Twenty Romney Marsh ewes, some 5 to 40 days pregnant, were inoculated with a strain of B. ovis onto the scarified mucous membrane of the vagina. Establishment of infection was ascertained by recovery of the organisms from blood; supramammary and inguinal lymph nodes; the vagina, after initial disappearance of the organism from this organ; and the complement fixation test. The bacteremia was transitory or intermittent, but organisms could not be recovered from blood, or any other tissue examined, after 98 days of infection. Abortions or placentitis were not observed. It is recommended that in countries where sheep breeding is not seasonal, a sexual rest of infected ewes for at least 4 months must be part of any program for the control and eradication of ram epididymitis.