true national education would not be equal education of all, but, rather, a maximum of individual development corresponding to the infinite variety of tasks, of powers, and of gifts produced by the creative forces of Nature, and the basis of a homogeneous education of the whole people, forming part in its turn, of the universal education of the mankind conceived as an organic whole. And the ideal of a national educational system would be an organization giving every single individual a chance to attain to a maximum of personal culture and social efficiency, according to the natural gifts and the strength of his will.'

Secondly, a too early specialization is insisted upon in the present system of education. This has led to a training of the mind in water-tight compartments and the modern educational product, like the *Kupastha Mandukam*, proverbial 'frog in the well', is entirely oblivious of what is taking place outside his particular sphere. Prof. P. C. Ray, in his address to the University students of Calcutta, deprecated in emphatic terms the meagre knowledge of general subjects possessed by the present-day educated man. No wonder, therefore, if a History student does not know how rain is caused or a Science graduate 'who Queen Elizabeth was'. To quote Sir P. C. Ray's words, 'Something of everything should be offered,