BOOK OF SHORT ABSTRACTS
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POSTER PRESENTATIONS

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P12 - Consequences of Selection for Environmental Impact Traits in Dairy Cows

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Environmental sustainability is gaining importance in dairy industry due to enteric methane (CH4) emission from dairy cows. We predicted CH4 indicator trait (CH4 intensity: CH4 g/kg of milk) from Mid-infrared spectra of milk samples and recorded milk yield. Genetic correlations between CH4 intensity and milk production traits were estimated on Holstein cows from correlations of estimated breeding values. Genetic correlations between CH4 intensity and milk yield (MY) was -0.67, fat yield (FY) -0.13, protein yield (PY) -0.46, somatic cell score (SCS) 0.02, longevity -0.07, fertility 0.31, body condition score (BCS) 0.27 and average of confirmation traits -0.23. Currently, there is no CH4 emission trait in genetic evaluation selection index. Putting an hypothetical 25% weight on CH4 intensity on current Walloon genetic evaluation selection index and proportional reduction on other selection traits, the response to selection will be reduction of CH4 emission intensity by 24%, increase in MY by 30%, FY by 17%, PY by 29%, SCS by -15%, longevity by 24%, fertility by -11%, BCS by -13% and conformation traits by 24%. In conclusion, introduction of environmental traits in current selection index will affect selection responses. As there is no economic value of these traits presently alternative methods like putting correlated traits with clear economic value (e.g. feed efficiency) in the selection objective could generate appropriate index weights.