

**A field study to determine prevalence, and fresh cow clinical conditions associated with sub-clinical ketosis in Central Eastern European dairy herds**

Short title: Sub-Clinical Ketosis in CEE EU Dairy Cows

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## **SUMMARY**

The study reported in this short communication aimed to determine prevalence, major management systems and fresh cow clinical conditions associated with subclinical ketosis (SCK) in Central Eastern European dairy herds. A total of 1751 cows in 64 herds were enrolled in Austria, Czech Republic, Hungary and Poland between November 2012 and September 2014. A milk-based test for ketones (Keto-Test<sup>TM</sup>) was used for screening cows between 7-21 days after calving and SCK was defined as Keto-Test  $\geq 100\mu\text{mol/l}$ . Study herds recorded fresh cow clinical conditions. Multivariate analysis (GEE logistic regression) was performed to determine country, farm, management, feed and cow factors associated with SCK and to determine associations between SCK and fresh cow diseases. This study indicated that the odds of SCK are 50% higher in multiparous cows compared to primiparous cows, and the odds of SCK was twice as high in Poland compared to Austria, whereas there was no significant difference in risks of SCK between Austria, Hungary and the Czech republic. A cow with calving difficulties (dystocia, twins or abortion) was 2.8 times more likely to screen positive for SCK, compared to cows with normal calving events. Fresh cow diseases were found to be at least twice as common in cows with SCK compared to cows with no SCK. It was noted that only six of the 93 cows with milk ketones  $\geq 500\mu\text{mol/l}$  were diagnosed with clinical ketosis, indicating that clinical ketosis diagnosis is often missed.