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Effect of whole soybean as omega-6 fat source on mammary gland and animal health, milk production and milk composition in Saanen goats after first kidding

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Abstract:

The purpose of this experiment was to investigate the effect of whole soybean as omega-6 fat source on mammary gland and animal health, milk production and milk composition in Saanen goats after first kidding, 30 head does in the second half of their first pregnancy, weighted and randomly divided into three groups, 10 goats in each. A negative control group received a ration without any source of fat; the second group received saturated fat (palm) (positive control group) and the third group received unsaturated adipose fat from the source of soybean seed soaked as the source of omega- 6. All three groups received these nutritional treatments from the last 2.5 months of pregnancy until 4 months after the parturition.

The results showed that dietary fat supplements had no effect on body weight ($P>0.05$). There was no significant difference in feed intake between the experimental groups ($P>0.05$). The omega-6 group had a tendency to increase milk production ($P=0.13$ and 0.15).

The mean percentage of milk protein in the control group was significantly higher than the other two groups ($P<0.01$). The fat / protein ratio in the omega-6 group was significantly higher than the control group ($P<0.01$). The mean percentage of milk lactose in the control group was significantly lower than the other two experimental groups ($P<0.05$). Solids-non-fat were significantly higher for the control group than the positive control ($P<0.05$) and tended to increase compared to omega-6 ($p = 0.07$). The ratio of total unsaturated fatty acids with a double bond to a total of unsaturated fatty acids with multiple binds for the Omega-6 test group was less than that of the other experimental groups ($P<0.05$).

Right and left quarter width and udder circumstance for omega-6 group were significantly higher than the control group ($P<0.05$).

The results showed that feeding omega -6 in final second half of pregnancy have effects on the growth and development of mammary gland tissue, caused a relative increase in milk production.

Key Words: Dairy goat, Omega-6 fat, Mammary gland, Milk production and composition, Morphological characteristics