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(/) *Medicago sativa*
(/ MJ/kg) *Medicago coronata*
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(E-mail: harzani@ut.ac.ir)

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, *Stipa barbata*, *Poterium ovina* :
, *Bromus briziformis*, *sangoisorba*, *Festuca*
Anthemis altissima, *Achillea millefolium*,
Thymus kotoschyanus, *Astragalus*
microcephalus, *Taraxacum officinalis*, *Poa*
bulbosa, *Medicago sativa*, *Medicago*
coronata, *Artemisia aucheri*, *Stachys*
inflata, *Agropyron tauri*

, *Astragalus-sp*
sp., *Stachys infalata*, *Festuca ovina*,
Bromus.sp briziformis sp, *Artemisia*
aucheri
Verbascum album,
Peganum harmala, *Phlomis orientalis*

(ADF)

(DMD)

(ME)

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¹-Stoddart & Smith
²-Voisin

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$$DMD = / - / ADF\% + / N\%$$

$$ME(MJ/kg) = / DMD\% -$$

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$$ME = / + / W$$

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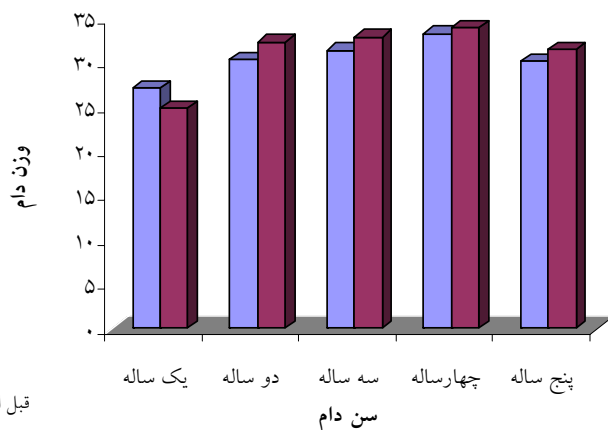
Medicago sativa

ADF

¹-Oddy *et al.*

²-Standard committee on Agriculture

³- Yong & Corbett



■ قبل از دوره چرای
■ بعد از دوره چرای

شکل ۱- مقایسه تغییرات وزن دامها، قبل و بعد از دوره چرای

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Stipa barbata

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DMD	ME(MJ/kg)	ADF			
52/19±.12	9/8±.13	91/86±.108	8/57±.135		<i>Stipa barbata</i>
50/56±.14	12/9±.107	43/55±.149	7/87±.132		
41±11/4	4/9±1/9	54/61±13/7	9/7±.138		
98/59±.138	9/9±.106	23/39±.156	11/97±.129		<i>Poterium sangoisorba</i>
60/13±.106	8/21±.101	31/97±.105	8/1±.127		
53/39±.114	7/9±.102	39/71±.125	9/91±.191		
67/55±3/9	9/2±.191	27/81±4/7	19/1±.175		<i>Atriplex sp</i>
58/33±1/7	7/9±.129	37/69±1/7	19/0.3±.184		
58/0.8±.195	7/8±.111	37/82±.128	15/99±1/1		
65/99±.11	9/1±.101	25/7±.129	9/0.9±.177		<i>Festuca ovina</i>
60/49±.153	7/9±.109	29/77±.199	8/27±.104		
56/71±.152	7/9±.108	39/13±.195	8/0.4±.103		
91/89±.129	8/5±.104	30/43±.144	9/29±.125		<i>Bromus briziformis</i>
60/49±.153	7/9±.109	31/77±.175	8/25±.131		
60/13±1	8/5±.117	32/0.2±1/2	8/13±.109		
59/38±.148	7/5±.108	38/37±.193	12/18±.128		<i>Anthemis altissima</i>
48/0.8±.177	9/1±.113	49/11±.177	9/88±.139		
45/39±.12	5/7±.103	49/22±.124	9/47±.108		
60/69±.114	8/3±.102	32/97±.115	11/82±.105		<i>Thymus kotoschyanus</i>
55/79±.108	7/9±.101	38/0.4±.115	9/82±.122		
53/23±.107	7/5±.101	60/29±.12	7/88±.127		
94/17±.139	8/9±.106	30/45±.147	15/71±.117		<i>Astragalus microcephalus</i>
91/99±.123	8/5±.105	32/4±.152	19/0.4±.129		
59/41±.152	7/5±.108	38/18±.199	11/85±.107		
70/38±.14	9/9±.106	23/47±.148	0.155±.		<i>Taraxacum officinalis</i>
60/52±.199	8/2±.119	34/13±1	13/99±.138		
55/98±5/8	7/4±1	38/95±7/3	10/92±.171		
99/91±.125	9/3±.104	25/87±.129	11/84±.149		<i>Poa bulbosa</i>
91/35±.135	8/4±.106	29/79±.144	9/9±.103		
59/67±.121	8/1±.103	31/77±.125	9/29±2/7		
72/63±4	10/34±.198	45/53±4/2	27/87±2/2		<i>Medicago sativa</i>
98/43±.139	9/9±.106	49/0.7±.115	29/33±.199		
93/89±1/2	8/8±.117	31/28±.128	17/57±1/3		
73/24±.18	10/44±.113	23/49±1/1	24/89±.151		<i>Medicago coronata</i>
73/4±.129	10/47±.104	22/91±.11	24/0.2±.154		
49/0.3±2/3	8/8±.129	31/82±3/9	18/43±1/9		
91/4±.117	8/9±.102	33/32±.129	14/94±.114		<i>Artemisia aucheri</i>
58/62±.129	7/9±.104	35/45±.151	11/73±.185		
54/63±.129	7/2±.105	39/55±.122	10/0.4±.134		
55/41±.152	7/9±.108	39/69±.191	12/52±.113		<i>Stachys inflata</i>
51/58±.144	9/7±.107	43/42±.145	10/9±.129		
49/89±.145	9/4±.107	44/93±.199	9/21±.125		
92/13±.122	8/5±.105	33/99±.112	18/0.5±.192		<i>Agropyron tauri</i>
59/22±.192	7/5±.101	39/21±.184	13/68±1/9		
52/72±.147	9/9±.108	60/8±.19	7/74±.111		
59/7±.144	8/1±.107	34/91±.19	13/49±1/3		<i>Achillea millefolium</i>
52/27±2	9/8±.134	42/81±2/5	10/94±.139		
48/37±.173	9/2±.112	7/4±.17	9/12±.147		

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/ ± / f	/ ± / j	/ ± / a	<i>Stipa barbata</i>
/ ± / b	/ ± / i	/ ± / ihg	<i>Poterium sangoisorba</i>
/ ± / b	/ ± / c	/ ± / fe	<i>Atriplex sp.</i>
/ ± / b	/ ± / i	/ ± / jih	<i>Festuca ovina</i>
/ ± / b	/ ± / i	/ ± / ba	<i>Bromus briziformis</i>
/ ± / e	/ ± / i	/ ± / d	<i>Anthemis altissima</i>
/ ± / c	/ ± / h	/ ± / gfe	<i>Thymus cotoschyanus</i>
/ ± / b	/ ± / d	/ ± / hgf	<i>Astragalus microcephalus</i>
/ ± / b	± / d	/ ± / ji	<i>Taraxacum officinalis</i>
/ ± / b	/ ± / ji	/ ± / j	<i>Poa bulbosa</i>
/ ± / a	/ ± / a	/ ± / j	<i>Medicago sativa</i>
/ ± / a	/ ± / b	/ ± / k	<i>Medicago coronata</i>
/ ± / c	/ ± / f	/ ± / ed	<i>Artemisia aucheri</i>
/ ± / d	/ ± / g	/ ± / cb	<i>Stachys inflata</i>
/ ± / c	/ ± / e	± / d	<i>Agropyron tauri</i>
/ ± / d	/ ± / g	/ ± / c	<i>Achillea millefolium</i>

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Agropyron tauri
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)*Trifolium pratense* *Coronilla varia*

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Determination of Unit Animal Daily Forage Requirement for Sheep (Zel Race) Grazing in Mazandaran Rangelands (Case Study: West Mazandaran Rangelands)

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Abstract

To achieve an acceptable level of animal performance, a matching of animal feed requirement with the needed quantity of forage, with due attention to forage quality, is essential. In this study, feed requirement of Zel race sheep, grazing on mazandaran rangelands was estimated. For calculation of the ratio of ram to ram + lamb a number of 10 rams, ten 3-month old and ten 6-month old lambs were weighted, the respective weights being recorded and then used. Overall average sheep weight was found as 30.48 kgs. The average weight for the ten rams, ten 3, and ten 6-month old rams were 47.67, 19.75, and 23.53 kgs respectively. The ratio of ram to sheep weight was found to be 1.56 and the ratio of 3 and 6-month old lambs to sheep (Zel race) were 0.67, and 0.7 respectively. For a determination of animal feed requirement, based on forage quality, samples of plant species in different phonological stages were taken for in-vitro analysis. Analysis and assessment of crude protein, digestibility and metabolizable energy were carried out. In vegetative phonological stage, the highest protein percentage was recorded for *Medicago sativa* whilst the highest metabolizable energy for *Medicago coronata*. Taking into account the distances between sheep yards and rangeland, topographic conditions, vegetation density, as well as distances between animal watering stations and additional 50% was added to the pre-calculated animal feed requirement, using the formula $ME = 1.8 + 0.1 W$ where W stands for live weight. Based upon forage quality in any of the phonological stages as well as plant nutritional composition, the daily forage requirement of unit animal was determined to be 0.8, 0.91, and 0.97 kgs/day in the plant phonological stages of vegetative, flowering and maturity, respectively.

Keywords: Unit animal, Daily unit animal, Seep, Zel race, Unit animal feed requirement, Forage quality, Mazandaran.

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