

Respiratory pathogen detection in dairy goats from across the United States

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- Introduction
- Respiratory disease is one of the costliest disease conditions reported by dairy goat producers.
 - Labeled treatment and prevention options are significantly limited.
 - This effort is part of a larger effort to strengthen the US dairy goat industry:



<https://www.dairygoatagrisystems.org/>

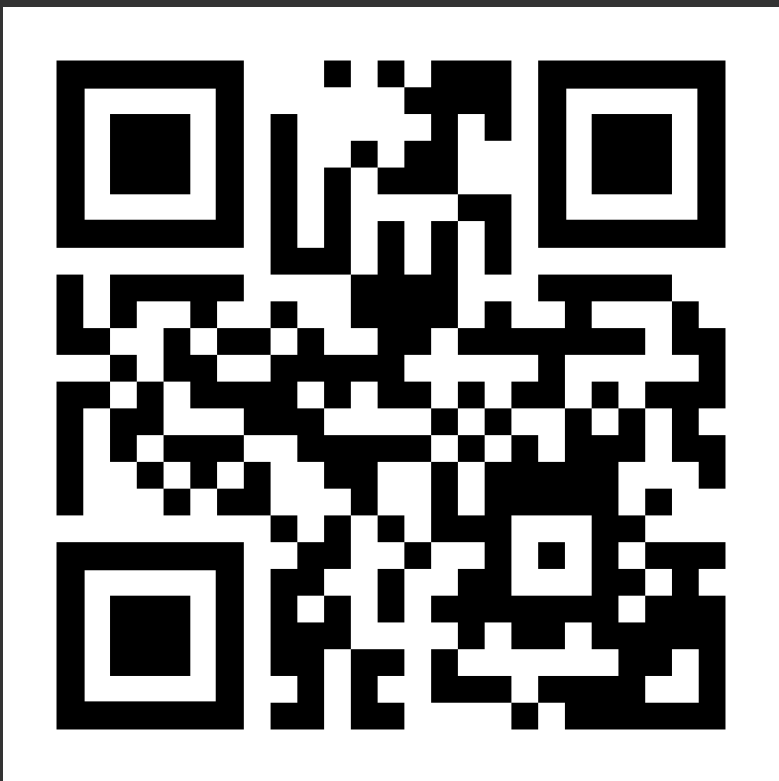
Objective

To investigate respiratory pathogens currently present in the U.S. dairy goat population to develop improved diagnostic testing, treatment and prevention options.

- Methods
- Dairy goats of all ages were sampled at the 2025 American Dairy Goat Association National Show (N = 105)
 - Each farm was (N = 32) classified as either currently exhibiting mild to moderate signs of respiratory disease (DISEASED) or no signs of respiratory disease (HEALTHY) with 1-5 animals sampled per farm
 - Two nasopharyngeal swabs were collected from each goat

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In normal healthy dairy goats, carriage of Pasteurellaceae in upper respiratory tract may be limited. *Mycoplasma ovipneumoniae* was most frequently identified in animals with respiratory signs, warranting inclusion in diagnostic testing and consideration of antibiotic coverage for treatment of undifferentiated respiratory disease in dairy goats. *Bovine rhinitis B virus* may be an emerging pathogen of goats.



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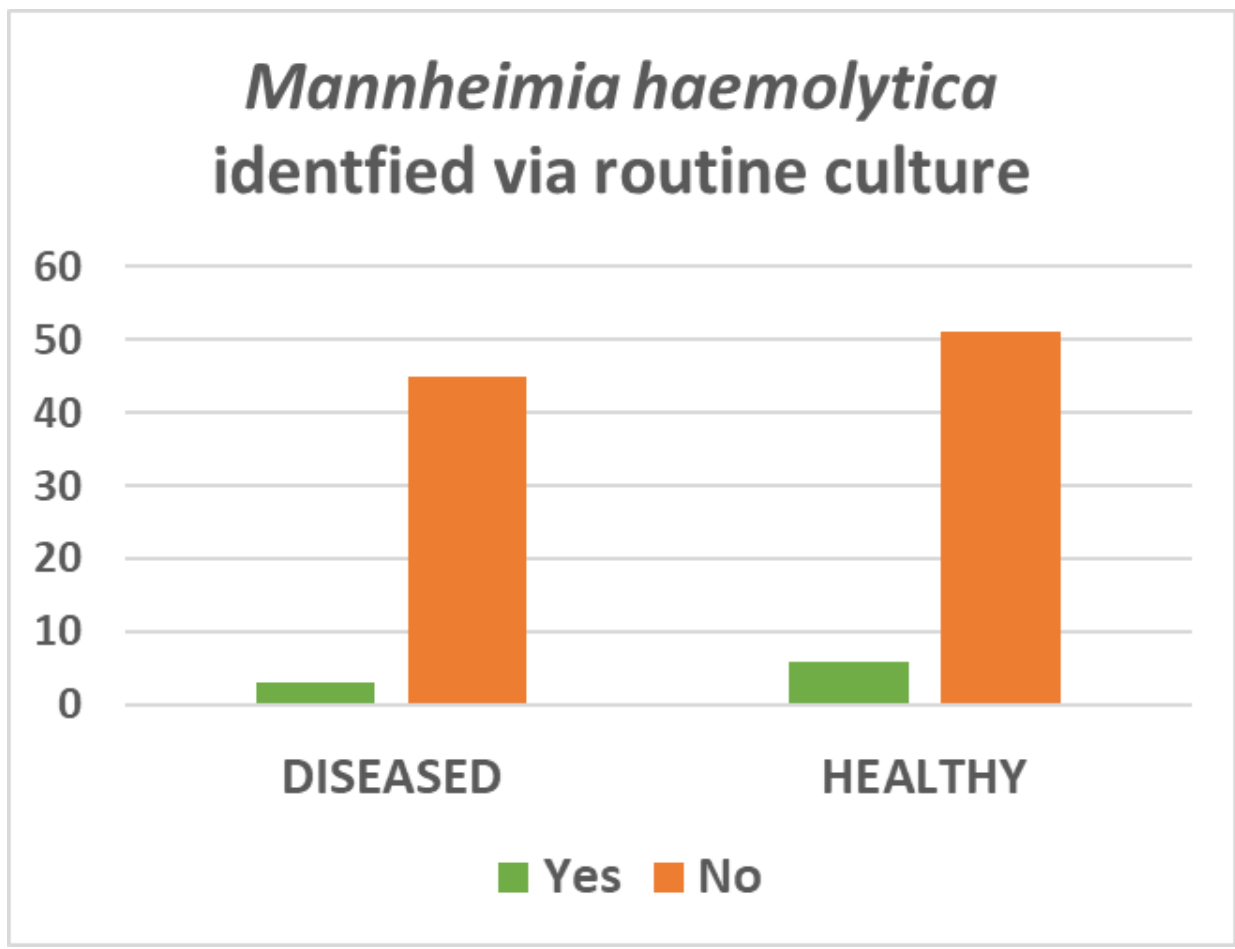
UNLABELED/UNAPPROVED USES DISCLOSURE:
None to disclose

FINANCIAL DISCLOSURE/S:



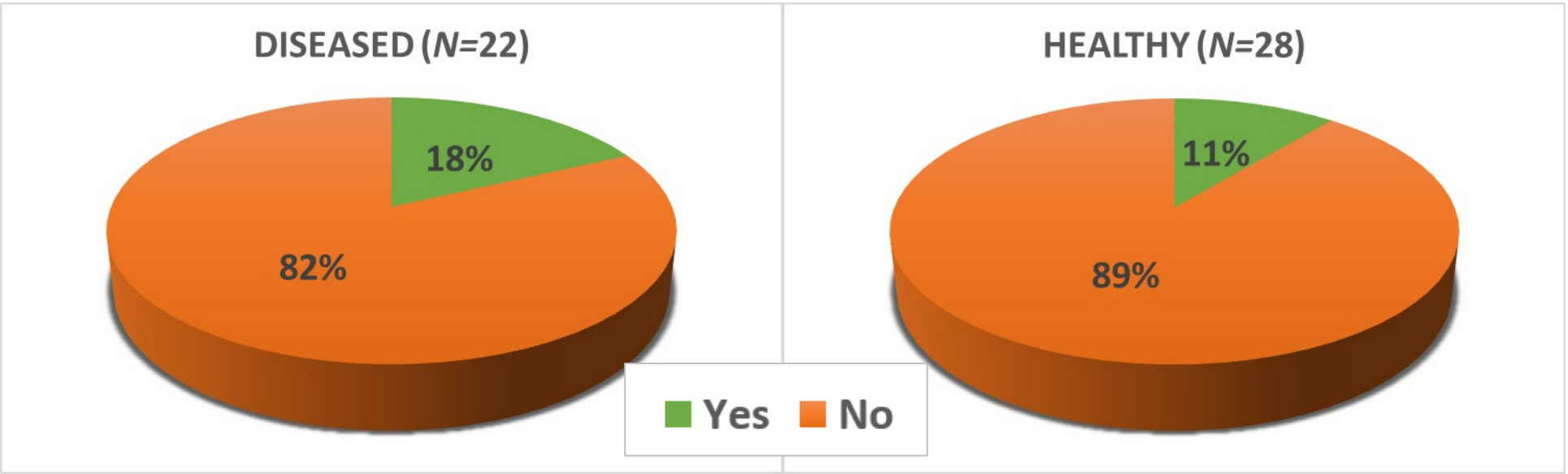
Results

Routine culture & AST (all goats)



- No growth of *Pasteurella* sp. identified
- Minimal antimicrobial resistance present in *M. haemolytica* isolates (tetracycline, tylosin)

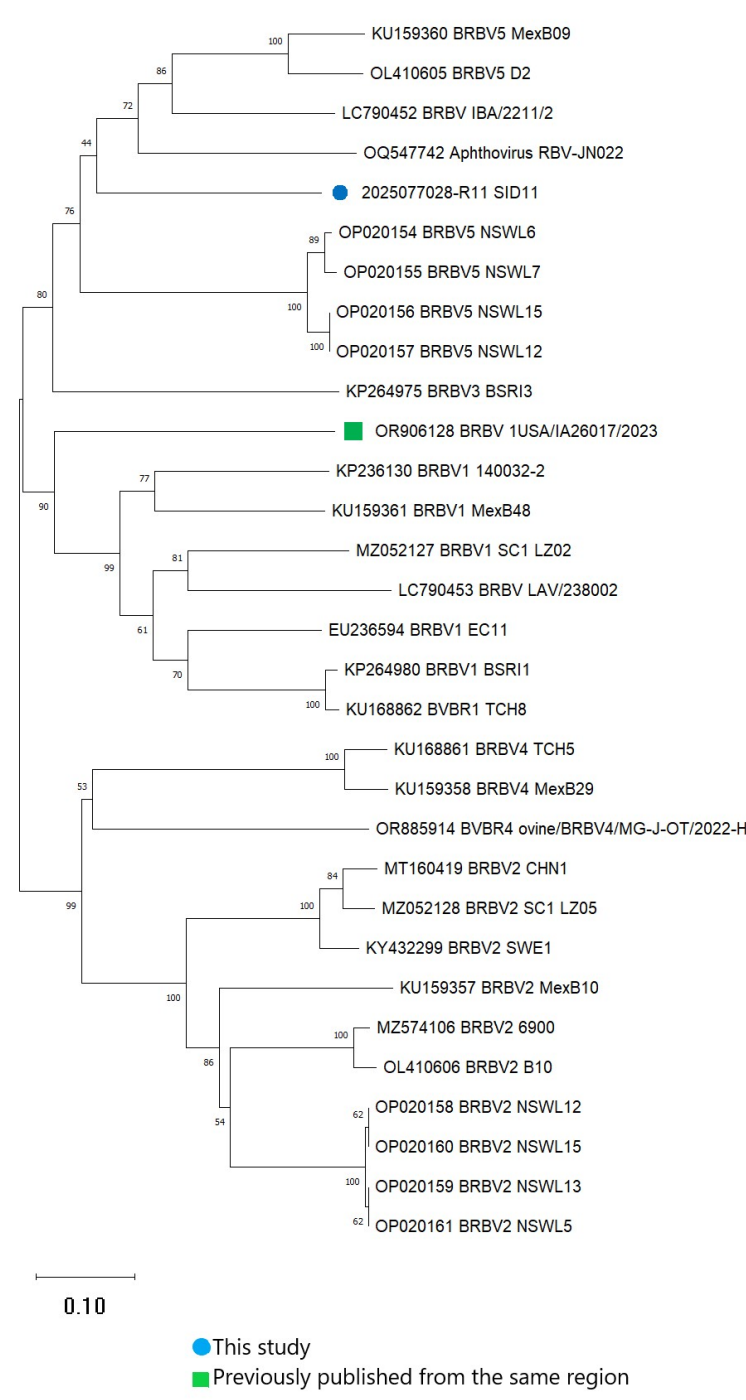
Mycoplasma sp. culture (1/2 goats)



- Mycoplasma ovipneumoniae* was confirmed via 16S sequencing to be present in farms with respiratory signs more frequently than farms without respiratory signs
- Farms that were culture positive were also positive via next-gen sequencing

Novel pathogen detection using next-gen sequencing (DISEASED farms only)

NCBI taxon ID	2732396	2731360	2923352	745	75984
Reads extraction	Orthornavirae	Heunggongvirae	Mesomycoplasmataceae	Pasteurella	Mannheimia
Sample (SID#)	Reads	Contigs	Reads	Contigs	Reads
Farm 1 (pool)	14	12	0	0	0
Farm 2 (pool)	54	16	0	0	0
Farm 3 (pool #1)	0	0	0	0	0
Farm 3 (pool #2)	21	2	0	0	0
Farm 4 (pool)	40	34	0	0	0
Farm 5 (pool)	0	0	0	0	0
Farm 6 (pool)	0	0	0	0	0
Farm 7 (pool)	0	0	0	0	0
Farm 8 (pool)	0	0	0	0	0
Farm 9 (pool)	0	0	0	0	0
Farm 10 (pool)	2679	1 (BRBV nt)	0	0	0
Farm 11	0	0	0	0	0
Farm 12	0	0	0	0	0
Farm 13	0	0	0	0	0
Farm 14	0	0	0	0	0
Farm 15	100	EnterovirusG-8	0	0	0
Farm 16	0	0	0	0	0



- Bovine rhinitis B virus (BRBV) was the primary viral agent identified in affected animals
- Recently published work also identified BRBV in a respiratory outbreak in goats