- 19 **CHANGES IN GONADAL STEROID HORMONES OF GOATS DURING THE OESTROUS CYCLE**

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Oestrous cyclicity and expression of oestrous signs are governed by the hormonal changes occurring during the oestrous cycle. The objective of the present study was to determine the changes in progesterone and oestradiol 17B during the oestrous cycle in female goats. Blood samples were collected from the jugular vein at intervals of one to two days during six complete oestrous cycles in four goats.

The hormones were measured by radioimmunoassay techniques. Jugular serum progesterone was 0.23±0.08 ng/ml (mean±s.e.) at oestrus (day 'O' of the cycle) and increased gradually from day 4 onwards to 2.5±0.8 ng/ml by day 12. The level was maintained for 2 further days and then decreased steadily to the basal level until the onset of next oestrus. Oestradiol concentration reached a peak (135.7±55.4 pg/ml) on the day of oestrus, decreased steadily to low levels within 48 hours and remained basal (≤20 pg/ml) dring the luteal phase of the cycle. A rise of oestradiol 17B was observed one day prior to the subsequent oestrus, followed by a peak on the day of oestrous. It is concluded that the follicular phase of the oestrous cycle is characterised by a decline in progesterone, and a rise in oestradiol in the blood. Oestrus and ovulation are preceded by peak cestradiol concentrations. Ovulation followed by corpus leteum formation are reflected in elevated progesterone concentrations.