

## ABSTRAK

# KEUTUHAN MEMBRAN PLASMA SPERMATOZOA PADA SEMEN BEKU KAMBING PERANAKAN ETAWA (PE) DAN KAMBING BOER (*Capra aegagrus hircus*)

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Kemampuan fertilitas spermatozoa dapat ditentukan salah satunya melalui keutuhan membran plasma. Penelitian ini bertujuan untuk mengetahui keutuhan membran plasma spermatozoa antara semen beku kambing Peranakan Etawa (PE) dan kambing Boer menggunakan metode *Hypoosmotic Swelling Test* (HOS). Sebanyak 10 sampel *straw* kambing PE dan 10 sampel *straw* kambing Boer dilakukan pengujian HOS dengan dimasukkannya 1 tetes semen ke dalam *microtube* kemudian ditambahkan 3,5 ml larutan hipoosmotik. Campuran larutan diinkubasi pada suhu 37°C dengan lama penyimpanan 15, 30, dan 45 menit. Hasil penelitian ini diperoleh bahwa tidak ada perbedaan yang nyata antara *breed* terhadap keutuhan membran plasma spermatozoa kambing dengan uji HOS ( $p > 0,01$ ) tetapi terdapat pengaruh yang nyata antara perbedaan waktu inkubasi terhadap persentase jumlah spermatozoa yang positif terhadap HOS *Test* ( $p < 0,01$ ). Hasil tersebut dapat dideskripsikan dengan peningkatan persentase spermatozoa dengan hasil positif uji HOS dari menit ke-15 hingga menit ke-45.

Kata kunci: HOS *Test*, kambing Boer, kambing PE, dan membran plasma.

## ABSTRACT

### INTEGRITY OF SPERMATOZOA PLASMA MEMBRANE IN FROZEN SEMEN OF PERANAKAN ETAWA (PE) AND BOER GOATS (*Capra aegagrus hircus*)

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The fertility ability of spermatozoa can be determined, one of which is through the integrity of the plasma membrane. This study aims to determine the integrity of the plasma membrane of spermatozoa between the frozen semen of Peranakan Etawa (PE) and Boer goats using the *Hypoosmotic Swelling Test* (HOS) method. Ten straws of PE goat and ten straws of Boer goat were tested using HOS test by inserting 1 drop of semen into the *microtube* and then adding 3.5 ml of hypoosmotic solution. The solution mixture was incubated at 37°C for 15, 30, and 45 minutes. The results of this study obtained that there was no significant difference between the *breed* on the integrity of the plasma membrane of goat spermatozoa with the HOS test ( $p > 0.01$ ) but there was significant difference between various incubation time on the percentage of spermatozoa that was positive for the HOS Test ( $p < 0.01$ ). The result can be described by an increase in the percentage of spermatozoa with a positive result of the HOS test from the 15th minute to the 45<sup>th</sup> incubation.

Keyword : Boer goat, HOS Test, PE goat, and plasma membrane.