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Summary only

DISTRIBUTION OF SPERMATOZOA IN THE
REPRODUCTIVE TRACT OF THE ROMNEY EWE

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FORTY aged Romney ewes were withdrawn from a large flock at oestrus and slaughtered (intracardiac injection, 20 ml 5% sodium thiopentone) 1, 2, 4, 8, 16, 24, 36 or 48 hr after mating. The reproductive tract was removed immediately following slaughter. A clamp was fitted to the cut exposed edges of the anterior vagina to prevent any contamination with spermatozoa of the adjacent surfaces of the uteri and oviducts. Subdivision of the tract into the ampulla, isthmus, uterus and cervix preceded the irrigation of each region with isotonic saline. Counts of spermatozoa were made on microscopic slides or with a haemocytometer.

Sperm were recovered from the cervix, 1 hr, the uterus 2 hr, and the isthmus 4 hr after mating. Small numbers of sperm were found in the ampulla 16 hr after mating. There was a marked reduction in sperm numbers as they ascended the reproductive tract. Of note was the sudden decrease in sperm numbers in all regions of the tract between 36 and 48 hr *post coitum*.

A preliminary study on the effect of age of ewe on the rate of sperm transport indicated that movement of spermatozoa was more variable in younger ewes.

Oxytocin (0.1 or 1.0 i.u. Syntocin) injected immediately after mating or 3½ hr later did not hasten the transport of spermatozoa; however, the higher dose of oxytocin decreased the number of spermatozoa located in the isthmus and ampulla 16 hr after mating.

In ewes treated with progesterone (20 mg or 40 mg every second day for 14 days) to synchronize oestrus, there was a significant reduction in the numbers of spermatozoa recovered and their rates of movement within the tracts of these ewes when compared to untreated animals.