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E-BMHW-effects of Bovine Somatotropin on milk yield, mammary gland weight and its histomorphological features in west african dwarf goats

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Abstract

Effects of **B**ovine Somatotropin (bST) on **M**ilk Yield, Mammary Gland Weight and its **H**istomorphological Features in **W**est African Dwarf (WAD) Goats (E-BMHW). Twelve lactating goats were divided equally into four treatment groups, each comprising of three does. The first group (control, T_0) received no bST while the other groups received bST in a sustained-delivery vehicle (T_1, 20 mg; T_2, 40 mg; T_3, 60 mg) at 2-week intervals commencing from the 7th week postpartum for 6 weeks. At the end of twelfth week, total milk yield exceeded the control group by 50 – 71 %. Udder weight, mammary gland weight and volume were larger in treated than in control goats suggesting that with advance lactation bST administration maintained milk secreting cells. Treatment of lactating goats with bST significantly ($P<0.05$) increased the number of lactating alveoli and significantly ($P<0.05$) reduced the number of regressing alveoli and corpora amylacea both within and outside alveolar lumen. Alveolar ductular diameter (ALD), epithelial luminal diameter (ELD) and epithelial height (EH) increased with increased doses of bST. ALD and ELD were significantly ($P<0.05$) larger and EH was significantly ($P<0.05$) taller in treated than control goats. Therefore, our findings suggest that the administration of bST to lactating WAD goats after peak of lactation can change mammary gland activity that could support increase milk yield in extended lactation and subsequent lactation cycles. This is related with the maintained mammary glandular tissue weight resulting from increased lactating alveoli.

Biography

. Ikechukwu Joseph **James** has completed his Ph.D at the age of 38 years from Federal University of Agriculture, Abeokuta (FUNAAB), Nigeria. He is a Senior Lecturer in the Department of Animal Physiology, FUNAAB and a member of several professional bodies including Nigeria Society for Animal Production, Animal Science Association of Nigeria, International Goat Association and Registered Animal Scientist of Nigeria. He has supervised 23 undergraduate research projects, co-supervised 2 Master's and 1 PhD Degree Research projects. He has published more than 27 papers in reputed journals and serving as a reviewer to both reputable foreign and local scientific journals.