



QTL detection and fine mapping of birthcoat type in sheep

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Study of characterization of eggplant (*Solanum melongea*) silage with and without molasses

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Large quantities of eggplant (*Solanum melongea*) is produced in Iran that are usually unutilized. This study was conducted to ensiling of eggplant with and without molasses. Samples of eggplant were chopped and ensiled experimentally in plastic buckets. Samples were ensiled in three treatments and 4 replicates (1) control (samples without any additives) (2) samples with 4% molasses based on dry matter (3) samples with 16% molasses based on dry matter. This experiment carried out in a Completely Randomized Design (CRD). Raw materials (eggplant before ensiling) were analyzed for their Dry Matter (DM), Crude Protein (CP), Neutral Detergent Fiber (NDF), Acid Detergent Fiber (ADF), Dry Matter Digestibility (DMD), Organic Matter Digestibility (OMD) and Organic Matter in Dry Matter Digestibility (DOMD) and Results were 21, 10.09, 60.2, 47, 44.88, 43.46 and 39.60 percentage respectively. Silage samples were analyzed like raw materials (and for pH) and total data were analyzed using the SAS program and followed by the Duncan's test. Results of silage samples analysis (samples without any additives – samples with 4% molasses – samples with 16% molasses) were compared together respectively for pH (4.99^a, 4.83^a and 3.82^a), DM (18.30^b, 19.13^b and 20.33^{ab}), NDF(57.55^a, 58.95^a and 43.87^b), ADF(44.70^a, 45.75^a and 33.20^b), DMD (52.13^b, 48.26^b and 60.30^{ab}), OMD (47.49^b, 43.35^b, 57.47^{ab}) and DOMD (41.11^b, 37.73^b, 50.67^{ab}). Results indicate that changes of Dry Matter, NDF, ADF, DMD, OMD and DOMD in samples during ensiling are significant (P<0.05) and ensiling of eggplant with 16% molasses improved product properties compared to others.

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QTL detection and fine mapping of birthcoat type in sheep

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Birthcoat type is an important component of lamb survival for sheep raised under harsh environment. At birth two types of coat were observed: a long hairy coat or a short woolly one. It was shown that hairy coat lambs are more adapted to survive around lambing time due to a better coat protection with less heat losses at coat surface and show better growth performances up to the age of 10 days than woolly coat lambs. Birthcoat type was shown to be a high heritable trait. An experimental design was initiated in 2004 comprising 8 sires families (200 halfsibs/sire from a total of 547 dams) for QTL detection of birthcoat type and other adaptative traits in a sheep Romane population. A total of 1629 lambs were born and observed at birth for coat type and coat depth. All dams had been phenotyped at birth for coat type. Within this experimental population, 850 animals (842 lambs; 8 sires) were genotyped using the Illumina OvineSNP50 bead Chip and analysed for QTL detection. We report that birthcoat type could be under a simple genetic determinism by analysing phenotype data within sire family and according to the lamb coat type of the dam. Proportion of hairy coat lambs was about 2/3 (67.8%) in 5 sire families (SG1), 1/2 (48.7%) in 2 sire families (SG2) and 1/3 (35.8%) in one sire family (SG3). When the dam bore an hairy coat at birth, proportion of hairy coat lambs was 77.6%, 64.1%, 48.0% in SG1, SG2 and SG3 respectively. When the dam bore a woolly coat at birth, proportion of hairy coat lambs was 44.9%, 13.2% and 7.6% in SG1, SG2 and SG3 respectively. A highly significant QTL affecting birthcoat type was found on chromosome 25 suggesting that a gene with major effect is located on this chromosome. Fine mapping is in progress.

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