

IN POLAND.

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The perpetual problem of how to secure the approvisionnement of the mankind has become, especially in the recent decades an acute one. This problem has gained on the significance with the increased rate of the natural growth of population, hence, taking into consideration the possibility of gradual exhaustion of sources for animal protein supply, it should find its proper solution on the international scale.

Among many other ways leading towards this purpose there are: the formation of common markets, an increased international exchange of goods, gradual abolishment of trade limits as a consequence of the free exchange of scientific points of view, followed by the possibility of the unification of regulations governing the control of animal products.

As it is known, the common ground for all contracts of the international trade in animal products is the assumption that the product being offered for export or import should comply with the principal hygienic requirements, and that it should be harmless for human consumption; therefore the part played by the veterinary service in the solution of the problem is unquestionable.

The tendency towards the unification of regulations governing the control methods and the criteria of the official estimation

~~on the international scale, is to be considered as a fundamental~~
one even therefore, that, as things are at present, the regional conditions present the score of substantial differences in this respect, which, in their turn, contribute towards the complication of international trade negotiations, in spite of the fact the scientific points of view on the separate veterinary-hygienic problems do not show any special divergences. It looks that the mutual discussion of the scientific achievements on the international platform, the announcement of the regional methods of control and of the estimation criteria, may lead towards the increased confidence in the international exchange of goods, towards the gradual simplification and even winding up of the limitations in export and import exchange.

In Poland, the products of animal origin are manufactured in the state owned factories which are subjected to the Ministry of Food Industry. These factories are of combined character and are composed of appropriate departments indispensable to the correct production.

The examinations of animals to be slaughtered, the official inspection of the manufacture processes, of the storage, transport and of the ready made goods is being executed by the state veterinary service, subordinate to the Veterinary Department of the Ministry of Agriculture. The uniformity of the veterinary service and its organizational structure are providing the guarantees of the independence of this service, above all from the producer.

As a whole, the veterinary service in Poland is made up of the two fundamental specialized divisions; the first of them is engaged in the veterinary prophylaxis, it means the prevention and control of infectious animal and breeding diseases, and the second division, which in Poland has well established

tradition, preoccupates with a complex of problems concerning the veterinary hygienic supervision over the animal products, like the examination of animals to be slaughtered, supervision over the meat industry and the laboratory control. Thus, the division of the animal products hygiene constitutes the continuation of the work of the prophylaxis and therapeutics division, but the principal object of its work is the admission to the trade and to the export of only those products which are without any objections, which possess full consumptive suitability, and can be stored. The supervision over the hygiene of the animal products in Poland begins therefore at the basis of the livestock and at the points where the animals are purchased, and extends up to the consumer. With this system the Polish veterinary service exerts the permanent veterinary control of hygiene in the slaughterhouses, bacon works, meat converting plants and canned meat plants, at the refrigeration storerooms, poultry and egg purchase stations, fat smelting plants and in some sense at the utilization plants.

To all these points only those veterinary physicians are directed who professionally and officially are subordinate either to provincial veterinary inspectors, or town veterinary institutions. The duties of these veterinary physicians include the control of execution of the veterinary sanitary regulations by the plants in the process of all the production stages, of storage, of transport, of raw materials, semiproducts, accessory materials and ready made goods, as well as the examination of the sanitary conditions at the premises, equipment and the production tools, and finally the control of hygiene of the separate stages in the production cycle. The veterinary physicians who supervise the manufacturing plant are examining organoleptically raw materials used for production

semiproducts and ready made goods. In case they state an unproper quality of the examined product, they ~~make it question-~~nable and after the supplementary laboratory examinations, they pass their binding estimation which determines further proceedings with the questionable material.

In the exporting plants there are adjoined to them and forming an integral part with the veterinary sanitary inspecting offices, the meat examining laboratories, which are managed by the suitably trained veterinary physicians. These laboratories, apart from the examination of the questionable material, are switched into the work of the supervising physicians with regard to the amelioration of the hygienic conditions of the plant, and to the determination of the sources of primary and secondary infections. This is being achieved by means of the systematical laboratory control of hygiene at the premises, of means of production, accessories etc. Laboratory examinations are to be carried out with the samples taken from all the batches of ready made products before they are qualified as suitable for export.

The professional training of the controlling staff is the subject of special attention in Poland. The veterinary physicians are directed to the laboratory work have to spend at least two years of time working at large export factories, and during their training time, which takes place periodically at the Institute for Veterinary Research, the candidates acquire apart from the knowledge of the laboratory control of animal products, also indispensable amount of knowledge from the branch of technology. At the end of the training course the candidates are asked to sit for an examination before an examining committee, wherewith a considerable selection is applied. It has been foreseen that in the nearest future a permanent training

centre for the professional staff will be opened, where the two stage specialization will be adopted, bearing in mind the appropriate training of the staff for meat industry.

On the ground of everyday experience we have shaped more or less uniform point of view on the question of an official control of animal products. We think that if the veterinary physician has to express a binding opinion about the state of hygiene of animal products in general, especially about the hygienic state of canned meat production, such a production is to be supervised in a more rational manner than it is often adopted in practice. We are convinced that the starting point of every manufacturing process in the meat industry is the slaughterhouse with proper veterinary sanitary control of the slaughter itself and trimming, and the correct operations herewith, executed according to the governing hygiene regulations.

The next assumption that we have adopted is that the whole technological process, even the simplest one, takes place within certain external circumstances, it is within a certain environment of the factory being set up by the producer in accordance to the requirements of the appropriate prescriptions, but the separate technological operations which comprise the manufacturing cycle, are forming the complex of various factors and manifold activities. Therefore we demand from the person who performs an official control, that all the technological operations are treated with a full knowledge of the subject and understanding of their purpose and their principles. We understand here that the veterinary supervision of hygiene over any process of manufacture cannot be an activity at random, but that it is to be continuous and extended one in form of a systematic control over all the separate stages in a given cycle.

The consequence of this highly binding formulation is the principle that, within the limits of technical possibility, the raw material introduced into the manufacturing process is to be of as low degree of primary and secondary infections as it is possible, and that the maximum of hygiene conditions in manufacture have been secured.

The basic requirements which is to be accomplished before any product is admitted for consumption is the ascertainment of its complete harmlessness for human health, and especially the exclusion of the infections of zoonotic character.

It seems, that in spite of the unusual progress of the biological science, especially of microbiology, epidemiology and epizootiology the danger of conveyance of zoonotic microbes by means of food products of animal origin does not decrease, but to the contrary it is in a certain sense increasing. This position is favoured by the methods of intensified breeding and industrial fattening, the application of fodder mash, which, as the corresponding literature shows, may have in the high degree the primary and secondary infections by the microorganisms, especially from the group of Salmonella, then, commonly adopted breeding of the large-herd type. Our investigations carried in this respect have shown an unusually quick transmissibility of microorganisms with the mass accumulation of animals on the small areas, especially with the predispositionable feeding conditions. This problem has been emphasized by Charles Nicolle in his "Destin des maladies infectieuses" in the following words:

"Si la civilisation se maintient, si elle continue de se développer et de s'étendre, les maladies infectieuses augmentent de nombre dans toutes les régions du globe... les échanges, les migrations, porteront en tous pays les maladies humaines

et animales de chaque région. L'oeuvre est déjà très avancée, elle est assurée d'évenir".

Although in our country the present epizootical position is rather favourable, as it has been shown in the official reports to the Office International des Epizooties, nevertheless with the signaled facts of increased appearance of e.g. Salmonellosis in many other countries, there is an apprehension that the problem which we have successfully managed to put under the control, may rise to an actual one again, also in our country.

Within this conception we have isolated two lines of work, both of them being of strictly scientific as well as of practical, controlling character; we consider them to be proper from the veterinary point of view.

The first line defined as the "classical hygiene" has, as its task, the bacteriological examination of animals to be slaughtered, and of the raw materials used for the production, having in mind the primary and the secondary infections by the microflora pathogenic to the man, with the special consideration of the zoonotic microbes. The second line, it is the determination of the degree of infection of raw materials, semi-products, accessory materials and ready made products by the saprophytic microorganisms which can have an influence upon the stability of the product from one side, and on the other side, they may have in certain definite circumstances the conditionally pathogenic character. We define this second line as the "hygiene of manufacturing processes", the significance of which has risen up to the rank of the first-plan problems in the recent years.

to me, that with regard to the pasteurized ~~canned meat~~ we are far from the positive solution of the problem.

The general task of the laboratory control of canned meat as conducted by the Polish Veterinary service is, as I have said above, that the examined product must be free of the pathogenic bacteria and has to show the required by the trade contracts stability of storage under proper conditions. I think, that today it is really possible to discuss only the qualitative standards; the rigid quantitative standards are, for the time being, difficult to accept. We hope that the debates at this Congress will bring lots of the new material in this respect, and we are eagerly waiting for some precise suggestions.

In spite of the fact that the problem how to procure and utilize meat as a source of animal protein is a perpetual one, in spite that from the discovery by Nicolas Appert we are separated by a period of time of one hundred and fifty years long, and that the meat industry is exactly of the same length of time, we are aware that the problematics of the laboratory control of canned meat products not only do not shrink, but that to the contrary they accrue on intensity. Apart from problems connected with the epizootiology and epidemiology, the new questions of the physical, chemical and recently also of toxicological character are arising.