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UNDER-VALUATION OF HYGIENE AND SANITARY MEASURES IN THE
FIGHT AGAINST ANIMAL BRUCELLOSIS

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Source: Veterinariya, No 6, 1951, pp 35-38

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Under -
~~REPORT~~ ANALYSIS OF HYGIENIC AND SANITARY MEASURES
IN THE FIGHT AGAINST ANIMAL BRUCELLOSIS

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We have achieved considerable success in the study of brucellosis and in developing a scientific system of combatting this disease. But we must not be content with these attainments -- scientific and practical veterinary workers must actively, creatively participate in the further development of the system of measures against brucellosis and in increasing their effectiveness.

The paper of Ye. S. Orlov and M. I. Chernysheva (VIEV), entitled "A Complex Method of Diagnosing Brucellosis", published in the periodical Veterinariya, (Veterinary Medicine) No 6, 1950, was devoted to this problem.

In this paper the authors endeavor to discover the causes for the insufficient effectiveness of sanitation improvement measures against brucellosis on large farms and on farms with active brucellosis infections. They then analyze existing methods of diagnosing brucellosis and point out the advantages of the complex method of diagnosis.

We have no reason to quarrel with the authors of this paper concerning their evaluation of the various methods of diagnosing brucellosis. They correctly discuss the advantages and disadvantages of RA, RSK, and the allergy method.

However, as regards the individual sections of the paper, and the analysis which the authors of the paper made of the insufficient effectiveness of sanitation improvement measures, such a discussion is not only possible but necessary.

The main error of the individual sections of the paper consists in the fact that the authors, having been carried away by the problems of diagnosis, forgot the principal thing -- the unity of the organism and its environment, and the necessity of bringing about specific effects on the animal organism, by creating for the organism the proper conditions in the external environment.

There is absolutely no mention in the paper of the fact that the proper sanitary-hygienic conditions of animal husbandry have a decisive importance for the prophylaxis of brucellosis and for the success of sanitation improvement measures.

The authors of the paper essentially ignore the conditions of the surrounding environment and the possibility of using the natural protective forces of the animal organism in the fight against infection, and they attribute an exaggerated significance to diagnosis, devoting all their attention, in the old tradition, to the outbreak of infection and to the fight against its outbreak. In so doing the authors, intentionally or not, show themselves to be anti-Michurinists.

The basically incorrect, erroneous purpose of the authors is shown in the very beginning of the paper. In the first paragraph they write:

"Sanitation improvement measures against brucellosis up to

the present time may be summed up generally as the isolation of diseased animals, which have been discovered with the aid of diagnostic examinations, while general veterinary sanitary measures are taken at the same time."

One would expect that following this sentence the authors of the paper would give a substantiated criticism of such one-sided measures, which can be generally summed up as the isolation of diseased animals, and that they would emphasize the necessity of a decisive improvement of hygienic and sanitary measures. This the authors fail to do.

The second sentence in the first paragraph states: "As a result, the success of ^hthe sanitary improvement of a brucellosis-infected stable depends primarily on the diagnostic value of the methods of examination in use and on their correct utilization."

Such a statement of ~~the~~ problem seems to us to be extremely one-sided and untrue. A large complex of sanitary and hygienic measures for improving the sanitation of a farm infected with brucellosis cannot be reduced to diagnostic investigations and the isolation of diseased animals. We feel that it is also inadmissible to emphasize ^hthat the success of the sanitation improvement program depends primarily on the diagnostic value of the examination methods in use, as the authors do.

The authors repeat and develop this incorrect position in the next exposition of the problem.

"It may be considered as demonstrated", the authors write, "that the causes of unsatisfactory results from sanitation improve-

ment measures are basically the following: the insufficient execution by the farms of established veterinary and sanitary measures, as a result of which the infection remains in the external environment and produces new infections in the animals; and primarily, the low value of those methods of examination used so far, which are not always able to detect infected animals. These animals, when left in the stable, are a source of further dissemination of the infection".

We can see from this one-sided and fundamentally untrue analysis which the authors have made of the unsatisfactory effectiveness of sanitation improvement measures that when the authors speak of established veterinary measures they mean only the fight against the outbreak of infection (destroying it in the external environment), and completely neglect the main thing, which is to strengthen the natural protective forces of the organism, and to raise the resistance of the organism to brucellosis infection.

The authors did not even feel it necessary to consider sanitary measures, although these constitute a problem worthy of great attention.

In a few concrete examples they might have pointed out how sharply the good or bad sanitary conditions in infected farms are reflected on the success and speed of sanitation improvement measures.

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improvement measures is the low value of those examination methods being used which are not always able to detect all infected animals.

Such statements cover up, and to a certain extent excuse, everything which furthers the ignorance of hygienic and sanitary measures in the fight against brucellosis. The authors place their vain hopes in their belief that by using diagnostic methods alone it is possible, without great effort and considerable work, to eliminate from the stable all animals infected with brucellosis, and thus automatically to liquidate the infection.

It appears to us that such an erroneous treatment of a serious question was made by the authors because in their efforts to demonstrate the advantages of ^h the complex method of diagnosis they lost sight of the other aspects of the problem of the fight against brucellosis, which is no less important than diagnosis.

From the standpoint of contemporary epizootiology, as one of the branches of Michurin biological science, our basic task in the program of fighting infections consists in using the existing, natural resistance of the animal organism to infections. We must develop and strengthen this resistance by good hygienic conditions of maintaining the feeding animals, as well as by care in breeding.

This is the first, a basic, and a decisive link in the chain of prophylactic and sanitation improvement measures.

The significance of hygienic factors for prophylaxis and for the fight against brucellosis has been emphasized several times by Academician S.N. Vyshel'skiy and a number of other outstanding specialists.

The second important task, which results from the first, is the careful use of the method of artificial immunization; the purpose of this is to raise and strengthen the natural resistance of the animal organism to infections.

This goal may be successfully realized only with the proper activity of the immuno-biological forces of the organism, which may develop only under good hygienic conditions of animal husbandry. This is the second link in the chain of measures against the disease.

The third important task is to make it impossible for the animals to become infected by pathogenic agents from the surrounding environment.

Corresponding to this task the third important link in the chain of prophylactic and sanitary improvement measures must be well thought out sanitary measures, which are executed uninterruptedly and according to plan.

Through the work of Academician S.W. Vyshelasskiy, of his numerous students, and of specialized veterinary practitioners a straightforward system of sanitary measures was worked out to eliminate the outbreak of brucellosis and to liquidate the disease.

Diagnostic examinations, comprising a part of the complex of sanitary measures may, because of their importance in certain infectious diseases, and particularly in brucellosis, be considered as a separate important link in the system of prophylactic and sanitation improvement measures.

These are the basic links in the chain of measures in the fight against infections, without which, in our opinion, it is impossible to analyze their effectiveness. Comrades Orlov and Chernyshova [sic] focused their attention on only one of these links - on diagnosis. This is the cause of the one-sidedness and the incorrectness of their conclusions.

It seems to us that the experience gained over many years from sanitation improvement measures for farms which are infected with brucellosis of large horned cattle, permits other conclusions than those which the authors have drawn.

It may be pointed out, firstly, that in the better, advanced sovkhozes and kolkhozes, in which hygienic and sanitary measures are carried out on a high level, there has been and is no brucellosis; this is because the conditions for the outbreak and development of this and other infections do not exist on these farms.

It may be pointed out, secondly, that when brucellosis appears on well organized farms it is quickly dealt with by the complex of hygienic and sanitary measures employing RA, the imperfection of which comrades Orlov and Chernyshova emphasized so strongly.

Recovery from brucellosis has occurred in these cases not because all those animals infected were detected and removed from the stable (which may be seriously doubted), but because, thanks to good hygienic conditions the animal organism dealt quickly with the brucellosis infection, and the possibility of mass reinfection was removed by good sanitary conditions. And if some infected animals were not detected, they proved themselves in practice to be of little danger for the surrounding animals, thanks to

the considerable resistance of the latter.

It may be pointed out, thirdly, that recovery from brucellosis was delayed or was ineffective on those farms, both large and small, where the animals were for a protracted period of time under unsatisfactory hygienic conditions, and where the required instruction in sanitary measures was badly supplied.

It is precisely in these abnormal conditions of the external environment that the causes of the unsatisfactory nature of sanitation improvement measures must be sought, and not in the fact that RA does not always detect all infected animals, as comrades Orlov and Chernyshova state.

Under bad hygienic and sanitary conditions on a farm the use of a complex of diagnostic methods of brucellosis examination can hardly aid in improving the health of the animals if the protective forces of the organism are not mobilized and if the possibility of reinfection of the animals is not eliminated.

Similarly the remark of comrades Orlov and Chernyshova, which contains completely incorrect information for practical workers, that in large stables sanitation improvement measures are less successful, is hard to understand. Why? The authors do not answer this legitimate question. A legitimate doubt arises as to the correctness of this conclusion. It seems to us that one should not make such statements or draw such conclusions without explaining them and without supporting them with proper proof. Socialist animal husbandry is directed toward large rather than small stables, and therefore the question of the success of measures against brucellosis in large stables is of national importance.

Without doubt we must improve and perfect the diagnosis of brucellosis, while at the same time increasing our knowledge of the pathogenesis of this disease from the standpoint of Pavlov physiology, as well as of the variability of brucellosis in the animal organism.

A great achievement of VIEV is the replacement of a brucellisate with a better brucellosis hydrolysate. This makes possible a considerably improved diagnosis of brucellosis in sheep and makes the diagnosis of brucellosis in swine easier.

At the same time, however, with the improvement in the methods of diagnosing brucellosis it is necessary to become decisively re-oriented toward the correct, Michurin standpoint in the fight against this infection.

Instead of the one-sided devotion of all measures to the fight against the infectious agent, greater attention must be directed to the animal organism and to the possibility of utilizing its natural resistance and protective forces to eradicate brucellosis.

This improper evaluation of hygienic measures is contained also in the existing instructions of 1945 "On the Fight against Brucellosis in Agricultural Animals".

The instructions give detailed orders concerning necessary examinations and sanitary measures, but they do not specify hygienic measures in detecting the infection. The improvement of feeding and maintenance of animals is recommended in the instructions only in connection with animals diseased with brucellosis, so that their recovery may be accelerated in brucellosis isolators (section 27 of the instructions).

This shortcoming in the instructions must be quickly corrected.