

## **Relationship between bull fertility and binding of 3H heparin to spermatozoa in Sahiwal-Friesian bull**

### **ABSTRACT**

A study was carried out to determine the effect of lyophilised heparin binding proteins (HBP) on the heparin binding ability of bovine epididymal spermatozoa and to determine the relationship between bull fertility and total binding of heparin to spermatozoa membrane. It was found that epididymal spermatozoa samples added with lyophilised HBP bound significantly higher ( $p < 0.05$ ) concentration of 3H heparin to their membrane as compared to samples which were devoid of HBP. Spermatozoa from more fertile bulls were found to bind significantly higher concentration of 3H heparin than the less fertile bulls. There was no relationship found between the post-thaw motility of the semen samples and the fertility status of the experimental bulls. Similarly, there was no significant correlation ( $r = 0.47$ ,  $p > 0.05$ ) between post-thaw motility percentage of semen and heparin binding affinity of spermatozoa from the bulls. This showed that bulls with semen of high motility are not necessarily more fertile than those bulls with lower motility percentage.

**Keyword:** Spermatozoa; Heparin binding proteins; 3H heparin; Bull fertility