

# Reproductive Impact following Controlled Introduction of Bovine Viral Diarrhea Virus

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## Introduction

The reproductive impact following controlled introduction of animals persistently infected (PI) with bovine viral diarrhea virus (BVDV) was evaluated in BVDV-naïve heifers.

## Materials and Methods

Heifers were vaccinated against clostridial diseases, brucellosis, leptospirosis, and vibriosis prior to the breeding season. Heifers were randomly divided into two groups: 1) a non-BVDV exposed control herd (Group C=34 heifers) and 2) a herd exposed to five PI animals for seven months beginning 50 days prior to the breeding season (Group B=34 heifers). Initiation of the BVDV-challenge was timed to mimic either the natural exposure to BVDV from PI calves born in the previous calving season or the accidental introduction of PI animals prior to the breeding season. The PI animals were commingled with Group B in an isolated pasture,

and were persistently infected with a type 1a (n=3), 1b (n=1), or 2 (n=1) field strain of BVDV. Two bulls were introduced to each group for 78-day breeding seasons.

## Results

In both groups, 33 out of 34 heifers became pregnant with a similar distribution of fetal ages. Two heifers in Group B and one heifer in Group C aborted, but the cause was not determined. One calf was born dead in Groups B and C, one calf in Group B died three days postpartum, and one calf in Group C died four months postpartum. All calves and fetuses were negative for BVDV.

## Significance

In summary, controlled introduction of PI animals 50 days prior to the breeding season did not significantly impact reproductive performance in a group of BVDV-naïve heifers.