

Vol. 26(1) April, 2020

The Indian Journal of Small Ruminants



An Official Publication of
**Indian Society for Sheep and Goat
Production and Utilization**

NAAS Rating 5.25

Print ISSN 0971-9857
Online ISSN 0973-9718

U
P
G
S
S
-

Vol. 26(1) April, 2020

Print ISSN 0971-9857

Online ISSN 0973-9718

THE
INDIAN JOURNAL OF
SMALL RUMINANTS



**INDIAN SOCIETY FOR SHEEP AND GOAT
PRODUCTION AND UTILIZATION**

Indian Society for Sheep and Goat Production and Utilization

Patrons

R.M. Acharya
N.K. Bhattacharyya

Executive Committee

President	Raghvendar Singh
Vice President	Bhuwaneshwar Rai
	S.K. Sankhyan
Secretary	Gopal Dass
Treasurer	Y.P. Gadekar
Editor	A.K. Shinde

Executive Members

P. Vasan, VCRI, Namakkal, TN	M.K. Singh, ICAR-NDRI, Karnal, Haryana
J.V. Ramana, SVVU, Triputi, AP	Nitika Sharma, ICAR-CIRG, Makhdoom, UP
S. Senthilkumar, VCRI, Tirunelveli, TN	Satish Kumar, ICAR-NDRI, Karnal, Haryana
K.P. Shyma, CVS&AH, Sardarkrushinagar, Guj	B.P. Kushwaha, ICAR-IGFRI, Jhansi, UP
Amit Kumar Srivastava, CVS&AH, SK Nagar, Guj	R.C. Sharma, ICAR-CSWRI, Avikanagar, Raj
Ravindra Kumar, ICAR-CIRG, Makhdoom, UP	N. Ramachandran, ICAR-CIRG, Makhdoom, UP
Nilotpal Ghosh, WBUA&FS, Kolkata, WBI	Vimal Mehrotra, ICAR-CSWRI, ARC Bikaner, Raj
Arvind Soni, ICAR-CSWRI Avikanagar, Raj	

Past Presidents

R.M. Acharya
Late A.L. Chaudhry
N.K. Bhattacharyya
B.C. Patnayak
Late A. Rakib
Late R.N. Singh
Late K.P. Pant
B.U. Khan
Nagendra Sharma
V.K. Singh
N.P. Singh
S.A. Karim
Davendra Swarup
S.M.K. Naqvi
M.S. Chauhan

Past Secretaries

Late A.K. Basuthakur
D.B. Kalra
S.D.J. Bohra
S.C. Dubey
S.M.K. Naqvi
V.P. Maurya
Rajiv Gulyani
S.M.K. Naqvi
Arthbandhu Sahoo
D.B. Shakyawar
G.G. Sonawane
Satish Kumar

Past Editors

S. Parthasarthy
S.A. Karim
Late Anil Joshi

THE INDIAN JOURNAL OF SMALL RUMINANTS

EDITOR

A.K. Shinde

Principal Scientist, Livestock Production and Management
ICAR-Central Sheep and Wool Research Institute, Avikanagar – 304 501

ASSOCIATE EDITORS

C.P. Swarnkar

Scientist SG, Veterinary Parasitology
ICAR-Central Sheep and Wool Research Institute,
Avikanagar – 304 501

A.K. Goel

Principal Scientist, Animal Reproduction
ICAR-Central Institute for Research on Goats,
Makhdoom – 281 122

Editorial Board

N. Kandasamy

Professor of Animal Genetics (Retired)
6, Veeramathi Amman Kovil Street,
P.N. Pudur, Coimbatore- 641 041

N. Kondaiah

Director (Retired)
ICAR-National Research Centre on Meat
Hyderabad- 500 039

V.K. Gupta

Joint Director (CADRAD)
ICAR-Indian Veterinary Research Institute,
Izatnagar- 243 002

John Gaughan

School of Agriculture and Food Science
The University of Queensland, Gatton,
Australia, 4343

Shalander Kumar

Principal Scientist
International Crops Research Institute for the Semi-
Arid Tropics (ICRISAT)
Hyderabad- 502 324

N.K.S. Gowda

Principal Scientist
ICAR-National Institute of Animal Nutrition and
Physiology,
Bangaluru- 560 030

A.K. Mishra

Principal Scientist
ICAR-National Bureau of Animal Genetic
Resources, Karnal 132 001

M.K. Singh

Principal scientist
ICAR-Central Institute for Research on Goats,
Makhdoom- 281 122

Raghvendar Singh

Head & Principal Scientist
ICAR – Central Sheep and Wool Research Institute,
Avikanagar- 304 501

N. Shanmugam

Principal Scientist
ICAR – Central Sheep and Wool Research Institute,
Avikanagar- 304 501

E-Publisher

IndianJournals.com, M/s Divan Enterprise,
B-9, Basement, Local Shopping Complex "A" Block
Naraina Vihar, Ring Road, New Delhi – 110 028
Website: <http://www.indianjournals.com>, E-mail: info@indianjournals.com

Copies are available from

Indian Society for Sheep & Goat Production and Utilization
ICAR-Central Sheep & Wool Research Institute, Avikanagar - 304 501 Rajasthan, INDIA
E-mail: editor_ijsr@yahoo.co.in, Join us: www.issgpu.org

Acknowledgement

The Indian Society for Sheep and Goat Production and Utilization (ISSGPU) puts on record its sincere thanks to Indian Council of Agricultural Research (ICAR), New Delhi for grant of financial support for publication of The Indian Journal of Small Ruminants

Contents

Review and Overview		
1.	Clean meat: boon or bane? <i>Y.P. Gadekar, Arvind Soni, A.K. Shinde and G. Kandeepan</i> -----	1
Research Papers		
2.	Sources of variation in pre-sale weights of Osmanabadi goat kids in villages of Maharashtra, India <i>C. Nimbkar</i> -----	8
3.	Evaluation of five ecotypes of Deccani sheep in Maharashtra <i>Dinesh Kumar Yadav, Reena Arora and Anand Jain</i> -----	15
4.	Effect of non-genetic factors on survivability and cumulative mortality of Kashmir Merino lambs <i>M.A. Rather, B. Kuthu, A. Hamadani, S. Ahanger, M.A. Baba, J.A. Baba and M.M. Shah</i> -----	22
5.	Performance of broiler rabbits reared in semi-arid Rajasthan <i>R.S. Bhatt, I. Chauhan, S.R. Sharma and Arvind Soni</i> -----	27
6.	Effects of different voltages and pulse durations on caprine tetraploid embryo production <i>J. Pathak, S.D. Kharche, A. Goel, A.K.S. Sikarwar, R. Ranjan and M.S. Chauhan</i> -----	32
7.	Influence of vitamin B₂, ascorbic acid and melatonin on reproduction of ewes during summer season under temperate climate <i>M.M. Waheed, K.H. El-Shahat, A.A. Sallam, B.E. El-Saidy and T.A.A. Khalifa</i> -----	38
8.	Sequence analysis of ovine leptin and ghrelin genes in subfertile Malpura ewes of Rajasthan <i>Rajiv Kumar, Krishnappa Balaganur, Anoop K. Singh and S.K. Sankhyan</i> -----	43
9.	Seasonal variation in sperm characteristics, antioxidant defence systems, seminal plasma testosterone and total proteins of Beetal bucks <i>N.S. Dhilon, R.S. Cheema and S. Kaswan</i> -----	48
10.	Oxidative status in Rambouillet x Gaddi of Himalayan region during peripartum period <i>R. Singh, A. Singh, V. Singh and S.A. Beigh</i> -----	53
11.	Electrocardiographic studies using bipolar base apex lead-I in apparently healthy goats <i>Vimlesh Kumar, S. Purohit, R.K. Pathak, Anil Singh, M.K. Srivastava, Vijay Pandey and R.P. Pandey</i> -----	57
12.	Effect of different milking methods on milk yield and growth of lambs <i>Arpita Mohapatra, Kalyan De, Ved Prakash, Davendra Kumar and S.M.K. Naqvi</i> -----	62
13.	Feeding efficiency of improved feeder in stall fed kids <i>Taelo Mangwai, Ahmad Fahim, Rajbir Singh, Nazim Ali, Amit Kumar and D.S. Sahu</i> -----	67
14.	Haemato-biochemical profile in goats with dystocia and retained foetal membranes <i>G.A. Patel, B.N. Suthar, H.C. Nakhshi, C.F. Chaudhari, T.V. Sutaria and R.K. Chaudhari</i> -----	71
15.	A retrospective study on dystocia and its management in goats <i>Chhavi Gupta, M. Murugan, A. Ganesan, R. Ramprabhu and S. Sathesh Kumar</i> -----	75
16.	Prevalence of <i>Eimeria</i> species in sheep of arid and semi-arid Rajasthan <i>C.P. Swarnkar and D. Singh</i> -----	79
17.	<i>In vitro</i> evaluation for acaricidal efficacy of <i>Melia azedarach</i> and <i>Eupatorium adenophorum</i> against <i>Rhipicephalus (Boophilus) microplus</i> ticks of goats <i>Devina Sharma, Kanika Sharma, R.K. Agnihotri, Poonam and Rameshwar</i> -----	86
18.	Gross anatomical studies on larynx of Gaddi sheep <i>Virender Pathak and Rajesh Rajput</i> -----	92
19.	Effect of fibre combination on quality characteristics of chevon patties <i>P. Kumar, N. Mehta, R.A. Kantale, M.K. Chatli, J.S. Hundal and M. Wadhwa</i> -----	97
20.	Influence of litchi (<i>Litchi chinensis</i>) pericarp powder on quality and storage stability of goat meat nuggets <i>Arun K. Verma, V. Rajkumar and M. Suman Kumar</i> -----	104
21.	Blending of comber noil and raw wool and its effect on blanket properties <i>N. Shanmugam, D.B. Shakyawar, Seiko Jose, Ajay Kumar and Vinod Kadam</i> -----	112

Short Communications

22. Factors affecting growth performance of Jjakhkana kids at an organized farm <i>Saket Bhusan, Gopal Dass, Pavan Kumar, Vinay Chaturvedi and B. Rai</i> -----	117
23. Phenotypic and physiological characteristics of Chaugarkha goats of Uttarakhand <i>C. Jana, A. Gurav, S. Gautam, H. Singh, S.S. Dangi and M. Sankar</i> -----	120
24. Effect of sugar supplementation in diluent on buck sperm characteristics at refrigeration temperature <i>Chetna Gangwar, D. Jena, S.D. Kharche, N. Kumar, S.K. Jindal, R. Ranjan and A.K. Goel</i> -----	125
25. Expression of heat shock proteins (HSPs) in caprine bone marrow- derived mesenchymal stem cells <i>D. Jena, S.D. Kharche, K. Gururaj, S.P. Singh, Sonam Rani and A. Pachoori</i> -----	128
26. In vitro drug sensitivity and therapeutic management of respiratory diseases in lambs of Kashmir <i>K. Munir, Z.A. Akhoun, T.K. Sarkar and A. Muhee</i> -----	132
27. Concurrent ogmocotylosis and cysticercosis in hilly migratory sheep flock <i>A.D. Moudgil, S. Sharma, D. Sharma, K. Sharma and R.K. Agnihotri</i> -----	135
28. Management practices, reproductive performance and constraints of goat rearing in Bangladesh <i>Ashit Kumar Paul, M. Jakia Sultana and Fouzia Nasrin</i> -----	138
Author index -----	(i)
Subject index -----	(ii)
Instructions for authors -----	(iii)