Individual within-cow and between-cow variation of methane emissions from lactating dairy cows in four separate trials

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To assess the magnitude of between-cow and within-cow variation of methane emissions, we used data from four (A – D) separate trials (6 or 7 cows each) with potential methane reducing additives. Methane emissions were measured with a GreenFeed unit. Daily individual feed intake and milk production were monitored. The presented results were obtained after supplementing the additives for at least 7 weeks. The diets were formulated on an individual cow basis to meet the needs of each cow. Across the four trials, between-cow CV for g CH4/kg DMI varied from 10,2% (C) to 12,4% (A), with a mean of 11,1%. For g CH4/kg milk this CV varied from 11,8% (C) to 24,3% (D), with 18,6% as mean value. The individual within-cow CV for g CH4/kg DMI varied from 1,6% (C) to 25,4% (D) with a mean of 13,1%, and for g CH4/kg milk from 2,2% (C) up to 31,1% (D), with 12,6% as mean value.