

# PROTOCOL

## Effect Of Absence Of Adjuvant In Controlled-Release Pellets On Antibody Response To Controlled-Release PZP Contraceptive Vaccine In Mares

J.W. Turner, Jr.  
J.F. Kirkpatrick,  
I.K.M. Liu  
D. Flanagan

Some previous studies in our lab have suggested that the presence of adjuvant is not essential for the effectiveness of the controlled-release pellets used in PZP vaccine. However, this fact has not been established. The proposed 9-month study, to be performed at the Canyon City BLM facility in Colorado, directly addresses this issue.

Mares will be given a single-injection of controlled-release vaccine with or without QA-21 adjuvant in the pellet portion of the vaccine. Serum anti-PZP titers will be determined monthly in these mares across 9 months. Since a test of a controlled-release PZP vaccine of 3-4 years' presumptive duration will concurrently be underway, mares in that test will serve as the "Pellets with Adjuvant" group. Ten other mares will be given the identical vaccine with the exception that the pellets will be adjuvant-free ("Pellets without Adjuvant" group). Note that the 3-4-yr vaccine contains 4 pellets, releasing respectively at about 1, 3, 12 and 20 months. Since the 1- and 3-month pellets will release during the 9-month study period, it will be possible to determine whether adjuvant presence is essential for sustained anti-PZP antibody titers in the first year. The 12- ad 20-month pellets will be present in the mares but will not release their contents during the 9-month study. The mares in the 3-4-yr vaccine study can thus serve double function and eliminate the need for a separate "Pellets with Adjuvant" group. If the 10 mares in the adjuvant-free group can be maintained at Canyon City longer (until 12- and 20-month pellets release), we can determine whether adjuvant is needed in these pellets as well. We recommend this, since elimination of QA-21 from all pellets preparations would save considerable time, logistics and money.

All mares will be 6-15 (preferably 6-12) years of age and in good health. Each mare will be identifiable by numeric freeze brand or tag. Mares will be immunized in February/March via intramuscular injection in the left hip by hand-held syringe or jabstick. A ten cc blood sample will be taken by jugular venipuncture from each mare on the day of injection and monthly thereafter for 9 months (note that samples every other month from 9 to 24 months will be needed to assess whether adjuvant is needed in the 12- and 20-month pellets). Titers will be compared between the 2 groups of mares to assess the need for QA-21 adjuvant in controlled-release pellets.