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Construction of Bovine Sex Related Genes *FOXL2* Standard Plasmid and Standard Curve by Real-time RT-PCR

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Abstract: The primer was designed based on forkhead transcription factor 2(FOXL2), according to the sequence which was submitted on GenBank. A recombinant plasmid contained cDNA fragment of *FOXL2* gene was constructed and used for the standard substance for quantitative detection of mRNA of the *FOXL2* gene of Holstein, a Real-time PCR was developed for detection of *FOXL2* gene. The results revealed this method had a good specificity, and the sensitivity was up to 10^1, range from 10^1 to 10^6. The cutoff value Ct had a good linear correlation with PCR samples. This method can detecte *FOXL2* gene in bovine quantitatively.

Key words: *FOXL2* gene; Real-time quantitative PCR; *Taq*Man probe; standard curve

精油对泌乳奶牛瘤胃发酵、乳产量和采食行为的影响

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摘要：选取 7 头安装瘤胃瘘管的荷斯坦泌乳奶牛为试验动物，采用不完全拉丁方设计用于评价 2 种商业精油(EO)对瘤胃发酵、乳产量和动物采食行为的影响。动物饲喂精粗比为 58∶42 的全混合日粮(DM 基础)。试验处理为：①添加 0.5 g/d 的 CE Lo(含 85 mg 肉桂醛和 140 mg 丁香酚)；②添加 10 g/d 的 CE Hi(1700 mg 的肉桂醛和 2800 mg 的丁香酚)；③0.25 g/d 的 CAP(50 mg 的辣椒)；④无添加组(对照组)。正试期 21 d 内试验动物每天饲喂 2 次并自由采食。添加精油对动物的干物质采食量、每天采食次数、采食时间、采食时间的长短、反刍动作、反刍时间和反刍时间的长短都无影响。饲喂 CE Hi(47.2 min)和 CAP(49.4 min)比对照组日粮(饲喂后 65.4 min)会缩短动物饲喂精油后第一次采食时间。添加精油对总挥发性脂肪酸、各挥发性脂肪酸、乙丙酸比例和氨浓度无影响。各处理组间瘤胃 pH 均值同过度采食、过度采食总时间、平均过度采食时间、总面积和在 pH 5.6 下的平均过度采食面积无显著差异。精油对日粮的有机物、干物质、中性洗涤纤维、酸性洗涤纤维、粗蛋白质和淀粉的总肠道消失率无影响。添加 EO 对乳产量和乳成分无影响，并对脱粒豆壳的原位干物质消失率无影响。但 CE Hi 处理组较对照组的大豆壳的有机物消失率有下降趋势。与对照组相比，添加 CE Hi 的中性洗涤纤维(41.5%和 37.6%)和酸性洗涤纤维(44.5%和 38.8%)的消失率降低。CE Lo 处理组对瘤胃发酵、乳产量和动物摄食行为无影响；但 CAP 处理组减少第一次采食时间但不影响瘤胃发酵及产物，这可能将 CAP 作为添加剂调节动物的采食行为。CE 处理组对瘤胃发酵有负面影响并减少第一次采食时间，说明添加 10 g/d 的 CE 对泌乳奶牛无益。

关键词：精油；奶牛；瘤胃发酵；采食行为

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