

Responsibility of the Veterinarian in the Brucellosis Eradication Program

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Mr. Chairman, association members and guests: Thank you for the privilege of talking to a group of veterinarians who are a major part of the first line of defense against the spread of brucellosis among the cattle population.

Program Status

In order to get at the real points we would like to discuss today, we need to review the current status of the program.

During the past two years, we have received a modest increase in federal funds for the brucellosis eradication program. This was the first increase since about 1959 or 1960. The increase in fiscal year 1975 was \$5 million; an additional \$4 million was made available in the budget for fiscal year 1976. The rate of brucellosis infection has remained slightly above where it was last year. This is a trend which has continued for approximately three years now. During this same period of time, however, our efforts to find infection has increased. We are testing more cattle in slaughtering establishments. We are testing more cattle moving through livestock markets and concentration points, and we are testing more herds of cattle on the farm as a result of having found infection either in the markets or at the slaughtering establishments.

We still are not as effective as we should be in promptly getting back to the herd of origin of reactors disclosed in the surveillance program. There are several reasons for this. In many cases we depend on backtags which are not too well applied at times. Many times the plant in which the animals are slaughtered is operating beyond its normal capacity due to unusually large runs and all of the samples are not collected. Of course, there are some other reasons for not getting back to the herd of origin which may be more subtle. We believe that we are deliberately furnished misinformation at times regarding where the cattle came from. It is also believed that tags are sometimes deliberately removed from animals prior to reaching slaughtering establishments. At any rate, the effectiveness of the program has been improved during the past two years because we have had more resources with which to work.

These slides will give you a current picture of the program status.

No. 1. You will note that the animals tested on the farm decreased from a high of 8.8 million in 1963 to a low of 4.5 million in 1972. There was a consistent decrease over this period of years. As you are probably aware, during 1971, 1972, and 1973, many of our regulatory people were working in emergency type operations and our effort on brucellosis was at a very low level. It was during this time that it became evident that something had to be done to get the program moving in the right direction. You will also notice that surveillance was consistently increasing during the same period of years and has finally reached more than 11 million animals sampled during fiscal year 1975.

No. 2. Brucellosis-infected herds found by fiscal year. The number of infected herds found continued to decrease through fiscal year 1972. There was an increase in fiscal year 1973 and each year since.

No. 3. Distribution of infected herds - fiscal year 1975. Approximately 90% of the infected herds disclosed were located in 11 states.

No. 4. Calves officially vaccinated by fiscal year. The number of calves vaccinated each year has decreased nearly every year since 1964. Slightly more than 7 million calves were vaccinated that year. In fiscal year 1975, less than 4 million calves were officially vaccinated in the United States.

Program Needs

It is clear that what we are doing at the present time is not really adequate to eradicate brucellosis and that some changes must be made. I would like to talk about two or three of the program needs.

Resources

Certainly we need additional resources, both in the way of people involved in the program and funds to pay for the services, the materials, and the equipment we need. As you know, resources are from public funds, either state or federal.

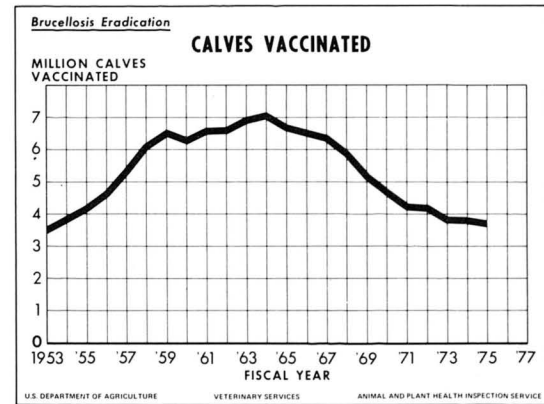
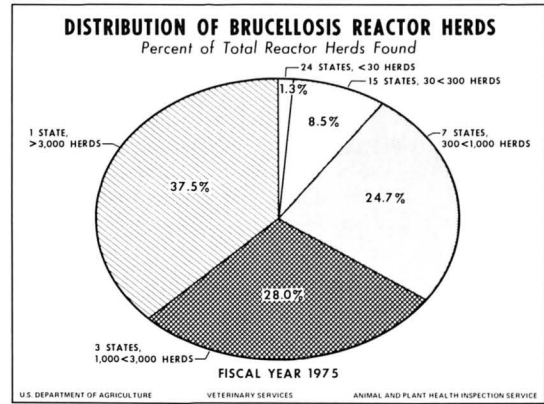
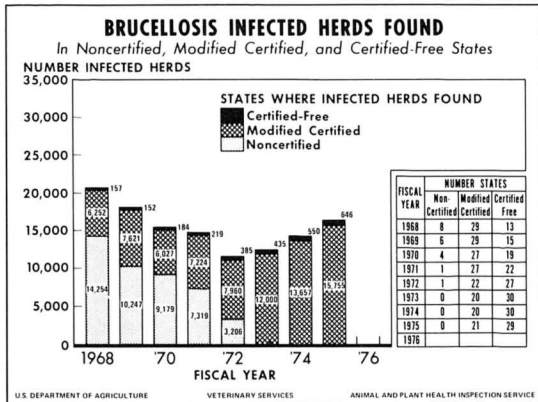
Procedures

Also, we must strengthen our program procedures. This includes the authority to conduct the kind of program that is necessary, as well as the technical procedures and technical know-how to handle some of the difficult problems we are facing.

Comparison of On-The-Farm Tests and MCI Tests
1963-1974

	Tests		No. Backtagged
	on Farm	MCI Tests	
1963	8,800,000	2,493,750	1,368,797
1966	6,600,000	4,927,385	5,795,902
1968	7,233,342	4,686,579	9,139,686
1971*	5,100,000	5,400,968 (3,152,668)	
1972	4,500,000	7,266,150 (4,520,000)	
1973	5,149,562	8,460,000 (5,426,472)	21,614,420
1974	5,566,585	8,989,563 (5,421,008)	20,368,057
1975	6,490,467	11,242,871 (7,712,128)	22,537,427

*First time MCI tests exceeded on-the-farm tests.
() Samples collected at slaughtering establishments.
1973 - Slaughter samples from cattle identified with backtag - 4,000,000.
1974 - Slaughter samples from cattle identified with backtag - 3,800,000.



As has already been pointed out to you during the course of this program today, we are attempting to increase our capability to cope with the problems in an infected herd because it is the infected herd owner that gets hurt the most in the brucellosis eradication program. He gets hurt from the disease itself and he gets hurt from the quarantine and cost of assembling and testing his cattle. We must improve our capability of cleaning up infected herds. We must be able to more effectively prevent the spread of the disease from one herd to another. We must also be able to more quickly locate the infection that is currently in the cattle population. This will require some very drastic steps. At least they would appear drastic to many people. Included in these drastic steps must be testing of all eligible animals moving through concentration points in the high incidence states. We must also be willing to do community type area testing. In communities where infection is relatively high we must do some down-the-road testing to determine just where all of the infected herds are located.

Responsibility

The third area in which we need to strengthen our program is in the area of assuming responsibility for carrying out an effective program. This is really what we are here to talk about today. The subject is the responsibility of the veterinarian, but I do not believe that any one group can assume the responsibility for

this program. The following groups have responsibility in the program:

1. United States Animal Health Association: (a) develop and adopt broad but firm guidelines based on the best scientific knowledge available; (b) review actions taken by U.S. Department of Agriculture and the states to see that they are in line with guidelines in "a" above; and (c) assume responsibility for their actions by backing U.S. Department of Agriculture and states when corrective actions are necessary.
2. Veterinary Services (United States Department of Agriculture): (a) furnish technical leadership for the national program; (b) issue program guidelines and regulations based on U.S. Animal Health Association recommendations; (c) furnish capable leadership (people) to work with the states at the area and field level; and (d) furnish funds and people to assist (the states) in carrying out the program in states which have developed and adopted programs which will achieve eradication.
3. States: (a) statutory authority to conduct complete program; (b) necessary regulations; (c) with help of Veterinary Services, develop program procedures which fit the needs of that particular state; (d) with the help of Veterinary Services, inform the livestock owners about the disease, advantages of eradication and program procedures; (e) furnish leadership, funds and personnel; and (f) conduct program according to procedures in "c" above.

4. Producer: (a) furnish correct herd of origin information when selling; (b) provide correct information to epidemiologist and others who are investigating disease spread; (c) make animals available to test as needed; and (d) move animals (into or out of herd) only in compliance with program standards.

5. Markets: (a) operate in compliance with regulations and procedures which have been adopted; (b) cooperate with disease investigators by furnishing true information from market records; (c) realize that brucellosis is more frequently spread by the movement of infected or exposed animals; and (d) cooperate fully in whatever surveillance program is being conducted in their state.

6. Industry Organizations: (a) assist in informing their membership about brucellosis and program benefits and inconveniences; (b) participate in developing program procedures and guidelines which will work; and (c) take a stand to make the program work.

Responsibility of the Veterinarian

Finally, we come to the veterinary practitioner or the veterinary profession and its responsibility in the eradication of brucellosis. I believe that we in the regulatory agencies have been very negligent in making the practitioner aware of his responsibilities in this program. This has been especially true during the past five to seven years. As you know, in the early years of the eradication program, between 1955 and 1965 when our dollars were not so affected by inflation and when we had massive area testing programs and massive vaccination programs, the practitioner was involved in the field work in the brucellosis program much more than at this time. At least they were in many states. During this time the practitioners were pretty well informed concerning how the program was to be conducted. He also kept himself informed about the disease. Since the practitioner has not been involved to a very great extent in the actual work of testing and vaccinating cattle in the past few years, we have neglected to keep you informed as well as we should have.

This brings me to the first responsibility of the practitioner and that is education. This is a two-fold responsibility. The first is education of the practitioner himself and the second is helping to educate the cattle owner. I feel it is a very basic responsibility of the veterinarian who is in bovine practice to know as much about brucellosis as he can, especially if he is practicing in an area where the disease is rather prevalent. You need to refresh your knowledge concerning this disease. You can go back to your textbooks and read some of the basic information about how the organism survives, how it moves from one farm to another, or from one animal to another, and how the organism survives outside the host and for how long. The veterinarian very often gets questions about a contaminated pasture, stream or lake. As you know, the brucella organism does not ordinarily survive very long outside the host. The incubating or in-

fecting animal is much more important in keeping infection on the premises. The organism affects the host and the host may show no sign of disease. The owner needs to know that brucellosis causes abortion, sterility, retained placenta and reduced milk production; also that many infected animals manifest no symptoms and still discharge large numbers of organisms at parturition.

There is much misinformation regarding the proper use and effectiveness of calf vaccination with Strain 19 vaccine. It is essential that vaccine be properly cared for before use. It is important that the herd owner be advised that calves vaccinated at two months of age develop the same relative resistance to brucellosis as those vaccinated at eight months or older, and that the residual titer problem is greatly reduced. Many herd owners are not aware that official vaccinates which have calved must be tested prior to movement regardless of age.

There are many sources of information concerning brucellosis. One of the best sources that has come along recently is a minicourse on brucellosis which was developed by Dr. Paul Schnurrenberger, Auburn University, and Dr. Paul Nicoletti, Veterinary Services. This is a series of slides with a narrative which describes the slides. This narrative is available in printed form and on cassette tapes. We have furnished each of our area offices with one of these courses and they would be available for your use at local meetings or if just a group wanted to get together to review the situation.

If you are fairly well informed regarding brucellosis, then you are in a position to help the owner of a clean herd keep from getting his herd infected. I think this is a basic responsibility. You can let him know that most brucellosis is bought and paid for and that it is added to a herd in the form of adding an exposed or an infected animal. You can explain to him that a negative test on one animal does not necessarily tell you that this negative animal is from a negative herd. This is very important. The owner sometimes has to depend on you more than anyone else to keep his herd clean. You can also inform him concerning the advantages of a negative or free county or a free state over the advantages of just a clean herd. In other words, cooperation in the eradication program will benefit everyone in the long run.

Another major area of responsibility closely related to this is your responsibility in preventing the spread of brucellosis. This involves several areas of your work. It could be your work in a livestock market, or your work in certifying animals for movement from one location to another. Here we get back to the importance of complete knowledge of the disease and a complete knowledge of the requirements to move animals from one place to another. Also involved here is the integrity of not only the veterinarian but the owner and the shipper of livestock. You must be in a position to evaluate and make the proper decisions to see that infected animals are not allowed to move.

Yes, we need to increase our capability to find the

disease, keep it from spreading and eliminate it from infected herds. We are trying to improve diagnostic techniques and immunizing agents. In the meantime, we can make progress toward brucellosis eradication if we use the information we have and work together. All of us who have a responsibility in this vital effort must understand and assume this responsibility. We appreciate your interest and concern and thank you for this opportunity to meet with you today.

Questions (True or False)

1. Vaccination. Calves vaccinated subcutaneously with 5 ml of *Brucella abortus* Strain 19 at two months of age develop the same relative degree of resistance as calves vaccinated at eight

- months of age but have fewer residual titer problems.
2. Use of Official Health Certificates. An official health certificate may be prepared for a group of first calf Jersey heifers based on their status as official brucellosis vaccinates.
3. Spread of Brucellosis. Environmental contamination of farm ponds, fresh water streams and low pasture areas with brucella are significant factors in maintaining brucellosis within an affected herd of cattle.
4. Common Knowledge of Brucellosis. Brucellosis is a preventable disease. It is manifested in cattle by abortions, retained placentas, infertility, and lowered milk production. Animals may also become infected without clinical manifestations but discharge large numbers of organisms at parturition.
5. Greatest Need in Brucellosis Eradication Program. Additional research must be conducted to develop improved diagnostic techniques and immunizing agents before further progress in brucellosis eradication can be expected.

