THE QUARTERLY PEER REVIEW PUBLICATION

Journal of Rangeland Science (JRS)

Editor-in-Chief
Associate Professor Ali Ariapour, Department of Natural Resources, Borujerd Branch, Islamic Azad University, Lorestan, Iran
Tel./Fax: +986642518038
Emails: aariapour@iaub.ac.ir, aariapour@yahoo.com

Chief Editor
Professor Ali Ashraf Jafari, Research Institute of Forests and Rangelands, Iran
Tel./Fax: +982144580276-85, +982144580277
Email: aliashragfj@gmail.com

Managing Editor
Karami, Elahe; M. Sc. Range Management Engineering
Borujerd Branch, Islamic Azad University, Lorestan, Iran

Editorial Board
(Members are listed alphabetically)
Alaba Olufunmilayo; Professor
Abeokuta University, Nigeria
Amiri, Fazel; Associate Professor
Boushehr Branch, Islamic Azad University, Iran
Ariapour, Ali; Associate Professor
Borujerd Branch, Islamic Azad University, Iran
Arzani, Hossein; Professor
University of Tehran, Iran
Farahpour, Mahdi; Associate Professor
Research Institute of Forests and Rangelands, Iran
Fraser, Lauchlan Hugh; Professor
Thompson Rivers University, British Columbia, Canada
Jafari, Ali Aashraf; Professor
Research Institute of Forests and Rangelands, Iran
Mehrabi, Hamid Reza; Assistant Professor
Borujerd Branch, Islamic Azad University, Iran
Mehdighi, Mansoor; Professor
Ferdowsi University of Mashhad, Iran
Mohseni Saravi, Mohsen; Professor
University of Tehran, Iran
Safaiian, Nosratollah; Professor
University of Sari, Iran
Shokri, Maryam; Professor
University of Sari, Iran
Zhanhuang Shang; Associate Professor
Lanzhou University, China

Design and Typesetting
Karami, Elahe; M. Sc. Range Management Engineering
Borujerd Branch, Islamic Azad University, Lorestan, Iran

Formatting
Asgarian, Maryam; M. Sc. Range Management Engineering
Borujerd Branch, Islamic Azad University, Lorestan, Iran

English Text Editor
Parsa, Samira; Borujerd Branch, Islamic Azad University, Lorestan, Iran

Journal of Rangeland Science (JRS)
P. O. Box: 518, Borujerd, Lorestan, Iran
Postal code: 6915136111
Tel: +986642518038, Fax: +986642518023
Emails: rs@iaub.ac.ir, rangelandscience@yahoo.com, rangelandscience@gmail.com, info@rangeland.ir

pISSN: 2008-9996, eISSN: 2423-642X
(Published in Iran)
Impact Factor in 2015 (ISC): 0.054
Impact Factor (SIF): 2.96
Web Site: www.rangeland.ir

Indexed In:
1- ISC: http://isc.gov.ir
2- Google Scholar:scholar.google.com
3- SID: http://www.sid.ir
4- SIF: http://scienceimpactfactor.com

We acknowledge with thanks the financial support of Borujerd Branch, Islamic Azad University, Iran.

Photo by: Shiva Souzani
Nature photographer 2018
Gazerh Village, Sarpol-e-Zahab County, Lorestan Providence, Iran

Publisher: Regional Information Center for Science and Technology (RICeST)
HYPERLINK "http://www.ricest.ac.ir" www.ricest.ac.ir
Tel: +98 (71) 36468452    Fax: +98 (71) 36468352

Certified by: Central Organization of Islamic Azad University; No. 87/450866; 88/12/3
Certified by: Ministry of Culture and Islamic Guidance; No. 90/10402; 90/04/27
“Scientific-Research” rank granted by: Islamic Azad University; No. 85-86; 90/11/10

The Ministry of Sciences, Research and Technology of I.R. Iran has approved the Scientific-Research grade of this journal through the approval letter No. 3/18/65490; 92/05/06 Dated
Scientific Validation Certificate

According to scientific journals validation regulatory of Ministry of Science, Research and Technology, the Journal of Rangeland Science under the authority of Islamic Azad University, Boroujerd Branch has been approved as a scientific-research credibility by Review Commission of Scientific Journals dated July 8, 2013. Undoubtedly, the efforts done by the journal staff will play considerable roles in developing knowledge boundaries and enhancing scientific status of the country quantitatively and qualitatively.

Not respecting the regulations’ content will result in the cancellation of certificate.

Mozafar Sharifi
General Manager of Office of Policy and Planning of Research Affairs
And
Review Commission of Scientific Journals
Let's work together to publish the knowledge and science to serve better the Rangelands

Aims and Scope

*Journal of Rangeland Science (JRS)* is a national scholarly refereed research journal which aims to promote the theory and practice of rangeland science, innovation, engineering and management. A broad outline of the journals' scope includes: peer reviewed original research articles, case and technical reports, reviews and analyses papers, short communications and notes to the editor, in interdisciplinary information on the practice and status of research in rangeland science, both natural and man made. The main aspects of research areas include, but are not exclusive to: Rangeland Ecology, Eco-physiology of Rangeland Plants, Socio-Economic Factors of Basin, Rangeland Hydrology, GIS and Rangelands, Biodiversity Conservation, Natural Resource Sustainability, Modeling and Decision Support Tools in Natural Resource, Analysis and Assessment of Rangeland, Rangeland Development and Improvement, Grass and Forage Production, Management and Utilization, Soil and Water Conservation.

Vision and Mission

*Journal of Rangeland Science (JRS)* publishes original, peer-reviewed and technical rangeland articles since autumn 2010 to serve that rangeland science, engineering and management through the publication of timely and reliable information. *JRS* is an integral partner with the scientific and technical communities, delivering superior information products and services that foster communication. It builds insights and enables individual and collective advancement in rangeland research. To provide rangeland scientific information and the general public with descriptions of timely, contemporary advances in rangeland issues for use in improving rangeland protection, *JRS* tries to conserve the natural resources.

Serial: 9-2

Number of Copies: 1000
CONTENTS
Volume 9, Number 2, Spring 2019
(Papers are listed based on date of acceptance)

Forage Quality of *Salsola yazdiana* and *S. tomentosa* in Different Growth Stages in Saline Desert of Yazd Province, Iran.................................................104
Mostafa Zare, Ehsan Zandi Esfahan, Ardavan Ghorbani

Social Responsibility and Rangelands Conservation: An Investigation on Mobile Pastoralists in Golestan Province, Iran........................................................................................................114
Bahareh Behmanesh, Ahmad Abedi Sarvestani, 3-Hossein Barani, Mohammad Reza Shahraki, Majid Mohammad Esmaeili

Physiological Responses of *Pteropyrum aucheri* to Short-term Warming in Semi-arid Rangelands (Case Study: Kohpanj Region, Kerman Province, Iran)..................................................................................126
Azam Khosravi Mashizi

Nutritive Value of Rangeland Plants Compared to *Medicago sativa*.................................................................................................................................136
Mohsen Kazemi, Reza Valizadeh

Optimum Seed Rate of *Vigna sun-hum* (Tagtaga) for Rangeland Rehabilitation in Sandy Soil of North Kordofan.................................................................151
Ahmed M. M. Lazim, Elmazir M. Daw-elbait, Sahar Ezzat, Salih. A. Elsheikh

Effect of Climate Change on Distribution of an Endangered Medicinal Plant (*Fritillaria Imperialis* L.) in Central Zagros, Iran..............................................159
Ali Asghar Naghipour Borj, Zeinab Ostovar, Esmaeil Asadi Boroujeni

Effects of Mycorrhiza, Zeolite and Superabsorbent on Growth and Primary Establishment of *Agropyron desertorum* in Mining Field (Case Study: Mashhad’s Shargh Cement Factory, Iran)..................................................172
Reyhaneh Azimi, Golam Ali Heshmati, Mohammad Farzam, Morteza Goldani

Effect of Topography and Soil Properties on Distribution of *Ferula pseudalliacea* (Bitter Asafetida) in Yazd Province, Iran..........................184
Samira Hossein Jafari, Adel Sepehry, Hassan Soltanloo, Ali Akbar Karimian

The Landscape as a Unit for Rangeland Inventory in Arid and Semi-arid Regions of Iran......................................................................................196
Mansor Mesdaghi
The Journal of Rangeland Science (JRS) is currently accepting manuscripts for publication. JRS publishes high-quality articles, in English, in all areas of Rangeland Science as follows:

- Rangeland Ecology
- Eco-physiology of Rangeland Plants
- Seed Science and Technology
- Socio-Economic Factors of Basin
- Rangeland Hydrology
- GIS and Rangelands
- Remote Sensing
- Ecosystems Modeling
- Mathematical and System Modeling
- Sustainable Development Studies
- Modeling of Alternative Futures
- Global Environmental Change and Ecosystems Management
- Carbon Capture and Storage
- Satellite Applications in the Natural Resource Management
- Natural Resource Restoration and Ecological Engineering
- Habitat Reconstruction
- Biodiversity Conservation
- Climate Change and Impact
- Use and Conservation of Rangeland Resources
- Forage Quality
- Medicinal Plants

- Landscape Degradation and Restoration
- Ground Water Remediation
- Natural Resource Sustainability
- Natural Resource Systems Approach
- Modeling and Decision Support Tools in Natural Resource
- Monitoring and Analysis of Natural Resource Contaminant
- Storm-Water Management
- Relationship between Animal and Rangeland
- Analysis and Assessment of Rangeland
- Rangeland Development and Improvement
- Ly-farming
- Utilization Systems of Rangeland
- Soil and Water Conservation
- Sociology of Plant
- Law and Regulation of Rangeland
- Quality and Nutrient Valuable of Rangeland Plants
- Erosion and Sediment in Rangeland