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Main topic : Surveillance and control of emerging diseases

## Prevalence of bovine viral diarrhoea in dairy farms in the southeast region of the United States

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Bovine viral diarrhoea (BVD) is an economically significant disease in dairy farms causing reproductive problems including failure to conceive, embryonic loss, abortion and congenital abnormalities<sup>1</sup>. A sensitive and economical method to screen the lactating animals is through testing the bulk tank milk samples by real-time RT-PCR<sup>2</sup>. Although the meta-prevalence for persistent infection rate is low (0.5%) in North America (data collected during 1961-2016)<sup>3</sup>, the prevalence of BVD in dairy herds has not been reported for the southeast region of the United States. To better understand the regional prevalence and the circulating BVDV subtypes, 90 bulk milk samples from 37 dairy farms in Georgia and Florida were collected and tested at Tifton Veterinary Diagnostic and Investigational Laboratory during 2021-2022. A survey related to management practices was also conducted. Overall, 10% of the bulk milk samples tested positive (9/90) and 10.8% of the herds tested positive (4/37). All four positive farms reported routine use of BVD vaccine in cows. Sequencing of 5'UTR and E2 regions showed that BVDV subtype 1b is present in all 6 positive samples (three samples with Ct values above 35 were not able to be sequenced). About 81.1% of participants reported at least some knowledge about BVD and 91.9% farms have a regular veterinarian with visiting frequency ranges from daily, weekly, monthly and whenever needed (32.4%, 14.7%, 8.8% and 44.1%, respectively). The majority of the farms reported routine use BVD vaccines in their calves (85.3%) and cows (89.2%). Survey also showed that herd size, purchasing or raising replacement heifers, using artificial-insemination, testing for BVD in newborn calves and replacements etc. were not significantly different between farms with positive or negative BVD results. However, positive BVD farms have significantly higher number of dry cows than BVD negative farms with median of 284 cows (29.5-240 interquartile range) and 124 cows (270.5-298.3 interquartile range), respectively ( $P=0.038$ ). In summary, despite high awareness and vaccination rate, BVD can still be an issue for certain dairy farms in the southeast region of the United States.