

## ABSTRACT

| This study's goal was to perform macroscopic and microscopic characterization of Anglo-Nubian × Sahelian crossbred goat's semen in Mali. From January to August 2020, a total of 45 ejaculates have been collected from 03 bucks (5/8 Anglo-Nubian, 3/8 Sahelian Goat) using artificial vagina. Semen volume, mass motility and live and dead sperm counts (spz) were measured by direct reading and electronic microscopy with a direct image transfer system on screen, respectively. Sperm concentration and total sperm count in ejaculate were determined by microscopy using single chamber Neubauer cell. Results show that ejaculate volume was influenced ( $p < 0.05$ ) by individual (buck). Besides, individual and period of collection had no impact ( $p > 0.05$ ) on mass motility. However, the period of collection significantly ( $p < 0.05$ ) affects ejaculate volume, vitality, sperm concentration and mortality rate. The overall averages obtained for the different parameters studied were 0.92 ml for semen volume; 3.91 for mass motility; 73.69% for vitality;  $2.11 \cdot 10^9$  spz/ml for sperm concentration,  $2.11 \cdot 10^9$  spz and 26.54% for total sperm count in ejaculate and spz mortality rate respectively. March-April was found to be more suitable for semen collection. This study emphasized the high semen quality of crossbred bucks, which could be candidates for a goat genetic improvement program.

**Keywords** | Anglo Nubian, Crossbred bucks, Sahelian goat, Sperm quality