

# The relationship between fetal number and pregnancy-associated glycoprotein in milk of Alpine goat <sup>(1)</sup>

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## Abstract

Grouping management is a common practice of applying pregnancy test to separate the pregnant goats from not pregnant ones after breeding. The nutritional need is significantly different among goats with single, twin, and multiple fetuses. Pregnant goats with multiple fetuses require special attention and nutrients to avoid metabolic disorder, pregnancy toxemia, thereby to reduce the mortality of weak lambs. We analyzed the pregnancy-associated glycoprotein (PAG) concentration in goat milk with different fetal number, pregnancy days, and pregnancy stages. The result showed that goats with different fetal number were significantly different in milk PAG concentration ( $P < 0.05$ ), from 10 to 94 days of pregnancy. PAG concentration was significantly different in early (10 to 43 days) and middle (49 to 78 days) pregnancy ( $P < 0.05$ ). Milk PAG concentration was positively correlated with fetal number. Multiple linear regression suggested that fetal number was a more precise predictor than gestation length for milk PAG concentration, while predicting fetal number using milk PAG concentration in middle and late pregnancy could be plausible. This non-invasive and stress free method could be used for care preparations for both pregnant goats and lambs, and also used for goat milk production and herd size estimation in the field.

Key words: Alpine goat, Pregnancy-associated glycoprotein, Raw milk.

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