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## Determination of animal unit weight in rangelands of Iran

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**Key words** : Range animal unit, animal unit requirement, grazing capacity

**Introduction** More than 27 sheep breeds with different body size and different daily requirement are adapted on rangelands in different climatic zones of Iran. Valentine (2001) suggested the concept of animal equivalence to express different kinds and class of grazing animals in a common form. Objective of this research was to determine animal unit weight and animal unit equivalent of each breed which is essential for determination of animal requirement in a grazing capacity assessment model.

**Material and methods** Body weight of 27 sheep breeds grazing on rangelands was determined based on body weight of 3 and 4 years old ewes of two herds for each breed. Based on body size they were classified to three classes of (light, fair and heavy). Animal unit weight was calculated based on metabolic weight of all breeds. Animal unit equivalent for each breed was calculated by dividing metabolic weight of breed by animal unit weight. Animal requirement was estimated based on formula of ME (MJ/kgDM) = 1.8 + 0.1 W suggested by MAFF (1984).

**Results and discussion** Mean body weight of small, moderate and big size sheep were 37.8, 50.6 and 63.27 Kg, respectively (Figure 1). Animal unit was 49.5 Kg with daily requirement of 6.75 (MJ) metabolisable energy. Animal equivalent for each breed are illustrated in table 1. The finding of the research would help range managers to determine daily animal requirement to facilitate grazing capacity assessment in each climatic zones.



Figure 1 Mean body weight of size classes.

Table 1 Animal unit equivalent for each breed of size.

Breed	Live weight (kg)	Animal equivalent index
Zel	30.84 ± 5.00	0.70
Balochi	33 ± 4.11	0.75
Sangsary	37 ± 2.74	0.80
Naeini	38.38 ± 6.88	0.83
Farahani	41.98 ± 1.70	0.88
Zandi	44.55 ± 4.17	0.92
Makoe	45.36 ± 6.97	0.94
Kordi khorasan	45.90 ± 7.33	0.94
Kermani	46.32 ± 5.77	0.95
Lori bakhtiari	47 ± 3.54	0.96
Afshari	49 ± 5.40	0.99
Torki ghaghahi	49.32 ± 6.64	1.00
Moghani	50.98 ± 3.60	1.02
Dalagh	51.75 ± 7.07	1.03
Varamini	52.34 ± 9.03	1.04
Kabodeh	52.66 ± 6.31	1.05
Kordi kordestan	52.69 ± 5.91	1.05
Gharegol	53.53 ± 6.67	1.06
Lori lorestan	54.35 ± 10.32	1.07
Shal	57.33 ± 4.66	1.12
Mehraban	60.11 ± 3.80	1.16
Sanjabi	60.68 ± 4.10	1.16
Fashandi	60.70 ± 4.18	1.17
Chezel	71.57 ± 9.95	1.32

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- Vallentine J.F. 2001, Grazing management 2th edn, Academic Press, New York, 657 p.