
(DMD)

ADF

(ADF)

(ME)

Cynodon dactylon

Lotus goebelia

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5.°34'3."

36°10'4"

5.°44'11"

36°16'51"

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 %DMD = 83.85-0.824 ADF % + 2.626 N%

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 M/D = 0.17 DMD% - 2
 M/D

SAS

ADF

*Bromus tomentellus, Dactylic
 glomerata, Agropyron tauri, Stipa
 Hordeum bulbosum, Agropyron barbata,
 trichophorum*

*Prangus uloptera Apiaceae
 Diplotaenia cachrydifolia, Ferula ovina*

*Astragalus, Lotus,
 Thymus, Medicago, Salvia, Stachys
 ... Achillea, Euphorbia*

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(CP)

(DMD)

(ADF)

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ADF

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Diplotaenia cachrydifolia

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/ *Scorzonera lacinata*

Agropyron trichophorum

Sanguisorba minor

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ADF

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- Fibertec

- Oddy et al.

- Standard Committee on Agriculture

- Crude Protein

- Acid Detergent Fiber

- Dry Matter Digestibility

- Metabolizable Energy

- Van Soest

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Lotus Astragalus aegobromus

/ / *goeblia* DM) / *Diplotaenia cachrydifoli*
 ADF / *Agropyron trichophorum* (Mj/kg
 (Mj/kg DM)

/ *Lotus goeblia*
 (Mj/kg DM) *Lotus*
 (Mj/kgDM) / *Cynodon dactylon* *Bromus tomentellus* / *goeblia*
 /

(ME)	() DMD	() ADF	() CP		
LMN / ± /	LMN / ± /	DE / ± /	IHJ / ± /		<i>Agropyron tauri</i>
TU / ± /	TU / ± /	A / ± /	O / ± /		
LMN / ± /	LMN / ± /	D / ± /	FG / ± /		<i>Agropyron trichophorum</i>
TU / ± /	TU / ± /	A / ± /	N / ± /		
E / ± /	E / ± /	M / ± /	CD / ± /		<i>Astragalus aegobromus</i>
RS / ± /	RS / ± /	A / ± /	IJ / ± /		
GHI / ± /	GHI / ± /	IJK / ± /	D / ± /		<i>Bromus tomentellus</i>
QR / ± /	QR / ± /	C / ± /	R / ± /		
D / ± /	D / ± /	O / ± /	FG / ± /		<i>Centaurea virgata</i>
U / ± /	U / ± /	A / ± /	QR / ± /		
KLM / ± /	KLM / ± /	FG / ± /	K / ± /		<i>Cynodon dactylon</i>
U / ± /	U / ± /	A / ± /	R / ± /		
IJ / ± /	IJ / ± /	IJK / ± /	F / ± /		<i>Dactylis glomerata</i>
U / ± /	U / ± /	A / ± /	QR / ± /		
A / ± /	A / ± /	O / ± /	A / ± /		<i>Diplotaenia cachrydifolia</i>
KL / ± /	KL / ± /	GHI / ± /	ML / ± /		
B / ± /	B / ± /	Q / ± /	E / ± /		<i>Ferula ovina</i>
O / ± /	O / ± /	DEF / ± /	N / ± /		
B / ± /	B / ± /	P / ± /	B / ± /		<i>Ferula galbanifolia</i>
K / ± /	K / ± /	HIJ / ± /	KL / ± /		
GHI / ± /	GHI / ± /	L / ± /	FG / ± /		<i>Hordeum bulbosum</i>
U / ± /	U / ± /	A / ± /	OP / ± /		
B / ± /	B / ± /	P / ± /	C / ± /		<i>Lotus goeblia</i>
FG / ± /	FG ± /	M / ± /	IHJ / ± /		
GHI / ± /	GHI / ± /	L / ± /	IHG / ± /		<i>Melica persica</i>
Q / ± /	Q / ± /	C / ± /	OP / ± /		
HIJ / ± /	HIJ / ± /	LK / ± /	HG / ± /		<i>Prangus uloptera</i>
MNO / ± /	MNO / ± /	EF / ± /	ML / ± /		
KL / ± /	KL ± /	FG / ± /	J / ± /		<i>Psathyrostachys fragilis</i>
ST / ± /	ST / ± /	B / ± /	O / ± /		

B / ± /	B / ± /	Q / ± /	J / ± /		<i>Sanguisorba minor</i>
KLM / ± /	KLM / ± /	IJK / ± /	O / ± /		
C / ± /	C / ± /	O / ± /	B / ± /		<i>Scariola orientalis</i>
P / ± /	P / ± /	C / ± /	M / ± /		
F / ± /	F / ± /	N / ± /	L / ± /		<i>Scorzonera lacinata</i>
J / ± /	J / ± /	L / ± /	KL / ± /		
GHI / ± /	GHI / ± /	JKL / ± /	D / ± /		<i>Stipa barbata</i>
U / ± /	U / ± /	A / ± /	OPQ / ± /		
FGH / ± /	FGH / ± /	M / ± /	KL / ± /		<i>Thymus kotschyanus</i>
NO / ± /	NO / ± /	GH / ± /	O ± /		

Agropyron tauri CP
Agropyron trichophorum ME ADF ,
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Psathyrostachys fragilis ME ADF CP
Sanguisorba minor
 ME CP
Bromus tomentellus ADF
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 ME DMD ADF CP

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(F)				
/ ** / ** / **	/	/		ADF
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Lotus goeblia

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) <i>Trifolium pretense</i> <i>Coronilla varia</i>	-۸
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An Investigation of the Effects of Phenological Stages on Forage Quality in Different Species in Taleghan Summer Rangelands

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A. Nikkhah³

Abstract

Variation in forage quality at different phenological stages was investigated for twenty forage plant species. Samples at two phenological stages were collected from Taleghan summer rangelands. Nitrogen and acid detergent fiber (ADF) were measured through chemical analysis. Crude protein, ADF, dry matter digestibility and metabolizable energy were assessed as indicators of forage quality. Forage quality significantly differed at different phenological stages. It was higher at vegetative stage, while lower at maturity. Forage quality also differed significantly for different species ($p < 0.01$). Among species the highest forage quality was related to *Lotus goebelia* while the lowest related to *Cynodon dactylon*.

Keywords: Forage quality, Phenological stages, Crude protein, Acid detergent fiber, Dry matter Digestibility, Metabolizable energy.

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