

Comparison of *Neospora* seroprevalence in Virginia dairy herds with high
and low abortion rates

by

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(ABSTRACT)

Neospora has become a commonly recognized infectious cause of abortion in dairy cattle. The organism is associated with mid to late term abortion outbreaks with rates exceeding 30% in some herds. Cows infected with this organism exhibit no other clinical signs. While this disease has been reported in other parts of the country, no assessment of *Neospora* seroprevalence has been undertaken in the Southeast. This study sampled commercial dairy herds to assess *Neospora* seroprevalence in dairy cows and investigate its significance as an abortifacient agent in Virginia. Twenty four herds participated in the study. Twelve herds had DHIA reported annual abortion rates of 6% or greater (high abortion rate herds) and twelve herds had abortion rates of 2% or less (low abortion rate herds). High abortion rate herds were each paired to a low abortion rate herd (control) herd within the same county. A single blood sample was collected from all cows confirmed to be 90 to 240 days pregnant, with a maximum of thirty samples per herd. A random sample of cows was selected in herds with more than 30 pregnant cows between 90 and 240 days gestation. *Neospora* antibody titers were determined using a serum ELISA test at the California Veterinary Diagnostic Laboratory. Both mean and median seroprevalence of high and low abortion rate herds were compared using the Mann-Whitney Rank Sum test

and the Median test, respectively. No significant difference was found in either case ($p=0.56$, $p=0.41$). These findings suggest that *Neospora* does not contribute significantly to the average abortion rate in Virginia's dairy cattle.

Dedication

This manuscript is dedicated to my mother Loretta, who gave me my first Pet Doctor Barbie[®], my father John, who worries too much, my sister Jenny, who is the voice of reason, my brother Chris, who shares my sense of humor, and my dog, Jasper, who didn't eat the final manuscript.

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