

## **Semiochemical approach in Valdostana dairy cows: effects on milk variables**

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Short title: **Semiochemical approach in dairy cows**

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## Summary

The experiments reported in this research paper evaluated the effects of a synthetic analogue of the Bovine Appeasing Pheromone (BAP) against placebo on milk yield and milk composition, milk somatic cell count (SCC) and plasma oxytocin in Valdostana dairy cows, which were kept in tie stalls, during the first turning out to confined pastures around the farms in lowland areas. The experimental design followed 2 parallel groups (BAP and placebo) with repeated measures, using a blinded procedure. Thirty healthy lactating Valdostana cows were enrolled in the study and randomly divided into 2 groups: BAP group (n=15) and placebo group (n=15). The two groups were separately housed in the same farm and managed outside in two different pens. BAP and placebo were poured on the nuchal skin area between the horns when the animals were inside the farm at the feeding rack weekly during 28 days (T0-T4). Milk yield was measured at each of two daily milkings. Milk and blood samples were collected for analysis at 7-day intervals (T0-T4). Daily milk production (kg/day) showed higher values in the BAP group than in the placebo group, particularly in the first day after the turning out to pasture (T1). SCC ( $10^3$  cells/mL) were higher in the placebo group than in the BAP group, especially at T1. Proteins, fat, fat-free dry matter, casein (g/100g) and urea (mg/dl) were slightly affected by the treatment. Plasma oxytocin (pg/ml) did not differ between the two groups, but the BAP group showed more stable levels of oxytocin. The use of BAP appears to modulate adaptation in ways that may improve Valdostana dairy cows performance in the specific context.