How We Stand on Brucellosis Eradication

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Brucellosis is not dead yet!

This may come as news to farmers, ranchers and veterinarians in states such as Michigan, Minnesota, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Washington, and Wisconsin where fewer than one herd per 1,000 were found with any infection during a recent 12-month period. Six states—Alaska, Connecticut, Delaware, Hawaii, Maine, and Rhode Island—had no infection.

In the same period, however, farmers, ranchers and veterinarians in ten states—Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas—had a very different view. These states had an average of 24 infected herds per 1,000. (Table 1 shows the number of infected herds and the infection rate per 1,000 herds, by states, from May 1973 to June 1974.)

Despite the recent increases of infection in some areas—principally in the Southeast and Southwest—many worthwhile benefits have been derived from the national program to eradicate brucellosis. For instance, loss to the livestock and dairy industry from lowered milk production, abortion of calves and pigs, and reduced breeding efficiency has decreased to less than $10 million annually. The loss would have amounted to an estimated $174 million annually without the eradication program.

Human Health. Additionally, there's been a drastic reduction in the incidence of undulant fever in humans. The 202 cases reported nationally in 1973 is a mere fraction of the 6,400 reported in 1947. Eradication progress in the dairy industry was a major contributor here. Also, pasteurization of milk and milk products, plus the population shift to urban areas, have combined to decrease human exposure to the disease.

Nowadays, our cooperative state-federal brucellosis eradication program emphasizes protecting the 99 percent of U.S. cattle already free of the disease—while working to eliminate infection in the remaining one percent. Human infection will disappear, of course, when we eradicate the disease in livestock.

Bovine practitioners play a vital role in the eradication effort—by advising clients on disease prevention and vaccination . . . by testing cattle for movement . . . and by supporting eradication in their communities. Like other animal disease eradication efforts, the campaign to stamp out brucellosis won't succeed without the full cooperation of producers and others associated with the livestock industry.

Rededication. Concerned about a recent up-turn in disease incidence after many years of steady progress in eradicating brucellosis, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) invited industry and government leaders to a meeting in Washington last December.

At this meeting, Assistant Secretary of Agriculture Clayton Yeutter sounded an appeal for rededication and resolve to finish the task begun nationally in the mid-1930's. His point: we're too near the goal of total eradication to turn back now!

This meeting, held December 19, 1973, was followed by a series of regional meetings in five APHIS Veterinary Services regions. Plans were mapped out for an intensified program aimed at reversing a two-year increase in infection in cattle. The regional meetings gave livestock industry representatives, as well as state officials, the opportunity to comment on and influence proposals by USDA to intensify eradication efforts.

Since the meetings—held from February to April in Chicago, Denver, Memphis, Dallas, Reno, and Albany, NY—APHIS and cooperating states have taken a number of actions to strengthen the program. For instance, appraisal teams have made in-depth studies of problem areas in three states—Georgia, Kentucky, and Texas—with more to come shortly.

Improved surveillance of beef herds has been

initiated in Georgia and Louisiana, calling for testing of cattle at first point of concentration in the marketing chain. Similar testing is needed in a few other states.

Earlier this year, Texas initiated a program genuinely aimed at eradicating brucellosis rather than merely controlling the disease.

Also significantly, a new position of National Director of the Brucellosis Eradication Program was created and filled by Dr. Paul Becton, formerly Regional Director of APHIS Veterinary Services of the South Central states.

Zero Infection. Formerly, state and federal animal health officials placed great emphasis on the importance of counties and states attaining status in the program. At this juncture, we want to focus attention on states attaining the ultimate goal of having no infection in a 12-month period and maintaining that freedom from brucellosis; in other words, "zero infection!"

There's no question we have the tools and know-how to stamp out brucellosis. It has been done in herds, counties and states. It can be done for the entire nation.

The question is: Do we have the will and determination? I think we do.

Brucellosis is still a serious economic problem for beef and dairy herd owners in terms of aborted calves, non-breeder cows and other related problems. The rapidity with which it spreads plus the rigors of complying with eradication measures make it all the more a serious problem for producers.

Practitioners Important. You, the bovine practitioner, can be of inestimable value in the final push to eliminate brucellosis, by supporting the eradication concept and noting the rewards of zero infection.

A brief review of brucellosis—how it spreads and some of the facets of eradication—appears to be in order.

Brucellosis is usually transmitted from infected animals and their contaminated environment to susceptible cattle by close association. Despite occasional exceptions, the general rule is the disease is carried from one herd to another by an infected or exposed animal. It's not uncommon for a replacement animal to have been recently exposed and "test negative" upon purchase only to turn up infected at a later date. This has prompted the comment that brucellosis is "bought and paid for."

Test and Retest. Most importantly, replacement cattle should be tested upon purchase, and retested after a 30 to 60-day isolation period during which the replacements are not allowed to mix with the rest of the herd.

From the onset, the approach to eradication has involved testing cattle to find infection and sending infected animals to slaughter. More recently, comprehensive surveillance measures and thorough epidemiological investigations have become key elements to the program.

Today, the main emphasis of the national eradication program is on eliminating brucellosis in cattle. Most of the major hog-producing states have programs aimed at eradicating swine brucellosis. There's very little problem in this country with brucellosis in goats.

Two screening procedures have been developed to locate infected cattle without having to test each animal in every herd. First to be standardized and used was a procedure for testing milk samples from dairy herds using the Brucellosis Ring Test (BRT).

Another procedure, known as Market Cattle Identification (MCI) or Market Cattle Testing (MCT), involves testing of blood samples from identified cattle going to slaughter or at first point-of-concentration.

A third approach, already noted, calls for blood-testing all cattle upon change of ownership. Testing for sale or at the market is, by far, the most effective method of screening beef herds. It greatly improves trace-back efficiency and control over negative exposed cattle in market channels.

Still No Cure. Repeated attempts to develop a cure for brucellosis in cattle have failed. Occasionally, animals recover spontaneously over a long period of time. More commonly, however, only the symptoms disappear while the animals are still diseased. Such animals are dangerous sources of infection to other animals.

The testing and slaughter procedure may seem to be a crude means of eradication—but it works when used in combination with sound preventive measures, including calfhood vaccination.

No vaccine offers perfect protection, and Strain 19 is no exception. Under usual field conditions, however, it's quite serviceable—protecting about 65 percent of the animals vaccinated. This percentage can be drastically reduced, however, under conditions of massive exposure.

Use of Strain 19 vaccine remains an important adjunct of the eradication program. Producers in heavily infected areas are being encouraged to pursue a vigorous calfhood vaccination program. Greater effort must be made to obtain a high level of calf vaccination in these areas than ever before. When vaccination was provided at program expense

too few cattlemen took advantage. You as practitioners can play an important part here.

Vaccinate Calves. It's recommended that heifers be vaccinated as soon as possible after they are three months and preferably during the three-to-six months age range. Most problems with Strain 19 come from vaccinating overage calves—a practice that can seriously interfere with diagnosis.

Eliminating the remaining one percent of infected cattle while protecting the 99 percent already free of brucellosis won't be easy! But it'll be worth it in terms of peace of mind for producers and veterinarians, and the economic savings for our livestock industry.

We intend to see this job through to a successful conclusion, but we're going to need lots of help. I can't think of anyone better qualified or in a better position to be of help than you bovine practitioners. Working together, we'll put an end to brucellosis in cattle!

Table 1

Number of Infected Herds and Infection Rates During 12-Month Period

	June 1973 - May 1974	Infection Rate per 1,000 Herds
Alabama	713	18.3
Alaska	--	--
Arizona	5	1.7
Arkansas	568	17.4
California	47	2.6
Colorado	91	6.2
Connecticut	--	--
Delaware	--	--
Florida	378	28.2
Georgia	448	12.8
Hawaii		
Idaho	102	4.9
Illinois	182	3.6
Indiana	59	1.5
Iowa	187	2.4
Kansas	257	5.1
Kentucky	444	6.6
Louisiana	1,167	45.9
Maine		
Maryland	13	2.1
Massachusetts	7	3.7
Michigan	7	0.26
Minnesota	35	0.58
Mississippi	1,762	41.2
Missouri	318	3.7
Montana	21	1.3
Nebraska	106	2.4
Nevada	9	6.9
New Hampshire	1	0.7
New Jersey	7	3.6
New Mexico	50	7.5
New York	11	0.37
North Carolina	24	0.60
North Dakota	3	0.10
Ohio	28	0.60
Oklahoma	1,369	24.0
Oregon	12	0.86
Pennsylvania	19	0.56
Rhode Island		
South Carolina	5	0.38
South Dakota	67	2.1
Tennessee	943	9.9
Texas	4,786	34.4
Utah	18	2.6
Vermont	16	3.2
Virginia	41	1.2
Washington	1	0.06
West Virginia	22	1.5
Wisconsin	27	0.38
Wyoming	20	3.3
Puerto Rico	41	3.0
Total	14,437	Avg. 9.9

Ohio Cow Establishes New National Milk and Butterfat Records

On May 9, 1974, Breezewood Patsy Bar Pontiac, a registered Holstein cow owned by the Gelbke Brothers, Vienna, Ohio, completed the highest milk and butterfat records ever made in the United States.

On that day, Breezewood Patsy Bar Pontiac 6174402 (EX) completed a 365 day (2x) Official DHIR production record of 45,270 pounds of milk and 2191 pounds of butterfat (4.8% average test).

This is the all-time high record for both milk and butterfat in the United States, regardless of times milked daily. Her record started at 8 years and 6 months of age with 2x daily milkings. This great cow is classified Excellent.

Pontiac's 305 day production record is 38,890 pounds of milk and 1861 pounds of butterfat. These also are all-time national records.

Pontiac averaged 124.0 pounds of milk (14.4 gallons) and 6.0 pounds of butterfat per day for her 365 days testing period. She reached her peak test day milk production of 155.7 pounds (18.1 gals.) during the fifth month of her lactation. Her highest test day butterfat production of 9.2 pounds was realized during the fourth month of lactation.

The record was made under the Unified Rules for DHI and DHIR testing. Six different test supervisors spent a total of 17½ days on the Gelbke farm in certifying the accuracy of the new record.

Information supplied by Louis W. Jacquemin, Coordinator of Records, Ohio Ag Services, Inc.