

Topic/Title

- A) Digestive and immune efficiency in low and high methane emitting cows
- B) Host specificity of the ruminal microbial community following exchange of ruminal contents
- C) Novel combinations of feed additives to reduce methane emissions



Summary

[The ViableCow project](#) applies an interdisciplinary approach to delineate interactions between feed, microorganisms, immune response and greenhouse gas emissions to feed efficiency in ruminants. The visions of achievement are to quantify the resources (immune efficiency, exploitation of the microbial potential, digestion efficiency) available to efficient cows and to low methane emitting cows (relevant for breeding program); to elucidate whether the microbiome and methane emission are heritable and to what extent they can be modified by rumen manipulation (exchange of rumen content) and nutrition (novel combination of feed additives). The combination of feed additives to effectively reduce the environmental impact of ruminant livestock is likely to become more widely used. ViableCow will provide potential solutions for more sustainable ruminant production in the short term (nutritional strategy) and in the longer term (breeding strategy, ruminant health).

Type of thesis work: barn work, laboratory work, literature study (*choose what you prefer*).

Subject area

ruminant nutrition, methane emission, health, immunocompetence

Language thesis

Bachelor thesis: Norwegian or English; Master thesis: English

Bachelor or Master thesis

Bachelor thesis, Master thesis

Credits

Bachelor thesis: 15, Master thesis: 30 or 60

Project/company

[ViableCow: Sustainable ruminant production: Feed, microbiome and immune efficiency in low and high methane emitting dairy cows. Research Council of Norway.](#)

Bachelor or Master thesis BIOVIT 2021/22



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