

**CALCIUM AND PHOSFOR CONCENTRATION OF BULLS USED FOR  
FROZEN CEMENT PRODUCTION AIRLANGGA UNIVERSITY  
TEACHING FARM**

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**ABSTRACT**

The aim of this study was to identify the differences of Calcium and Phospor concentration in Simmental, Friesian Holstein bull and Limousin. This research used three bulls of Simmental, Friesian Holstein and Limousin used for the production of frozen cement production in Airlangga University Teaching Farm, in Gresik. Whole blood was collect once a week for six times. Calcium concentration was analyzed with Cresolphthalein method and Phospor concentration was analyzed with Goldenberg and Fernandes method. The data obtained were analized with ANAVA test. Result showed bull's blood serum. Calcium concentration an average of 10,7083 mg/dl  $\pm$  0,64744 mg/dl for Simmental, Friesian Holstein had an average of 10,5950 mg/dl  $\pm$  0,14910 mg/dl and Limousin had an average of 9,8183 mg/dl  $\pm$  0,30538 mg/dl. The result showed that bull's blood serum Calcium concentration were significant different between treatment and control ( $p < 0,05$ ). Then Phospor concentration at an average of 11,1250 mg/100ml  $\pm$  2,57014 mg/100ml for Simmental, Friesian Holstein had an average of 9,5417 mg/100ml  $\pm$  1,30839 mg/100ml and Limousin had an average of 10,0317 mg/100ml  $\pm$  0,62419 mg/100ml. Result showed that bull's blood serum phosphor concentration were not significant between treatment and control ( $p > 0,05$ ).

*Key words : Bull, blood serum, calcium, phospor.*