



Methane phenotyping with different techniques and estimates of genetic parameters for the Nordic Red cattle in Finland

E. Negussie, A.R. Bayat, T. Stefanski, A. Chegini, and M. H. Lidauer

Natural Resources Institute (Luke), 31600 Jokioinen, Finland



enyew.negussie@luke.fi

CH4 measurement techniques used in Finland:

R. Chamber



GreenFeed



Sniffer – F10



Sniffer-NG



Methods performances:

Techniques	CH4 production CH4 g/day	CH4 Intensity g CH4/kg ECM	CH4 yield g CH4/kg DMI
Chamber	453.0±55	17.1±1.6	21.3±1.4
GreenFeed	467.1±61	21.6±1.5	14.8±1.8
Sniffer	400.1±33	20.6±4.3	13.9±3.5
h^2	0.05	0.05	0.08

Methods comparison:

R. Chamber GreenFeed

0.68 to 0.70

R. Chamber F10, Sniffer

0.40 to 0.85

Lin's concordance correlation for MeP

Conclusion

Some disparity between techniques. For effective use of scarcely recorded CH4 in livestock, tools and methods should be developed for standardizing and harmonizing into a unified set.