

## Accepted Manuscript

Title: Role of amino acids as additives on sperm motility, plasma membrane integrity and lipid peroxidation levels at pre-freeze and post-thawed ram semen

Author: Sharon Sangeeta A. Arangasamy S. Kulkarni S. Selvaraju



PII: S0378-4320(15)30003-8  
DOI: <http://dx.doi.org/doi:10.1016/j.anireprosci.2015.08.008>  
Reference: ANIREP 5257

To appear in: *Animal Reproduction Science*

Received date: 25-3-2015  
Revised date: 13-8-2015  
Accepted date: 23-8-2015

Please cite this article as: Sangeeta, S., Arangasamy, A., Kulkarni, S., Selvaraju, S., Role of amino acids as additives on sperm motility, plasma membrane integrity and lipid peroxidation levels at pre-freeze and post-thawed ram semen, *Animal Reproduction Science* (2015), <http://dx.doi.org/10.1016/j.anireprosci.2015.08.008>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

1 **Role of amino acids as additives on sperm motility, plasma membrane integrity**  
2 **and lipid peroxidation levels at pre-freeze and post-thawed ram semen**

3 **Sharon Sangeeta<sup>a</sup>, A. Arangasamy<sup>b,\*</sup>, S. Kulkarni<sup>a</sup>, S. Selvaraju<sup>b</sup>**

4 <sup>a</sup>*Veterinary College, KVAFSU, Nandinagar, Bidar, INDIA - 585 401*

5 <sup>b</sup>*ICAR-National Institute of Animal Nutrition and Physiology, Bangalore, INDIA -560030*

6 \*Corresponding author: e-mail: arangasamyars@gmail.com

7 **Highlights**

8  
9 L-Glutamine, L-Proline improved ram sperm character at pre-freeze and frozen semen.

10 L-Glutamine, L-Proline reduced the lipid peroxidation level at pre-freeze and post-thawed  
11 semen.

12 L-Alanine has deleterious effect on the ram spermatozoa during cooling as well as freezing  
13 process.

14  
15 **Abstract**

16 The possibility of including amino acids for cryopreservation of ram semen to improve  
17 the quality of frozen semen was explored in this study in sheep model. 24 samples were  
18 collected in triplicate from 8 rams of 2-3 year old Bannur cross bred rams maintained at the  
19 institute Experimental livestock unit. Semen was diluted in tris-egg yolk glycerol diluent and  
20 made into 7 aliquots as follows: aliquot 1 served as control, "L"- alanine" was added at 100  
21 and 135mM in the aliquot 2 & 3, "L"- glutamine" was added at 20 and 25mM in the aliquot 4  
22 & 5 and "L"- proline" was added at 25 and 50mM in the aliquot 6 & 7, respectively. Diluted  
23 semen was filled in 0.25 ml French straws and frozen in LN<sub>2</sub>. Inclusion of "L"- proline" and  
24 "L"- glutamine" in the diluent increased the percent live sperm (P<0.001), total motility  
25 (P<0.05) and maintained higher functional membrane and acrosomal integrity (P<0.001) by  
26 decreasing lipid peroxidation (P<0.001) compared to the control group. In contrast, "L"-  
27 alanine" decreased the percentage of total motility, fast progressive spermatozoa and

Download English Version:

<https://daneshyari.com/en/article/8404345>

Download Persian Version:

<https://daneshyari.com/article/8404345>

[Daneshyari.com](https://daneshyari.com)