

THE ROLES OF SELENIUM AND VITAMIN E IN HEMATOLOGICAL DYNAMICS OF TRANSPORTED BEEF CATTLE

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Abstract

This study aimed to investigate the hematological changes in cattle subjected to transportation stress and the efficacy of selenium (Se) and vitamin E supplementation to mitigate these effects. Four treatments were evaluated: P1 (Control with a placebo solution), P2 (Injection of Se 5 ppm), P3 (Injection of vitamin E 36 ppm), and P4 (Injection of Se 5 ppm + vitamin E 36 ppm). Various blood parameters, such as leukocytes, red blood cells, platelets, and hemoglobin levels, were examined both pre- and post-transportation. Results indicated a significant alteration in these parameters due to transportation, underscoring the physiological stress experienced by the cattle. Among the treatments evaluated, the P2 treatment, containing Se and vitamin E supplementation, maintains relatively the same level of leukocyte although significant transportation effect. Cattle under this treatment demonstrated the most stable hematological profile, with values closely resembling pre-transportation levels. The protective roles of selenium and vitamin E, as evidenced in existing literature, are believed to contribute to this stability. These findings shed light on the potential of targeted nutritional interventions in safeguarding the health and welfare of transported cattle.

Key words: beef cattle, road transportation, blood profile, selenium, vitamin E