

PENGARUH PENAMBAHAN VITAMIN E PADA BEBERAPA PENGECER  
TERHADAP KUALITAS DAN FERTILITAS SPERMATOZOA  
AYAM KEDU MERAH SERTA PERIODE FERTIL  
AYAM KAMPUNG

**ABSTRAK**

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Tujuan penelitian adalah mengkaji pengaruh interaksi jenis pengencer, dosis vitamin E, dan waktu simpan terhadap kualitas spermatozoa ayam kedu merah serta uji fertilitas dan periode fertil pada ayam kampung. Materi penelitian menggunakan semen dari 10 ekor ayam kedu merah dan uji fertilitas serta periode fertil dengan 32 ekor ayam kampung dengan perlakuan dosis vitamin E (0%, 1%, 2%, 3%), jenis pengencer (ringer laktat dan susu skim + 50 mM glukosa), dan waktu simpan (0, 2, 4, dan 6 jam). Rancangan penelitian yang digunakan pada tahap 1 Rancangan Acak Kelompok (RAK) pola faktorial (2x4x4), sedangkan pada tahap 2 Rancangan Acak Lengkap (RAL), sebagai blok adalah periode penyadapan sebanyak 3 kali. Data dianalisis variansi dan uji lanjut polinomial ortogonal (tahap 1) dan beda nyata jujur (BNJ) (tahap 2). Hasil penelitian menunjukkan tidak terdapat interaksi antara jenis pengencer, dosis vitamin E, dan waktu simpan ( $P>0,05$ ) terhadap semua variabel. Interaksi sangat nyata antara jenis pengencer dan dosis vitamin E ( $P<0,01$ ) terhadap viabilitas dan abnormalitas, namun tidak terdapat interaksi ( $P>0,05$ ) terhadap motilitas dan integritas membran plasma utuh. Jenis pengencer berpengaruh nyata ( $P<0,05$ ) terhadap motilitas, namun berpengaruh tidak nyata ( $P>0,05$ ) terhadap integritas membran plasma utuh. Dosis vitamin E berpengaruh nyata ( $P<0,05$ ) terhadap integritas membran plasma utuh. Waktu simpan berpengaruh sangat nyata ( $P<0,01$ ) terhadap motilitas, namun tidak berpengaruh nyata ( $P>0,05$ ) terhadap integritas membran plasma utuh. Kombinasi jenis pengencer, dosis vitamin E, dan waktu simpan berpengaruh sangat nyata ( $P<0,01$ ) terhadap fertilitas dan berpengaruh nyata ( $P<0,05$ ) terhadap periode fertil. Dapat disimpulkan pengencer ringer laktat yang disuplementasi vitamin E 2% lebih baik dari susu skim + 50 mM glukosa dalam mempertahankan kualitas mikroskopis spermatozoa pada waktu simpan 4 jam, namun kombinasi susu skim + 50 mM glukosa dan vitamin E 2% dalam semen segar menghasilkan fertilitas dan periode fertil yang paling tinggi.

**Kata Kunci : vitamin E, ringer laktat, susu skim, kualitas semen, fertilitas, periode fertil, dan ayam lokal**

THE EFFECT OF ADDING VITAMIN E TO SOME DILUENTS ON THE QUALITY AND FERTILITY OF SPERMATOOZA RED KEDU ROOSTERS AND FERTILE PERIOD KAMPUNG HENS

**ABSTRACT**

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*The purpose of the study was to examine the interaction among type of diluents, vitamin E dose, and storage time on the quality of spermatozoa of Red Kedu Roosters as well fertility tests and fertile periods in Kampung Hens. The research material used semen from 10 red kedu roosters and fertility and periode fertil tests with 32 Kampung Hens with treatment vitamin E dose (0%, , 1%, 2%, 3%), diluent type (lactate ringer and skim milk + 50 mM glucose), and storage time (0, 2, 4, and 6 hours). The research design used in stage 1 of Completely Randomized Block Design (CRBD) factorial pattern 2x4x4, as a block is the semen collection periods of 3 times. The data analyzed of variance and tested further using orthogonal polynomial (stage 1) and honestly significant difference (HSD) (stage 2) test if there was real difference. The results showed that it was no interaction among the type of diluents, vitamin E dose, and storage time ( $P>0.05$ ) on all variables. There was an interaction between diluents and vitamin C dose ( $P<0.01$ ) on viability and abnormality, but there was no interaction ( $P>0.05$ ) on motility and plasma membrane integrity. The type of diluent has a significant effect ( $P<0.05$ ) on motility but had no significant effect ( $P>0.05$ ) on plasma membrane integrity. The vitamin E dose has a significant effect ( $P<0.05$ ) on the plasma membrane integrity. The storage time had a highly significant effect ( $P<0.01$ ) on motility but no significant effect ( $P>0.05$ ) on plasma membrane integrity. The combination of diluent type, vitamin E dose, and storage time had a very significant effect ( $P<0.01$ ) on fertility and a significant effect ( $P<0.05$ ) on the fertile period. It can be concluded that the addition of vitamin E 2% in lactate ringer diluents is better than skim milk in maintaining the microscopic quality of spermatozoa in 4 hours of storage time. Artificial insemination tests in Kampung Hens showed fresh semen in a combination diluent of skimmed milk + 50 mM glucose and vitamin E 2% resulted in the highest fertility and fertile period.*

**Keywords: vitamin E, sperm quality, fertility, fertile periode and local chicken**