ABSTRACT

DZARNISA. The improvement of milk yield in the next lactation period by bovine somatotropin (bST) injection and zinc suplementation during dry period in Fries Holland cows breed (FH). Under supervision of TOTO TOHARMAT, WASMEN MANALU, and JAJAT JACHJA

Eighteen dry period dairy cows in Cijeruk, a highland in Tajur Halang Bogor, were used to study the improvement of milk yield in the next lactation period by bovine somatotropin (bST) injection and zinc suplementation during dry period in Fries Holland cows breed (FH). The experimental cows were divided into four groups and assigned into a randomized block design with a 2 x 2 factorial arrangement. The first factor was biweekly injection of somatotropin (bST) with 2 levels i.e., 0 and 250 mg/cow. The second factor was zinc supplementation with two levels i.e., 0 and 75 ppm. Variables measured were respiration frequency and rectal temperature, blood hematocrit, hemoglobin concentration, plasma glucose and triglyceride concentrations, milk bacterial count, sanitation, mastitis, milk yield, udder volume, milk components (protein, fat, lactose, and carbohydrate), and milk pH. Bovine somatotropin during dry period did not significantly increase respiration rate, rectal temperature and blood hematocrit, hemoglobin concentration, plasma glucoce and triglyceride concentrations. Bovine somatotropin injection of dairy cows during dry period significantly increased milk production, milk quality, and udder volume. There was an interaction between bST dan zinc supplementation on milk production and udder volume. Bovine somatotropin injection biweekly and supplementation zinc during dry period increased milk yield by 23-34%. Supplementation of zinc in combination with somatotropin reduced subclinical mastitis in dry period cows and increased immune response of dry period cows.

Key words: milk yield, somatotropin, zinc, dry period