

Vol. 26(2) October, 2020

The Indian Journal of Small Ruminants



An Official Publication of

**Indian Society for Sheep and Goat
Production and Utilization**

ISSGPU

NAAS Rating 5.25

Print ISSN 0971-9857
Online ISSN 0973-9718

Vol. 26(2) October, 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	Bhuvaneshwar Rai
	S.K. Sankhyan
Secretary	Gopal Dass
Treasurer	Arvind Soni
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, SK Nagar, 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
Nilotpall 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
N. Sharma
V.K. Singh
N.P. Singh
S.A. Karim
D. 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
R. Gulyani
S.M.K. Naqvi
A. 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

S.D. Kharche

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.	Cryoprotectants used in buck semen preservation: a review <i>A.K.S. Sikarwar and N. Ramachandran</i> -----	142
Research Papers		
2.	Genetic evaluation of growth performance of Kashmir Merino sheep <i>M.A. Rather, Sayar Baig and A. Hamadani</i> -----	157
3.	Performance evaluation of Madgyal sheep in its breeding tract <i>Sachin Tekade, Mahesh Bansode and G.R. Gowane</i> -----	164
4.	Factors effecting average daily gains of Pantja kids in their native tract <i>B.S. Khadda, Brijesh Singh, D.V. Singh, S.K. Singh and R.K. Sharma</i> -----	169
5.	Factors affecting wool characteristics of Corriedale sheep in temperate region of Jammu and Kashmir <i>J.A. Baba, A. Hamadani, S. Shanaz and M.A. Rather</i> -----	173
6.	Sequence analysis of high glycine-tyrosine keratin-associated proteins (KAPs) in Magra sheep <i>A.S. Meena, Rajiv Kumar, Ashish Chopra, Ajay Kumar and Arun Kumar</i> -----	178
7.	Effects of feeding siris (<i>Albizia lebbek</i>) and arjun (<i>Terminalia arjuna</i>) tree leaves on nutrient intake, utilization and milk yield in Surti goats <i>V.R. Patel, M. Choubey, V.M. Prajapati, N.S. Dangar, M.A. Kataria and M.C. Desai</i> -----	183
8.	Assessment of compensatory growth in Sirohi kids under stall-feeding system <i>N. Ramachandran and Dharm Singh</i> -----	189
9.	Effect of floor types and seasons on feed and nutrient intakes of Surti goats under stall-feeding system <i>R.J. Modi, N.R. Patel and K.N. Wadhwani</i> -----	194
10.	<i>In vitro</i> exploration of acaricide resistance in <i>Hyalomma</i> ticks from sheep flocks of Gujarat <i>K.P. Shyma, Veer Singh, H.R. Parsani and Jay Prakash Gupta</i> -----	199
11.	Pulsed-wave doppler echocardiographic cardiac dimensions of Muzaffarnagari sheep <i>Vineet Kumar, Mozammel Hoque and Abhishek Chandra Saxen</i> -----	203
12.	Histogenesis of spleen in foetus of Surti goats <i>Shailendra Chaurasia, R. Menaka, K.M. Panchal and Niranjana Kumar</i> -----	208
13.	Topographical and biometrical anatomy of duodenum in prenatal goats <i>Abhinov Verma, M.M. Farooqui, Ajay Prakash, Archana Pathak, S.P. Singh, Varsha Gupta and Prabhakar Kumar</i> -----	214
14.	Performance improvement of charkha spun crossbred wool yarn using siro spinning <i>Nishant Kumar, D.B. Shakyawar, R. Chattopadhyay, V.V. Kadam and Ajay Kumar</i> -----	219
15.	Water absorption and dynamic load bearing properties of coarse wool braided rope mat <i>N. Shanmugam, D.B. Shakyawar, Ajay Kumar, V.V. Kadam and Seiko Jose</i> -----	225
16.	Stakeholders' constraints in goat marketing and meat value chain in Tamil Nadu <i>S. Dineshkumar, D. Bardhan, Sanjay Kumar, M.S. Kannadhasan, Neeraj Kumar and Vishnudas</i> -----	230
17.	Identification and prioritization of constraints in rearing of Madras Red sheep of Tamil Nadu through participatory rural appraisal <i>R. Rajendran, R. Venkataramanan and G. Manonmani</i> -----	237
18.	Gender participation in decision making and work performance of goat production in Mathura district of Uttar Pradesh <i>Vijay Kumar, Pourouchottamane R, Braj Mohan, N. Ramachandran and Ashok Kumar</i> -----	242

Short Communications

19.	Studies on body weights of Ghumusari goats in their native tract <i>S. Panigrahi, S. Mishra, S.K. Dash, G.C. Das and B. Das</i>	247
20.	Efficacy of two different oestrus synchronization protocols for enhancing reproductive efficiency of anoestrous ewes <i>S.D. Kharche, Gopal Das, Chetna Gangwar, D. Jena, Y.K. Kushwah and A.K.S. Sikarwar</i>	250
21.	Productive and reproductive performance of goat breeds under semi-intensive system in Bangladesh <i>Tanni Chanda, Sanjita Rani Paul, Md. Fakruzzaman, Mahbuba Sultana and Goutam Kumar Debnath</i>	253
22.	Semen volume and quality characteristics of fat-tailed sheep under intensive system in semi-arid climate <i>Davendra Kumar, Krishnappa Balaganur, R.K. Paul, S.M.K. Naqvi and Raghvendar Singh</i>	256
23.	Test day milk yield and lactation trend of Madras red sheep under field conditions <i>Hari Priya Chappa, Meenakshi Sundaram, S. and Venkataramanan, R.</i>	259
24.	Effect of nano zinc supplementation in periparturient goats on colostrum composition and growth of kids <i>Burhan ud din Shafi and Ravindra Kumar</i>	262
25.	Effect of different flooring materials on haemato-biochemical constituents in lambs <i>E. Tharuntej, N. Rajanna, A. Sarat Chanrda and D. Nagalakshmi</i>	266
26.	Occurrence and clinical assessment of ruminal lactic-acidosis in goats <i>B.S. Nithin, S.U. Digraskar and T.A. Shafi</i>	270
27.	Prevalence of <i>Coenurus cerebralis</i> in Kashmir Merino sheep at an organised farm <i>Imran Bashir, Mubshir Ali Rather, Javaid Ahmad Baba and Ishfaq Ahmad Hajam</i>	273
28.	Risk factors associated with <i>Cryptosporidium</i> infection in goats <i>S. Shanmathi, G. Ponnudurai, N. Rani and K. Sukumar</i>	276
29.	A rare case of nephroblastoma in a New Zealand White rabbit <i>R. Venkataramanan, S. Hemalatha, R. Rajendran and S. Sasikumar</i>	280
30.	Carcass characteristics of Vembur sheep of Tamil Nadu <i>R. Selvakkumar, T. Sivakumar and S. Meenakshi Sundaram</i>	284
31.	Competence enhancement programme on goat production: a profile of in-service trainees <i>Vijay Kumar, Braj Mohan, Ashok Kumar and A.K. Goel</i>	287
	Author index	(i)
	Subject index	(ii)
	Budget	(iii)
	Instructions for authors	(v)