Introduction

Leptospirosis caused by *Leptospira borgpetersenii* serovar *hardjo bovis* is thought to impair reproductive performance in cattle. Several new vaccines have been introduced to help prevent these reproductive losses. A clinical trial was designed to evaluate the consequences of vaccination in a single commercial dairy.

Materials and Methods

Infection status of the herd was determined by testing urine from 45 conveniently chosen lactating cows. Five of 45 were positive by flourescent antibody testing. Cows and nulliparous heifers were randomly assigned to vaccination or controls in an incomplete random block design at about 220 days of gestation. A second dose of vaccine was administered to the vaccinates about 28 days later. All vaccinations were performed by the same technician. No other interventions were performed. Herd managers followed their routine breeding management program without modification throughout the trial. Animals were enrolled between November 11, 2003 and May 5, 2004 to include 602 controls and 607 vacci-
nates. Pregnancy status was determined by transrectal palpation at 35-41 days after breeding and confirmed at 100-106 days after breeding.

**Results**

First-service conception proportion was 27% for controls and 36% for vaccinates (chi square test, p=0.004). Kaplan Meir survival analysis was performed on time to pregnancy. The time for 50% to become pregnant was 105 days in controls and 90 days in vaccinates (Wilcoxon rank sum test p<0.001). Pregnancy rate as calculated by Dairy Comp 305 was 19% for controls and 21% for vaccinates. There were 56 abortions after first palpation in controls and 58 in vaccinates.

**Conclusions**

In this herd with some evidence of infected cattle, vaccination against *L. borgpetersenii* serovar *hardjo bovis* resulted in significant improvement in reproductive performance without changing the visible proportion of abortions.