Among the 20 JD-infected herds on this study, 10 were randomly selected for an intensive monitoring and management program to facilitate detection and removal of positive animals and minimize the spread of *M. paratuberculosis* to young animals. Preliminary data show that in the herds on an intensive intervention program, production losses per cow were much less than when a traditional program of annual testing and removal of positive cows are followed:

Traditional Program	**Intensive Intervention**
culture cows only	culture cows and youngstock
culture 1x/year	culture 2x/year
sedimentation culture method	centrifugation culture method
variable management changes	management changes including:
	• youngstock separation
	• sanitation

ME difference between JD pos and JD neg cows
All herds--349 lb.
Intervention herds--97 lb.
traditional program herds--853 lb.

Relationship Between Starting and Ending Scrotal Circumference for Bulls in 140-Day Test-of-Gain Programs

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Scrotal circumference measurements were collected on 2,714 young bulls at the time they entered one of three bull test stations operated by the Virginia Beef Cattle Improvement Association during the years 1982-1988. Scrotal circumference measurements were collected again at the time bulls completed the 140 day test-of-gain period. Because of a 14 day adaptation period the time between measurements was 154 days. Data were also collected for breed, days of age at start of test, weight at start and end of test, and frame score at end of test. Bulls ranged from 156 days to 371 days of age at start of test with an average of 257 days. The average beginning weight was 339 kg (range 182 to 575 kg) and the average ending weight was 530 kg (range 331 to 786 kg).

Data was analyzed for the effect of beginning scrotal circumference SCs on the ending scrotal circumference SCe. Separate analyses were performed for each of 6 breeds having at least 60 bulls represented. A linear regression model with a formula SCe = 21.65 + 0.50 SCs had an R2 of 0.73. A third order polynominal regression model increased the value of R2 to only 0.75. Figure 1 is a scattergram of SCs vs SCe. Lines are drawn to indicate that young bulls entering the test stations with a scrotal circumference of less than 18 cm have a high risk of ending the test with a scrotal circumference of 30 cm or less. In these test stations bulls with a yearling scrotal circumference not exceeding 30 cm are not eligible for sale.

Multiple regression analysis showed days of age and weight off test to have influences on SCe (P . 01). The estimated value for the influence of days of age was -0.017 per day and the estimated value for the influence of weight off-test was 0.019 per kg on SCe.

Breed influences for SC gain during tests were also found to be significant. SC gains during test for Angus, Hereford and Polled Hereford, Charolais, Simmental, Gelbvieh and Limousin were 8.80 + .09, 7.35 + .21, 9.95 + .26, 9.49 + .20, 9.93 + .40, and 6.77 + .31 respectively.

Producers of breeding bulls incur considerable expense in growing out bulls and then must sometimes cull them on the basis of low scrotal circumference. These findings will be helpful in making a decision to cull a bull with a small scrotal circumference at an early age and decrease the costs associated with rearing that bull to a greater age.