

THE HYGIENIC CONTROL OF THE MILK SUPPLY.

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(MEMBER.)

THAT the present conditions under which milk is supplied are unsatisfactory from the hygienic point of view need not be laboured, it is well known. The recognition of the evil demands consideration as to how to remedy it. Some with a touching faith in the power of education believe that when the state of affairs is more widely known amongst consumers, matters will adjust themselves, and education is all that is needed. Others at the opposite extreme—at present voices in the wilderness—cry that no remedy short of the municipalisation of the whole milk supply will avail.

Between these two extremes are those who consider either that a better enforcement of present powers, or the addition of fresh ones, are measures adequate to give the necessary protection to the public.

Whatever be the remedy it is certainly for medical officers of health and those interested in sanitary progress to discuss together these matters, and if possible to arrive at united opinions. We cannot expect fresh laws if experts on the subject are at variance.

I think there can be no doubt that the present legal enactments are insufficient to preserve the purity of milk. Rural authorities are not inclined to go to the expense of seeing that all milk is produced under the best conditions, and there are no powers to compel them to do so; cows can be diseased and still be used for milking purposes, etc. In these and many other directions alterations in the law are required, but there is considerable difficulty in saying what steps are practicable and beneficial to the public. No doubt, medical officers of health could draw up regulations which would effectively control the milk service, and establish

a pure milk supply, but we have to consider what measures are likely to be considered by Parliament, and we must avoid, if possible, any steps which would cause an increase in the retail price of milk.

As practical men working amongst a conservatively minded people with a genius for compromise, it is obvious that when fresh legislation takes place it will not be a complete change, but the alterations of existing enactments.

Short of drastic alterations there are, however, a number of comparatively simple powers wanted which, while not burdensome or unduly restrictive, would yet materially improve the condition of vended milk. I do not advance the following considerations as in any way a complete solution or as altogether new, a number of them have been advocated before, but as stated above we need a united front, and a united and therefore authoritative opinion, and to obtain it, frequent discussion among ourselves is imperative.

(1) The present state of affairs whereby we have to register any cow-keeper, dairyman or purveyor of milk who applies, is most unsatisfactory. Their premises may be unsuitable, but the only course is first to register them, and then take proceedings for contravention of the Dairies, Cowsheds and Milkshops Orders, or of the regulations made under them.

We require powers to prevent the registration of unsuitable premises. The present method may seem efficacious, but everyone with practical experience of sanitary authorities knows that there is a vast difference between taking action against an accomplished deed and action to prevent a thing being accomplished.

What seems to me to be required is a definite enactment that no persons shall be registered until their premises have been licensed and certified to be suitable, in accordance with the regulations of the local authority, and that such licenses be not granted for more than three years. Such powers should not be burdensome, and they would ensure periodical inspection. In particular they would, I believe, largely aid in the prevention of the sale of small quantities of milk from small general shops. As we all know, a large amount of milk is so sold; such shops are often dirty, dusty and ill-ventilated, and altogether unsuitable for the sale of milk. At present it is not easy to take action against them, but if every such place had to be examined, reported upon and licensed, it would be easy to oppose the granting of licenses, and most of them would be suppressed. It will be urged that this enactment will make no difference in rural districts, since licenses will be granted without adequate inquiry.

That may be so to a considerable extent, but not in all, while it is chiefly in urban districts that it would be of most importance.

(2) I hope we are all agreed that the use of any preservative in milk should be prohibited. I do not propose to discuss this question, but it seems to me a most necessary factor in obtaining a pure milk supply.

(3) The adoption of regulations under the Dairies, Cowsheds and Milkshops Orders should be made compulsory and a certain minimum of adoptable regulations framed, including those for the simple cleansing precautions necessary to be taken at milking to insure a clean milk.

It will be said that these will not be enforced in the majority of rural districts, and at first no doubt this will be the case. They will, however, be carried out under some authorities and will clearly show what are the simple necessary precautions. Their insertion has also another use as will be shown directly.

(4) In view of the fact that in a number of instances slight udder or teat affections have given rise to extensive outbreaks of sore throat or other disease, while we have no powers to prevent such outbreaks, it is necessary that further powers be obtained to deal with such conditions. I think that all udder and teat diseases and all wasting diseases of any cow in milk, should be forthwith notified to the medical officer of health, and that no milk from that cow should be sold under a heavy penalty, until permission be given by the medical officer of health, or better a properly appointed veterinary surgeon. Powers to compensate for loss should be given. The extensive outbreak of septic sore throat at Colchester in April 1905,* will serve as an illustration of the need for such notification of udder diseases. The outbreak was traced to a cow belonging to one of the six farms supplying the milk. The cow was in a shed with the others, two quarters were apparently healthy, one was suspicious, while the last quarter was markedly diseased, yielding yellow-brown pus. If the condition had been notified to me on April 19th, when it was said to have been first noticed, this outbreak of at least 600 cases would have been avoided.

(5) The most important alteration in the law, however, in my opinion, is to give local authorities power to inspect cows and cowsheds outside their own districts. It is particularly in regard to the milk of large towns, much of which comes from long distances, that improvement

* See *Public Health*, Oct., 1905, p. 1.

is urgently necessary, and I see no hope of improvement unless those who consume the milk themselves exercise power over its production. Human nature being what it is, it is not to be expected that a rural authority is going to spend a considerable amount of money in inspecting cows and cowsheds in its district, where many of the members have a pecuniary interest in the milk trade, and when all improvements are not for the benefit of themselves, but of some perhaps far away town.

The cost of the inspection, which is one of the factors in producing the improvement, should be, at least in part, borne by those who profit by such inspection.

I see no fundamental objection to a local authority having power to inspect all dairies, cowsheds and cows, and to collect samples of milk, from anywhere, provided that the milk comes into the district of that local authority for purposes of sale. If the conditions are unsatisfactory, then the local authority should have power to apply to a magistrate to prohibit the sale of that milk within their district until written permission is again given. Of course the milk producer or his agent must be served with notice to be present, and the local authority must be prepared to furnish definite conditions which, on being complied with, would entitle the milk producer to again send his milk into the district.

The powers of the local authority would simply be to prohibit the sale of the milk within their district. They would have no power to prosecute or to order any works to be carried out.

To carry out such a regulation it is obviously essential to have an additional clause that all milk vendors must send to the local authority a list of the sources of their milk and must keep it up to date by sending in lists of alterations.

The kind of results would be much as follows. Many of the cities and boroughs recognising the need for inspection would make use of this provision, and send inspectors to inspect the cowsheds from which milk came into their districts. Of course the visits would be surprise ones, and no doubt the bacteriological examination of milk would play a part in enabling authorities to select milk producers for inspection.

Those with unsatisfactory premises, or premises which showed no evidence that they complied with the regulations in force, would be cited to appear, and the sale of their milk would be prohibited.

The milk seller would either—

Send his milk elsewhere; or ask the local authority what they required him to do.

As a result the borough would frame regulations embodying their requirements, and I believe there would be a rapid conformation to them.

The inspector or medical officer of health would no doubt—

Send a list—a “black list”—of the suspended cowkeepers to other local authorities for their information; and would report the non-compliance of the milk producer to the local authority in whose district he is, calling their attention to the breach of their own regulations.

In addition to the above, fresh powers to enable the effective cooling of all milk, which has to undergo train transit, is necessary. For all milk coming into a city or town by train it would be a sufficient objection to allowing that milk to be admitted, that there were no proper cooling appliances on the farm.

In a number of other directions, particularly in regard to better means for preventing the sale of infected milk, more powers are required; but I have mainly had in view measures to mitigate, if not obviate, the general bacterial contamination of milk which is now so extremely common.

[*This Discussion applies also to the Paper by MR. J. S. LLOYD, page 676.*]

PROF. F. HOBDAV (London) said that Mr. Lloyd had told them that “the aim of all sanitary authorities, whether state or municipal, must be to see that milk was produced from clean and healthy cows, housed in clean and sanitary cowsheds, provided with good food and pure water, attended and milked by clean and healthy attendants, etc.” How was this to be done? Common sense told them that it could only be efficiently carried out by the compulsory inclusion of the veterinary inspection of the living cows. No one was so qualified to inspect cattle as the veterinary surgeon; in fact, to have cattle inspected for the presence of disease by any other person reduced the thing to an absurdity. Yet how few towns, comparatively speaking, had this proper inspection! It seemed incredible that a country like England, a country which prided itself on being the premier country of the world in sanitary matters, should not have been the first to take steps to secure clean milk and wholesome meat. England was years behind Germany, France, Italy, and even little countries like Denmark, Belgium and Switzerland. It was of no use to issue regulations which the local authorities might (or might not) carry out. In country districts the members of the local

authorities were often owners of dairy cattle or interested in them, and they knew full well the extra trouble they, their friends, or perhaps a large number of their constituents, would be put to if these regulations were carried out. The consequence was that they dared not, or did not, put the Act into force. The law ought to be compulsory and universal; to have it in force in one district and not in the neighbouring one only led to petty jealousies, and besides that, the authorities did not forget that the milk of a dairy was not usually likely to cause disease or trouble in their own district, because the milk was generally sent to some large town many miles away. Did it not seem irrational that men who, as Mr. Villar asserted a few moments ago, had not brains enough if hustled a little to recollect to wash their hands, should be thought good enough to deal intimately with the staple food of thousands of children? In the towns it was an essential condition of all buildings where a number of men were employed that facilities for washing should be provided. It stood to reason that it was of primary importance in places where a milk supply was involved. It ought not to be necessary for such a demand to be made, it ought unconsciously to be the first thing to be thought of. He hoped that the resolution they would send up at the end of the meeting would be clearly and strongly worded.

MR. ROBERT LAMBIL (Lanarkshire C.C.) argued that local authorities should see that all persons milking cows and handling milk kept themselves clean in person and clothing, and that all places where milk cows were kept or milk was stored or sold, were in a first-class sanitary condition, with a constant current of pure air in circulation.

DR. J. R. KAYE (West Riding C.C.) agreed that education was a main factor in the improving of cowshed sanitation. He pointed out that the West Riding County Council possessed a training farm, and issued detailed suggestions for cowshed premises, and placards for hanging in the shippon. Milk was also examined in the health department bacteriology laboratory, so too was water from farms. A conference was also about to be held on milk contamination. In these ways it was hoped the milk supply was improving in the West Riding.

SIR CHARLES CAMERON, C.B., (Dublin) gave an account of the inspection of cowsheds, cows, and milk stores in Ireland. He had induced the Corporation of Dublin to appoint a whole-time veterinary surgeon to examine the dairy cows and their sheds. He had a staff of four inspectors. He found that the milk from the Dublin cows was much freer from dirt than the milk which came into the city from country districts. In the latter the inspection of dairies and dairy yards was very imperfectly carried out, as the poor law officers were *ex officio* the medical officers of health, and were paid absurdly small salaries. When a medical officer of health received only £10 a year he could not be expected to

show enthusiasm for sanitary improvement. The Board of Agriculture in Ireland had a staff of 50 veterinary surgeons, and a large number of inspectors. They were engaged in carrying out the provisions of the Diseases of Animals Act, which was also in part entrusted to the sanitary authorities. He suggested that the Board of Agriculture should administer the Act and Cowsheds Orders altogether, which would insure a thorough inspection of the rural sources of milk, which was now practically completely neglected. The staff of the Board would have to be increased, but he ventured to think that the veterinarians would not object to that.

DR. T. VALINTINE (New Zealand) said that from the remarks of previous speakers it would appear that in New Zealand there were better facilities for controlling the milk supply than existed in the mother country. That these facilities existed was largely due to the fact that dairying was one of the most important industries of the colony, and was in active competition with other countries for the trade of the old country. The colony could not afford, therefore, to conduct the dairying and export meat industries in an insanitary manner. Practically the legislation suggested by Dr. Savage to improve dairying in this country was in force in New Zealand, though it was to be regretted that the Acts were not always put into operation. He did not agree with Dr. Savage that little could be done by education. His experience was that if the public could be once made to see that they were taking in their milk, filth organisms that would never be tolerated in a public water supply, a great step would be made. Relying on an educated public, his Department was about to try a classification of dairies, only giving an A certificate to those dairies where the cows were certified healthy by veterinary surgeons, and where all the conditions as to milking, storage, and transit were carried out under the best possible conditions. He agreed with Dr. Savage as to his remarks concerning preservatives and the notification of udder disease.

DR. F. E. FREMANTLE (Herts C.C.) said that three points might be briefly suggested: (1) Control should primarily rest with local sanitary authorities, supervised by the county councils. The consuming districts should have power to inspect production outside their own area, only in conjunction with the county council authorities of the producing districts; existing boundaries must be respected, otherwise smaller and less keen county councils would entirely slink out of their responsibilities. (2) Rapidity of transit was of great importance, in order to reduce time for incubation of organisms existing in the original milk, and to lessen opportunities for pollution on the way; as at Chicago, the railways might be induced to give a good train service to insure the morning's milk being consumed in the evening, the evening's milk on the following morning; for this purpose it would be well to label every can of milk with the hour and date of milking. (3) Co-ordination of milk collection, as in the *laiteries* in the

country round Geneva, benefited the farmer, and enabled the health authorities to trace up an impure milk infallibly to its source.

MR. J. C. COLEMAN (Swindon) referring to Mr. Lloyd's paper and the cleaning of milk, said he had with him a sample of the refuse obtained from milk, after it had been sent to a dairy for sale. By the kindness of Dr. Newman Nield, he submitted a sample of the residue to microscopical examination, and found it contained blood corpuscles, fibrin and vegetable cells (faeces), pus cells, squamous epithelium, hair, fat and colostrum. The improved sanitary condition of the byres and yards he looked upon as a most imperative matter to be considered, and he would like to see the store heaps of manure removed outside the yards to at least 30 feet from any licensed buildings. It was absolutely necessary that the cows and byres be examined, say, once a month, by a qualified veterinary surgeon, and the milkers, their families, the dairy and the water by a medical officer. He thought a deal of contamination of milk took place on the railway platforms, when waiting for the milk train in the glaring sun often three or four hours; he would suggest that covered sheds be provided. He differed from Dr. Armstrong, as there was much more nutrient material in ripe grass than young grass. Dr. Fremantle, in suggesting that any local authority desiring to inspect in another district should do so in conjunction with the authority of that district, was probably unaware of the fact that when inspections were made the *local* authorities were usually engaged.

DR. E. DAVIES (Swansea) suggested that the law relating to inspection of milk and cowsheds was inefficient, that it should be compulsory and general, that a more general use of the refrigerator immediately after milking and during transit would be beneficial, and that power should be given to local authorities to inspect cows and cowsheds outside their own districts.

DR. RIDEAL (London) urged the desirability of the Board of Agriculture fixing limits as to the amount of straw, cowdung, and cocci in a public milk supply. Such limits, if fixed under a Board of Agriculture Order (Sale of Food and Drugs Act), would enable local authorities to insure convictions when such foreign ingredients were present in the milk.

MISS C. COCHRANE (St. Neots) said small rural milk farms should be inspected. There was no inspection at present where milk was sold to neighbours and others, therefore there was seldom any pure milk in villages for children, and often no milk at all; but there were very dirty conditions, bad water, and diseased cows.

DR. GERARD C. TAYLOR (Finchley) drew attention to the increasing practice of milk vendors sterilizing and pasteurizing milk, and in some instances selling

the milk thus modified without notifying the fact. The strong evidence that pasteurized milk was not a suitable food for young infants emphasized the need for taking every precaution to insure a clean and otherwise pure milk supply, suitable for consumption uncooked.

DR. EDWARD WALFORD (Cardiff) said the organizers of this discussion were to be congratulated on having promoted the co-operation of the veterinary and medical professions. He had always advocated this co-operation in the administrative work of a sanitary authority, so far as this related to the supply of animal food to the public, and quite recently had induced the Cardiff Corporation to appoint a veterinary surgeon to undertake the inspection of meat and of cow sheds, which he thought might fairly be left to a well-qualified veterinary surgeon. He was inclined to attach considerable importance to the education of milk purveyors in this matter of a pure milk supply, and believed that county councils and borough councils might do more in this direction than they did at present through their technical instruction committees and schools. Farmers and others might be induced by education to appreciate the value of the cleanly, rapid, and cool transit by railway and cart of their milk. The present system of conveying milk in unlocked churns, placed in unsuitable and dirty railway vans, containing an assortment of articles (even dogs and other animals), should be prohibited. There could be no insurmountable difficulty in making arrangements for milk to be conveyed from the farm in hermetically sealed glass bottles and kept at a suitable temperature. If this were done the necessity for municipal milk depots would cease. With respect to the inspection of dairies and cowsheds by the officers of sanitary authorities outside their own districts, difficulties and friction might doubtless arise, but the question was one of great importance, and some way out of the difficulty might be found. Possibly the inspectors of the Board of Agriculture might assist in such cases. Fresh regulations would, of course, be necessary to insure these reforms, but he believed that, in the first place, those interested in the milk trade must be educated to see the value of such legislation, without which there was little chance of its being carried into effect. He was inclined to think that before new regulations were made, the milk supply of the country should be under the control of one central authority and not under two authorities as at present.

DR. W. G. SAVAGE (Colchester), in reply, remarked that many of the speakers had emphasised the value of education, and seemed to think that much improvement in the conditions of the milk trade was to be hoped for, merely from education of the farmers. For his part he was not so sanguine. Education certainly was valuable, but the law was an excellent, and in many ways the best, educator. In his own borough, he had no difficulty in enforcing the orders and regulations in force dealing with the number of cows in sheds, the structure of the sheds, etc.; but when he came to cleanliness in actual

milking, he had not been able to effect much improvement, and it was just for such matters that he had no legal powers. He could not help feeling that if these matters were compulsorily included in the regulations and he had the law behind him, much improvement would be effected. He was somewhat disappointed that there had not been more discussion over the broad principle as to whether local authorities should have power to inspect all cowsheds and cows outside their districts, as it was a highly important one. Two speakers had advocated that this control should be exercised by the county councils, but many of these bodies had not medical officers of health and were not in a position to undertake the work, while it could not be said that their composition altogether inspired confidence; and he was afraid that in many places they would be biased in favour of the producer rather than of the consumer. In regard to Dr. Rideal, he did not agree with his remarks at all. To take legal action upon the amount of cow dung in milk was not practicable, since the amount of dung to a considerable extent depended upon the efficiency of the straining, and a dirtily-produced milk strained two or three times would give better results than a much more cleanly milk, not strained or only once strained. Since the number of bacteria was not much affected by the straining, the latter milk would be better bacterially, but worse as measured by such a standard. In the same way streptococci were present in the majority of milk samples drawn from the healthy cow as he had already shown,* to condemn a milk because they were present was therefore absurd. We were not in a position at present to lay down bacteriological standards for milk, although he believed that in the future the bacteriological examination of milk would constitute a prominent part of the control of the milk trade, but much research was necessary first.

DR. HENRY E. ARMSTRONG (Newcastle-upon-Tyne) agreed with the President as to the advantage of the combination of the sanitary and veterinary sections of the Congress in the present meeting. Legislation, which was largely under the direction of party politicians, was not of itself sufficient to provide for the proper control of the public milk supply. Neither was the action of the different Boards of the Government (Agricultural, Local Government, or other), all being more or less under the same bias. By none of these means could the London consumers of milk secure themselves against pollution of the milk sent to them from different farms and country dairies. County councils and rural district councils had no interest in enforcing necessary reforms on the tenants of such places, many of whom were members of these same sanitary authorities. Security might, in his opinion, be obtained by the establishment of a national representative board of all county, urban, and rural authorities entrusted with the duty of protecting the milk supply of the entire country, and having power to carry out all requirements to this end. Such a sanitary

* *Journal of Hygiene*, Vol. VI., page 123, 1906.

parliament could in the public interest deal with water and food supplies, vagrancy, vaccination, and other matters of national importance, for which party politicians had no time and little liking. The subject of milk supply was far too wide, and had too many sides, to cover in a meeting like the present. He advocated the license and registration of all dairies, and the compulsory education, training, and certification of all dairy operatives. The use of chemical preservatives of milk, such as were at present employed, was open to grave objection and abuse. But it was conceivable that other and harmless means of preserving milk from decomposition may be found which would permit the carriage of pure milk to towns from remote rural districts, and so lead to the production of a cheaper supply. At present one of the greatest anomalies in the milk trade was the fact that the quality of the article varies from day to day and month to month, more than any other article of food, yet the price remained a fixture. With regard to the spread of tuberculosis, the recommendation of the late Royal Commission to allow the sale of milk from a tuberculous cow, no matter how extensive her disease, so long as her udder is not visibly affected, could not be too strongly condemned.

RESOLUTION.

This meeting of Medical, Veterinary and Sanitary Officers is of opinion that the present legislation in relation to milk is inefficient, and that the enactments should be made compulsory and general.

The resolution was carried unanimously.*

* Resolutions passed are referred to the Council, and their decision is given on page 606, No. 10.