Supplementary Table 1. List of primers with the corresponding target genome region used to detect infectious agents associated with bovine respiratory disease.

Organism	Target genome region	Primer sequence	Fragment length (bp)	Reference
Bovine viral diarrhea virus	5' untranslated region (5'-UTR)	324-F: 5'-ATGCCCWTAGTAGGACTAGGCA-3' 326-R: 5'-TCAACTCCATGTGCCATGTAC-3'	288	8
Bovine respiratory syncytial virus	G attachment glycoprotein gene	B5A-F: 5'-CCACCCTAGCAATGATAACCTTGAC-3' B6A-R: 5'-AAGAGAGGATGCCTTGCTGTGG-3' B7A-F: 5'-CATCAATCCAAAGCACCACACTGTC-3' B8-R: 5'-GCTAGTTCTGTGGTGGATTGTTGTC-3'	371	1
Bovine coronavirus	Nucleocapsid protein gene	BCoV1-F: 5'-CGATGAGGCTATTCCGAC-3' BCoV2-R: 5'-TGTGGGTGCGAGTTCTGC-3' BCoV3-F: 5'-TTGCTAGTCTTGTTCTGGC-3'	251	6
Bovine parainfluenza 3 virus	Hemagglutinin-neuraminidase gene	HNfwd-F: 5'-GAATGACTCATGATAGAGGTAT-3' HNseq1-R: 5'-AGGACAACCAGTTGTATTACAT-3'	647	9
Bovine alphaherpesvirus 1	Glycoprotein D gene	P3-F: 5'-GCTGTGGGAAGCGGTACG-3' P4-R: 5'-GTCGACTATGGCCTTGTGTGC-3' P5-F: 5'-ACGGTCATATGGTACAAGGACAGCG-3'	425	4
Pasteurella multocida	Open reading frame of the clone KMT1	KMT1SP6-F: 5'-GCTGTAAACGAACTCGCCAC-3' KMT1T7-R: 5'-ATCCGCTATTTACCCAGTGG-3'	460	7
Histophilus somni	16S ribosomal (r)DNA gene	HS453-F: 5'-GAAGGCGATTAGTTTAAGAG-3' HS860-R: 5'-TTCGGGCACCAAGTRTTCA-3'	408	2
Mannheimia haemolytica	lktA-artJ intergenic region	Mh-F: 5'-GTCCCTGTGTTTTCATTATAAG-3' Mh-R: 5'-CACTCGATAATTATTCTAAATTAG-3'	385	3
Mycoplasma bovis	16S-23S rDNA intergenic region	Molli-F: 5'-CCGTCAAACYATGGGAGC-3' Molli-R: 5'-GTGYCCCGCCMTACTCAGG-3' nMb-F: 5'-GTACACTTGTCTTTTATCACTATA-3' nMb-R: 5'-AAGGTATCTCGCTTTATGTCCT-3'	488	5

References

1. Almeida RS, et al. Detection of Brazilian bovine respiratory syncytial virus strain by a reverse transcriptase-nested-polymerase chain reaction in experimentally infected calves. Vet Microbiol 2005;105:131-135.

2. Angen O, et al. Development of a PCR test for identification of *Haemophilus somnus* in pure and mixed cultures. Vet Microbiol 1998;63:39-48.

3. Angen O, et al. Respiratory disease in calves: microbiological investigations on trans-tracheally aspirated bronchoalveolar fluid and acute phase protein response. Vet Microbiol 2009;137:165-171.

4. Claus MP, et al. Rapid detection and differentiation of bovine herpesvirus 1 and 5 glycoprotein C gene in clinical specimens by multiplex-PCR. J Virol Methods 2005;128:183-188.

5. Oliveira, VHS. Molecular diagnosis of viral and bacterial infections associated with an outbreak of respiratory disease in dairy calves [MS dissertation]. Universidade Estadual de Londrina, Londrina, State of Paraná, Brazil, 2014.

6. Takiuchi E, et al. Improved detection of bovine coronavirus N gene in faeces of calves infected naturally by a semi-nested PCR assay and an internal control. J Virol Methods 2006;131:148-154.

7. Townsend KM, et al. Development of PCR assays for species- and type-specific identification of *Pasteurella multocida* isolates. J Clin Microbiol 1998;36:1096-1100.

8. Vilček Š, et al. Pestiviruses isolated from pigs, cattle and sheep can be allocated into at least three genogroups using polymerase chain reaction and restriction endonuclease analysis. Arch Virol 1994;136:309-323.

9. Zhu Y-M, et al. Isolation and genetic characterization of bovine parainfluenza virus type 3 from cattle in China. Vet Microbiol 2011;149:446-451.