Fact Sheet: Bovine Picornaviruses

P2f Infectious Diseases

August 2025

Bovine Picornaviruses

Boosepivirus and Bopivirus are recently identified members of the *Picornaviridae* family.

They have been detected in young livestock, mainly young cattle under 12 months old.

These viruses are most often found in manure faecal samples but their role in causing disease is unclear.

Bopivirus has also been reported in sheep and goats, though its clinical significance in these species is unknown.

Current knowledge

These viruses have been found in both scouring healthy calves, suggesting possible subclinical infections. No consistent clinical signs, experimental infections, or tissue studies have been reported, and their pathogenic potential is unknown. Virus isolation in cell culture has not been documented.

Laboratory detection

Detection relies on RT-PCR or metagenomic sequencing in research settings. No routine diagnostic tests, serology, or culture methods are currently available in veterinary practice.

Notes

The presence of these viruses in diarrheic calves may be incidental. Further research is needed to determine their relevance to cattle health.

References

László, Z., Pankovics, P., Reuter, G., Cságola, A., Bálint, Á., Albert, M., & Boros, Á. (2021). Multiple Types of Novel Enteric Bopiviruses (Picornaviridae) with the Possibility of Interspecies Transmission Identified from Cloven-Hoofed Domestic Livestock (Ovine, Caprine and Bovine) in Hungary. Viruses, 13(1), 66.

Wang, L., Lim, A., & Fredrickson, R. (2021). Genomic characterization of a new bovine picornavirus (boosepivirus) in diarrheal cattle and detection in different states of the United States, 2019. Transboundary and Emerging Diseases.

Key points

- Boosepivirus and Bopivirus are picornaviruses detected in young cattle;
- Their role in disease is uncertain.
- They are found in scouring and healthy calves; no consistent clinical signs confirmed.
- There have been no experimental infections, histopathology, or cell culture isolation reported.
- Diagnosis is not routinely available in labs. It can be detected with RT-PCR or metagenomics.
- The clinical significance of these viruses remains unclear; more research is needed.

Microbial surveillance in dairy cattle

This series of fact sheets has been prepared for cattle vets. It covers a range of microbes that were identified by Dairy UP team in samples collected from cattle on NSW dairy farms in 2023 and 2024. As many of these viruses are new, and knowledge about them is still emerging, we have collated current knowledge as a handy reference.

About Dairy UP

Dairy UP is a research and development program to help NSW farmers unlock the potential of their dairy businesses. Led by the University of Sydney's Dairy Research Foundation, Dairy UP is delivered through NSW DPIRD, Scibus, Dairy Australia, and the University of Sydney.

More info

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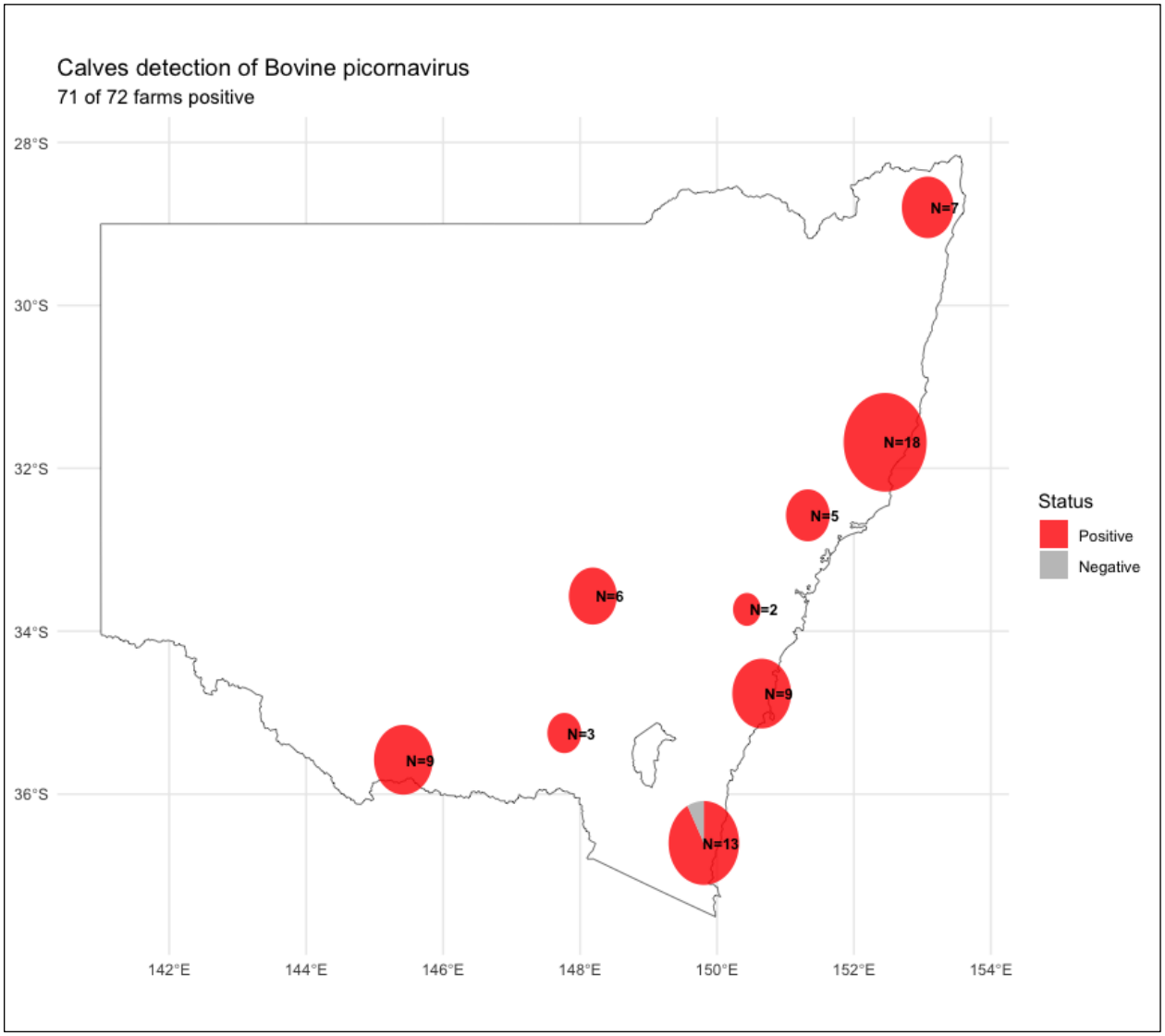

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