# **Titre d’article**: The first study on seroprevalence and risk factors of Neospora caninum infection in pregnant local cows from Northeast Algeria

**Abstract :**

Background and Aim: Neospora caninum is one of the most common infectious organisms worldwide that causes abortion in cattle. To the best of our knowledge, no previous studies have focused on N. caninum infection in the local Atlas brown cattle from Northeast Algeria. This study aimed to assess the importance of bovine neosporosis for causing abortion in Atlas brown cattle and to identify selected risk factors. Materials and Methods: A case-control study was performed on 60 control farms and 30 case farms. We collected 650 blood samples from 650 pregnant cows from 90 farms in five Algerian provinces; Jijel, Skikda, Annaba, El-Tarf, and SoukAhras. Sera samples were analyzed for the presence of antibodies against N. caninum using enzyme-linked immunosorbent assays. Results: The seroprevalence of N. caninum infection in the cows was 36.2% (95% confidence interval [CI]: 32.7-39.8) and in the farms was 81.1% (95% CI: 73.0-89.2). Risk factors found by multivariable logistic regression included: Presence of dogs (odds ratio [OR] 4.7, 95 CI 2.9-7.3); age ≥84 months (OR 4.9, 95 CI 2.8-8.3); Jijel region (OR 2.2, 95 CI 1.1-4.5); white (OR 2.5, 95 CI 1.4-4.4) and gray (OR 2.5, 95 CI 1.4-4.5) coat; moderate (OR 2.30, 95 CI 1.4-3.8) and bad (OR 3.1, 95 CI 1.8-5.3) hygiene; and second (OR 2.5, 95 CI 1.4-4.4); and last (OR 2.3, 95 CI 1.3-4.2) stage of pregnancy. Our case-control study showed no significant association between seropositivity of N. caninum and abortion at the farms level (OR 0.9, 95 CI 0.3-2.7). Similarly, there was no significant association between seropositivity of N. caninum and abortion at the individual level (OR 0.8, 95 CI 0.6-1.2). Conclusion: This is the first study of N. caninum infection in pregnant local cows from Northeast Algeria. The prevalence rate of antibodies against N. caninum was high. Almost all risk factors studied for infection were significantly associated with seroprevalence. Our analysis showed no relation between N. caninum infection and abortion. Consequently, these local cows are resistant to abortion caused by N. caninum.