

globin in group IV of the two-year-old heifers, was not accompanied by abnormalities in the morphology of the cells.

TABLE 10.—EFFECT OF LEVEL OF PROTEIN INTAKE ON ERYTHROCYTES OF TWO-YEAR-OLD BEEF HEIFERS.
(5 animals per group)

Bleeding period	Group Number			
	I	II	III	IV
	Erythrocytes x 10 ⁶ per cu. mm			
Initial	6.2	6.9	7.2	6.4
1	6.2	6.4	6.2	6.2
2	6.0	6.6	6.6	6.3
3	6.1	6.6	6.5	5.6
4	6.2	7.0	6.4	5.9
5	6.4	6.4	5.9	5.8
Final	6.0	6.5	5.6	4.9

The leukocyte counts in group II were higher ($P < .01$) than in the other groups of two-year-old heifers on the different protein intakes.

Blood Volume.—Determinations of total blood volume in the two-year-old heifers 140 days after the experiment began showed an average of 5.1, 4.7, 4.5, and 4.8 percent of the body weight for groups I through IV, respectively. When the hematocrit volume was related to body weight, there were 21.2, 19.4, 17.4, and 16.1 ml per kg for heifers in groups I through IV, respectively. Neither total blood volume nor hematocrit per kilogram of weight showed significant statistical differences due to protein intake. The volume of plasma in milliliters per kilogram of body weight was 27.1, 25.0, 25.5, and 29.7 in groups I through IV, respectively. The values in groups I and IV were greater ($P < .05$) than groups II and III, but this indicates no direct relationship with level of protein intake.

The percent blood volume of the dietary groups of two-year-old heifers was essentially unchanged. However, when the ratio of plasma to packed cells was calculated by dividing the milliliters of plasma by the milliliters of hematocrit per kilogram body weight, the group consuming the low dietary protein appeared to have the most diluted blood. The ratios obtained for groups I, II, III, and IV were 1.28, 1.28, 1.47, and 1.85, respectively. This may be partly explained by the fact that the heifers in groups III and IV consumed more of the trace mineralized and