

# Dual Infection of the Bovine Fetus with Bovine Virus Diarrhea Type 1 and Type 2: Can it Happen and What are the Implications for Vaccination?

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## Summary

Infection of the fetus between 40-120 days of gestation with bovine virus diarrhea virus (BVDV) results in a persistently infected animal that is a constant source of BVDV to the herd. We have developed a model in which fetal calves can be infected with both type 1 and type 2 BVDV. Heifers seronegative for BVDV were infected at 75 days $\pm$ 5 days of gestation with both type 1

and type 2 non-cytopathic BVDV. The fetuses then were harvested at 140-160 days of gestation. Virus was recovered by isolation from thymus, spleen, ileum and heart blood from the fetuses of all the BVDV-infected heifers. The polymerase chain reaction (PCR) using primers for both type 1 and type 2 indicated both types of virus present in the calves. This model has broad implications for vaccine protection studies and for studying the evolution of new field BVD virus strains.