ON THE CONCENTRATIONS OF SOME INORGANIC IONS AND PROTEIN NITROGEN IN RABBIT SEMINAL FLUID

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In spite of the widespread laboratory use of the rabbit, no information about the concentrations of chloride ions and proteins in rabbit seminal fluid seems to be available in the literature (see White, 1958; Mann, 1964; Quinn *et al.*, 1965). The aim of this paper is to present such data and some information concerning the concentrations of some cations obtained as by-products during work with another project.

Semen was collected by means of an artificial vagina (one ejaculate/day) from twelve rabbits of different breeds. After centrifuging at 975 *g* for 10 min spermatozoa were very seldom found in the supernatant. The concentrations of protein nitrogen and chloride ions in the seminal fluid were determined by the methods described by Lowry *et al.* (1951) and Kulhánek & Fišer (1966), respectively. The standard deviations of the differences between duplicate determinations using known concentrations were 0.019 for protein nitrogen and 0.074 for chloride. The concentrations of sodium and potassium ions were determined by the methods of Smit *et al.* (1951) using a Beckman flame spectrophotometer (Gilbert *et al.*, 1950).

Table 1. Concentrations of some constituents of rabbit seminal fluid

	<i>Concentrations (Mean $\pm$ S.D.)</i>	<i>No. of determinations</i>
Cl ⁻ (mequiv./litre)	99 $\pm$ 7	625
Protein nitrogen (mg/100 ml)	299 $\pm$ 94	818
Na ⁺ (mequiv./litre)	82 $\pm$ 22	777
K ⁺ (mequiv./litre)	29 $\pm$ 7	777

The mean values found are given in Table 1. The concentration of chloride ions was close to those found in seminal fluid of bull (Cragle *et al.*, 1958a, b), boar (Mann, 1964), and stallion (Yamane, 1920). The concentration of protein nitrogen was similar to that found in dog seminal fluid (Bartlett, 1962), and lower than that of many other species (Mann, 1964). The inorganic cation concentrations were similar to those previously reported for rabbit seminal fluid (Quinn *et al.*, 1966), but these authors found a strong negative correlation

($r = -0.844$) between Na^+ and K^+ in seminal plasma. In spite of the large number of values available, we were unable to confirm their observation ($r = 0.0427$, $n = 777$). As previously reported in bull seminal fluid (Cragle *et al.*, 1958a, b), a good correlation between the concentrations of sodium ions and chloride ions ($r = 0.6263$) was observed. No other correlations could be revealed.

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