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( / / : / / : ) \*

*Dactylis glomerata* *Bromus tomentellus*

*Artemisia aucheri* *Salsola rigida*

*Coronilla varia* *Ferula ovina*

( )

*Coronilla varia* .(P < / )

واژه‌های کلیدی:

Table with multiple columns and rows containing numerical values in parentheses and the acronym TAC. The table is partially obscured by a large diagonal watermark reading "Archive of SID".

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Hall  
Smith  
Briske & Richards

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Cook  
Caldwell  
Total Available Carbohydrat  
Moser

( ) .

( )

‘

‘

( )

( )

‘( )

( )

( ) .

( )

( )

( )

( ) .

( )

‘  
( )

( )

( )

*Vicia*

*sativa*

) ADC

*Artemisia*

( )

*Acantholimon festucacetum aucheri-*

*Astragalus gossypinum Agropyron tauri*

Vansoest et al

Moor & Hatfield

White

Caballero et al

Acid Dtergent Cellolosis

*Kochia prostrata, Bromus tomentellus, Poa bulbosa, Stipa barbata Festuca ovina, Psathyrostachys fragilis, Amygdalus lycioides, Salsola kali, Astragalus spp., Onopordon acanthium, Bromus dantoniae, Cotoneaster nummularia, Eurotia ceratoides, Phlomis orientalis, ...*

*Amygdalus scoparia – Ferula*

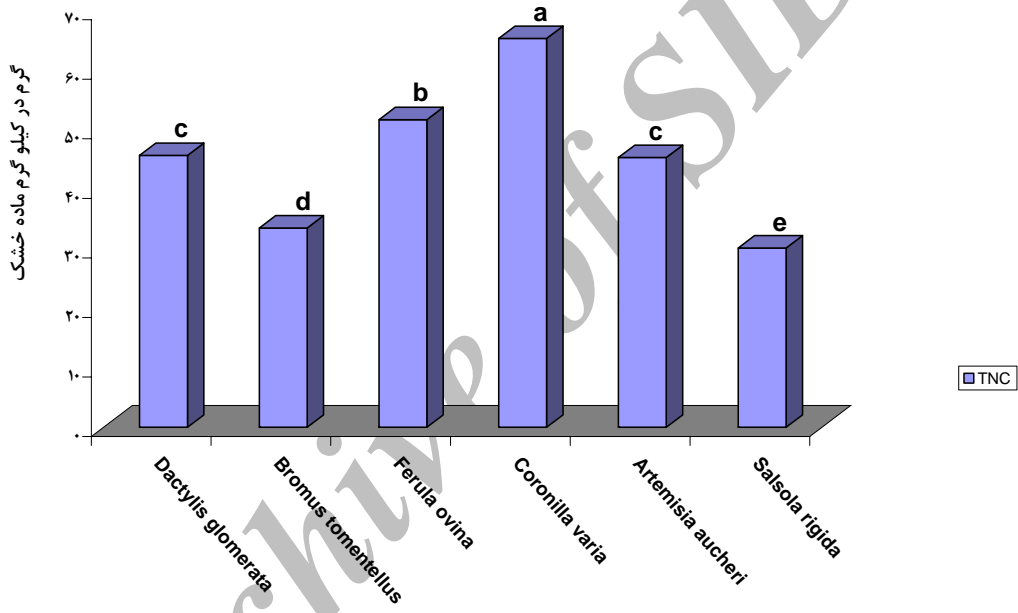
*persica*

*Salvia limbata, Bromus tectorum, Astragalus sp., Scariola orientalis, Melica persica, Eryngium compestre, Papaver rhoeas, Artemisia aucheri, Stachys inflata, Capparis spinosa, Coronilla varia*

*Dactylis glomerata*

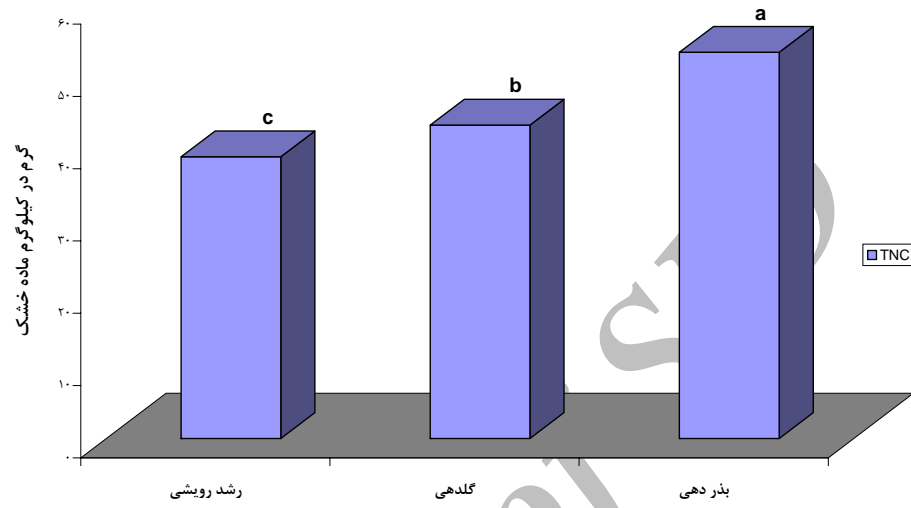
*Festuca arundinacea, Sanguisorba minor, Phelomis orientalis, Verbascum sp., Achillea milliefolium, Stachys clinopodoides, Ferula ovina, Prangus ferulaceae, Allysum striogosum, Poa bulbosa,...*

*Coronilla varia*  
*Salsola rigida*

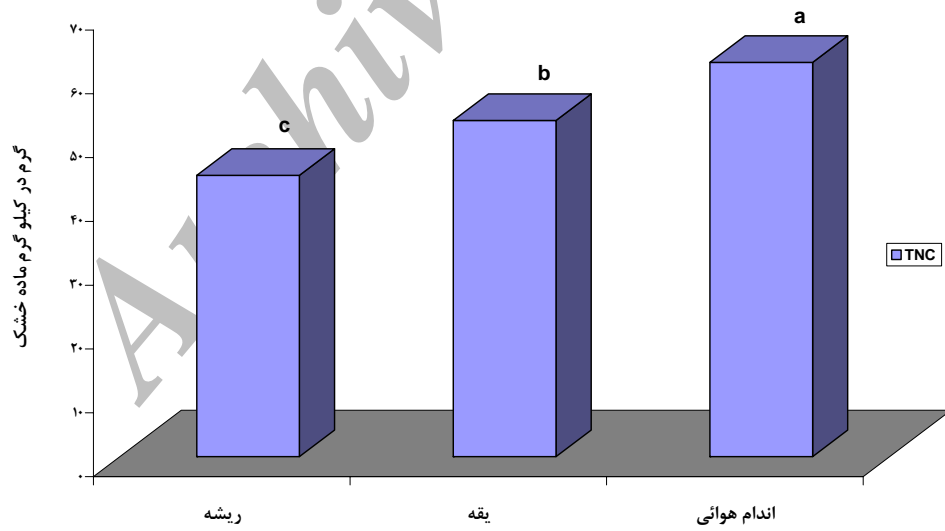


( $P < .$ )  
( )

( )



( $P < ,$  )



( $P < ,$  )

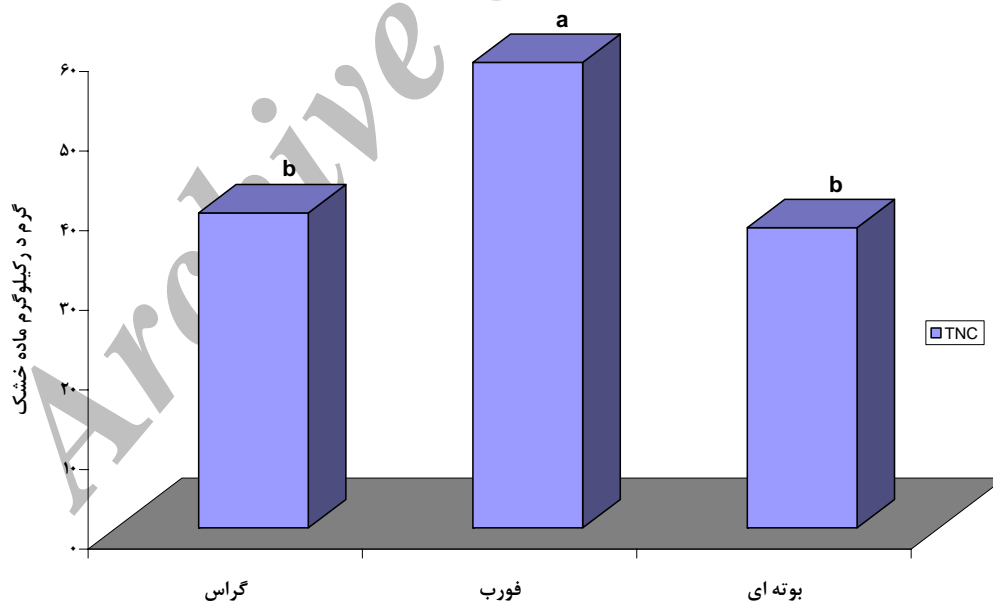
*Dactylis glomerata*  
*Coronilla varia*

*Dactylis glomerata*

( )

پس ،

( )



( $P < ,$  )





( )

( )

( )  
TAC

( )

( )

( )

( )

*Vicia*

( )

*sativa*

*Sphaeralcea coccinea*

( )

( )

TNC

( )

( )

( )

( )

Waller

Total Nonstructure Carbohydrate

Vallentine

( ) ( )

( )  
(.)

TNC

*Bouteloua gracilis*

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(g/kg DM)

*Artemisia aucheri* *Salsola rigida* *Coronilla varia*, *Dactylis glomerata*, *Ferula ovina* *Bromus tomentellus*,

/ ANWc	/ BNWc	/ CNWc	ANYc	/ BNYc	/ CNYc	/ ANXc	BNXc	/ CNXc	Da gl
/ ANWd	/ BNWd	/ CNWd	/ ANYd	/ BNYd	/ CNYd	ANXd	/ BNXd	/ CNXd	Br to
/ AMWb	/ BMWb	/ CMWb	/ AMYb	/ BMYb	/ CMYb	/ AMXb	/ BMXb	/ CMXb	Fe ov
/ AMWa	BMWa	/ CMWa	/ AMYa	/ BMYa	CMYa	/ AMXa	/ BMXa	/ CMXa	Co va
/ ANWc	/ BNWc	/ CNWc	/ ANYc	/ BNYc	/ CNYc	/ ANXc	/ BNXc	/ CNXc	Ar au
/ ANWe	/ BNWe	/ CNWe	/ ANYe	/ BNYe	/ CNYe	/ ANXe	/ BNXe	/ CNXe	Sa ri

a,b,c ..  
A,B,C  
M,N.  
X,Y,W

...

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*Artemisia aucheri* Boiss .

( ) *Artemisia sieberi* Besser

(TNC)

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## Investigation on variation of soluble carbohydrates of some rangeland species in different phenological stages

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### Abstract

Knowing the compounds that provide food reserves of plants is an important factor in range management. Perceiving how these compounds are produced and in which parts of plants are stored and what their concentration is helps determining the most suitable time for grazing, as well as the frequency and duration of grazing. The objective of this study was to examine to how factors such as being the member of a certain species, the phenological stage, plant parts and growth form affect soluble carbohydrates concentration. The six species studied were *Bromus tomentellus* and *Dactylis glomerata* as grass, *Frula ovina* and *Coronilla varia* as forb, *Salsola rigida* and *Artemisia aucheri* as shrob. Samples were collected from two highland ranges in Vard Avard and Gachsar regions. The samples were dried, ground and finally analyzed according to standard phenol-sulfuric acid method. The results showed statistically significant differences in soluble carbohydrate concentrations among the species in three stages of their growth. The soluble carbohydrate concentration were measured in different life forms and various plant parts including root, collar root and above ground ( $P < 0.01$ ). According to the results, highest soluble carbohydrate obtained from *Coronilla varia* in seeding stage. Among three life forms, forbs produce highest soluble carbohydrates with the concentration highest in above-ground part as compared to root and collar root.

**Key Words:** life forms, phenological stages, plant parts, soluble carbohydrate

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