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## Fodder yield and nutritive value of Turkish highlands shrubs

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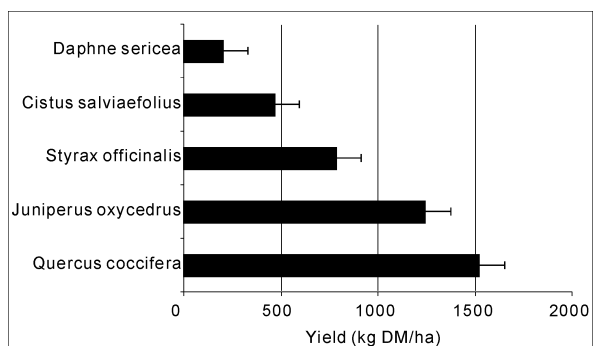
**Introduction** Information on productivity and nutritive value of Mediterranean highland shrubs , especially those preferred by goats on the Turkish Taurus Mountain region is limited (Papachristou , 2000 ; Ammar and Gonzalez , 2005 ; Larbi et al . , 2007) . Such data are needed to develop rangeland improvement plans and to prioritize shrub research . This experiment aimed at quantifying edible fodder yield and nutritional value of rangeland shrubs in the Anti-Taurus Mountains region in Turkey .

**Materials and methods** Data were collected during 2002-2003 at Candir village (1235 m asl) in Yayladagi County of Antakya on the Anti-Taurus Mountains . Annual rainfall average was 75 mm , humidity 75% , with minimum and maximum temperatures of 6°C and 33°C respectively over a 30-year period . Three replicates measuring 5 m x 10 m were randomly selected at two rangeland sites and marked . Biomass of shrub species in each replicate was measured using the reference unit method on : 6 April , 8 July , and 13 October 2002 , and 15 January 2003 . The sample branch leaves and twigs less than 10 mm in diameter (edible fodder , EF) were weighed fresh and oven-dried at 70°C for 48 h to determine dry matter (DM) content . Crude protein (CP , N × 6 .25) , neutral (NDF) and acid (ADF) detergent fibre , and *in vitro* organic matter digestibility (IVOMD) concentrations in the EF were determined .

**Results** Yield of EF (Figure 1) , and concentrations of CP , ADF and IVOMD in the EF varied ( $P < 0 .05$ ) among the shrubs , but NDF (Table 1) did not differ ( $P > 0 .05$ ) . Positive and significant correlations were recorded between concentrations of CP and IVOMD ( $r = 0 .46$ ) . In contrast , negative and significant correlations were recorded between concentrations of CP and ADF ( $r = -0 .72$ ) , ADF and IVOMD ( $r = -0 .65$ ) .

**Table 1** Nutritive value of rangeland shrubs in Turkish highlands .

Shrubs	Nutritive value (g/kg)			
	CP	ADF	NDF	IVOMD
<i>C . salviaefolius</i>	109	336	492	413
<i>D . sericea</i>	96	299	408	514
<i>J . oxycedrus</i>	59	363	417	356
<i>P . terebentis</i>	132	228	383	293
<i>Q . coccifera</i>	85	377	536	296
<i>S . officinalis</i>	116	272	431	457
LSD ( $P < 0 .05$ )	22 .2	75 .6	116 .1	53 .4



**Figure 1** Edible fodder yield of Turkish highland shrubs .

**Conclusions** Significant variations in EF yield and nutritive value among the shrubs agree with other reports (Papachristou , 2000 ; Ammar and Gonzalez , 2005 ; Larbi et al . , 2007) . (The best is *D . sericea* and *Quercus coccifera* and not *Quercus coccifera* and *S . officinalis* and showed greater potential for development of agroforestry technologies to increase the productivity of Anti-Taurus Mountains rangelands based on digestible organic matter yield .

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