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**EFFECT OF FOOD INTAKE LEVELS ON LEPTIN AND IGF-I PLASMA  
CONCENTRATIONS IN SHEEP**

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The effect of high (H) or low (L) levels of food intake, during the preceding 51 weeks, on leptin and Insulin-like growth factor-I (IGF-I) plasma concentrations in sheep were investigated in groups of 20 adult Timahdite (non-lactating, non-pregnant) ewes. Ewes of the two treatments had similar liveweight at the start of study but there was a twofold difference in energy intake. All animals were maintained indoors under natural daylength conditions (33°53'N, 5°32'W). Blood samples were collected monthly and the statistical analyses were performed on leptin and IGF-I levels. The mean leptin plasma concentrations were higher in H ewes than L sheep (3.98±0.97 ng/ml vs 3.34±1.17 ng/ml, P<0.05). For IGF-I, from week 1 to 26, the mean plasma concentrations were higher in H ewes than L sheep (76±28 ng/ml vs 58±21 ng/ml, P<0.01). However, from week 31 to 51, the mean plasma concentrations were similar in both groups (57±24 ng/ml vs 59±25 ng/ml, P>0.05). It was concluded that the food intake levels affect significantly leptin and IGF-I plasma concentrations and consequently may be the link between food intake, body condition and reproductive performances in sheep.

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