

Cost of Johne's Disease Control Programs on Michigan Dairy Farms

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Introduction

The NAHMS Dairy 1996 study estimated that 22% of US dairy herds are infected with Johne's Disease (JD), but other estimates range from 21-93% depending on region and testing method used to identify infected herds. In a recent stratified random survey of dairy farms in Michigan, it was estimated that up to 49% of the state's dairy herds were infected with JD. Anecdotal reports by private practitioners in Michigan suggest this estimate is extremely conservative. Regardless of the estimate, JD is a prevalent disease on many dairy herds resulting in economic losses due mainly to lost production, increased culling, decreased cull value, and increased replacement costs. The literature estimates annual losses due to JD in US dairy herds range from \$22-26 per cow across all cattle in an infected herd. Johne's Control programs are commonly recommended, but very little information is available on the cost to implement these programs. The objective of this study was to quantify the costs of JD control programs implemented on dairy herds over time and determine their impact on herd prevalence.

Materials and Methods

An economic questionnaire was administered to six Michigan dairy herds enrolled in a JD control program annually (2004-2006) to assess costs directly attributable to the control program. The questionnaire consisted of four categories: supplies/testing, management, labor, and capital investment. Costs for each cat-

egory were calculated and adjusted to 2006 US dollars. Concurrently, JD prevalence on these herds was monitored by annual whole herd fecal culture or serum ELISA testing.

Results

The cost of JD programs on these farms ranged from \$24-109 per cow per year with a mean of \$63 per cow per year and a median of \$58 per cow per year. The majority of the costs fell in the testing and supplies category, followed by labor costs, with costs for management and capital investments being fairly equal when averaged across all herds. Over the same period JD prevalence, as measured by whole herd fecal culture and/or serum ELISA, within these herds dropped 3-30%. There was a trend across these herds for a reduction in the percent of first lactation cows being fecal culture positive (an indication that practices put in place to prevent new JD infections are working). However, there was no apparent association between the amount spent on a control program and the magnitude of decrease in apparent within herd JD prevalence.

Significance

This study provides a rough insight into how much dairy farms are investing into JD control programs. Results also suggests that money spent on a JD control program does reduce within herd prevalence, but a more thorough benefit-cost analysis is needed to determine if JD control programs are cost effective.