Overview-- *Neospora caninum* is a protozoan parasite widely recognized as an important infectious cause of abortion in cattle. The UKVDL has noticed an increase in mid-to late term abortion cases due to *N. caninum* at the end of July and the first of August in fall calving cows. The typical presentation involves fall calving cows due to calve approximately the first week of September but aborting fetuses at 8 months gestation. These fetuses are small, fully-haired, and may be partially autolyzed on expulsion. As the calving season gets closer, cows may have premature calves (approximately 3 weeks early) which are very small but can survive with good management. Less often, a congenitally infected calf may be born early with neurologic signs and birth defects.

Diagnosis-- Diagnosis is accomplished by submission of the aborted fetus, placenta, and maternal serum sample for necropsy, histopathology, PCR/IHC and serological testing. The presence of characteristic histologic lesions in the brain (multifocal nonsuppurative necrotizing meningoencephalitis) and heart (nonsuppurative inflammation with possible mineralization) of the aborted fetus are highly suggestive of protozoal abortion. Definitive diagnosis is by confirmation of the presence of the organism by PCR or IHC. However, it can be difficult to find tachyzoites in routine histologic sections. Testing of the maternal serum to detect antibodies to *N. caninum* by cELISA is rapid and inexpensive but not diagnostic for abortion. A positive result only indicates exposure to *Neospora*; a negative result does NOT rule out the disease and many cows seroconvert after the abortion episode or have fluctuating antibody levels around parturition. Fetal heart blood may be tested for *N. caninum* antibodies but a negative result does not rule out the disease; false negatives often occur because the fetus does not always mount an immune response to the infection.

Treatment-- No treatment options are available in the United States. A vaccine previously available is no longer on the US market. There is some preliminary research supporting monensin (Rumensin®) as an aid in controlling the replication of the organism.

In summary, Neosporosis should be considered as a major differential diagnosis, especially in well-vaccinated herds experiencing multiple losses, particularly in
mid-to-late gestation. Feel free to contact Dr. Michelle Arnold, Ruminant Extension Veterinarian, for further discussion or questions.

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