

Additional File 1: Keywords and search strategies for each database

Pubmed (Title and abstract):

((genital[Title/Abstract] OR reproductive[Title/Abstract] OR uterine[Title/Abstract] OR uterus[Title/Abstract] OR vaginal[Title/Abstract] OR vagina[Title/Abstract] OR vaginas[Title/Abstract] OR cervical[Title/Abstract] OR cervix[Title/Abstract] OR preputial[Title/Abstract] OR prepuce[Title/Abstract] OR semen[Title/Abstract]) AND (cattle[Title/Abstract] OR cow[Title/Abstract] OR cows[Title/Abstract] OR bull[Title/Abstract] OR bulls[Title/Abstract] OR bovine[Title/Abstract] OR heifer[Title/Abstract] OR heifers[Title/Abstract] OR beef[Title/Abstract])) AND (metagenome[Title/Abstract] OR metagenomic[Title/Abstract] OR metagenomics[Title/Abstract] OR microbiome[Title/Abstract] OR microbiomes[Title/Abstract] OR microbiota[Title/Abstract] OR high-throughput sequencing[Title/Abstract])

Embase (Title, abstract and keyword)

(genital:ti,ab,kw OR reproductive:ti,ab,kw OR uterine:ti,ab,kw OR uterus:ti,ab,kw OR vaginal:ti,ab,kw OR vagina:ti,ab,kw OR vaginas:ti,ab,kw OR cervical:ti,ab,kw OR cervix:ti,ab,kw OR preputial:ti,ab,kw OR prepuce:ti,ab,kw OR semen:ti,ab,kw) AND (cattle:ti,ab,kw OR cow:ti,ab,kw OR cows:ti,ab,kw OR bull:ti,ab,kw OR bulls:ti,ab,kw OR bovine:ti,ab,kw OR heifer:ti,ab,kw OR heifers:ti,ab,kw OR beef:ti,ab,kw) AND (metagenome:ti,ab,kw OR metagenomic:ti,ab,kw OR metagenomics:ti,ab,kw OR microbiome:ti,ab,kw OR microbiomes:ti,ab,kw OR microbiota:ti,ab,kw OR 'high-throughput sequencing':ti,ab,kw)

Cochrane library (Title, abstract and keyword)

genital OR reproductive OR uterine OR uterus OR vaginal OR vagina OR vaginas OR cervical OR cervix OR preputial OR prepuce OR semen in Title Abstract Keyword AND cattle OR cow OR cows OR bull OR bulls OR bovine OR heifer OR heifers OR beef in Title Abstract Keyword AND metagenome OR metagenomic OR metagenomics OR microbiome OR microbiomes OR microbiota OR high-throughput sequencing in Title Abstract Keyword - (Word variations have been searched)

Web of Science Core Collection (Topic)

TOPIC: (genital OR reproductive OR uterine OR uterus OR vaginal OR vagina OR vaginas OR cervical OR cervix OR preputial OR prepuce OR semen) **AND TOPIC:** (cattle OR cow OR cows OR bull OR bulls OR bovine OR heifer OR heifers OR beef) **AND TOPIC:** (metagenome OR metagenomic OR metagenomics OR microbiome OR microbiomes OR microbiota OR high-throughput sequencing)

Scopus (Title, abstract and keyword)

(TITLE-ABS-KEY (genital OR reproductive OR uterine OR uterus OR vaginal OR vagina OR vaginas OR cervical OR cervix OR preputial OR prepuce OR semen) AND TITLE-ABS-KEY (cattle OR cow OR cows OR bull OR bulls OR bovine OR heifer OR heifers OR beef) AND TITLE-ABS-KEY (metagenome OR metagenomic OR metagenomics OR microbiome OR microbiomes OR microbiota OR "high-throughput sequencing"))

CABI (all fields)

(genital OR reproductive OR uterine OR uterus OR vaginal OR vagina OR vaginas OR cervical OR cervix OR preputial OR prepuce OR semen) AND (cattle OR cow OR cows OR bull OR bulls OR bovine OR heifer OR heifers OR beef) AND (metagenome OR metagenomic OR metagenomics OR microbiome OR microbiomes OR microbiota OR "high-throughput sequencing")