

TABLE IV
Measurements of Bull Sperm Structures from Literature

Year	Author	Method	Part	Parameter	Result	±
1960	Van Duijn (10)	Light microscopy	Head	Length	10.2 μ	0.5
1961	Bretherton (11)	" "	"	Length	8.5-10.0 μ	
1960	Van Duijn (10)	" "	"	Breadth	5.4 μ	0.35
1961	Bretherton (11)	" "	"	Breadth	4.5 μ	
1956	Leuchtenberger (12)	" "	"	Projected area	33.8 μ^2	0.24
1960	Van Duijn (10)	" "	"	Projected area	40.6 μ^2	4
1961	Blom <i>et al.</i> (24)	Electron microscopy	"	Thickness	0.3-0.5 μ	
1961	Bretherton (11)	Light microscopy	"	Thickness	0.7 μ	
1956	Leuchtenberger (12)	Interference microscopy	"	Dry mass	7.1 $\times 10^{-12}$ g	
1959	Müller (14)	Microradiography	"	Dry mass	7.87 $\times 10^{-12}$ g	0.46
"	" "	Interference microscopy	"	Dry mass	8.94 $\times 10^{-12}$ g	1.17
1949	Vendrey (29)	Chemical determination	"	DNA	3.2 $\times 10^{-12}$ g	
1956	Handbook of Biological Data (28)	" "	"	Total nucleic acid	48 per cent of dry weight	
1956	Leuchtenberger (12)	Microspectrophotometry	"	Arginine	2.07 $\times 10^{-12}$ g	
1949	Vendrey (29)	Chemical determination	"	Arginine	2.16 $\times 10^{-12}$ g	
1956	Handbook of Biological Data (28)	" "	"	Basic protein	28.7 per cent of dry weight	
1956	Handbook of Biological Data (28)	" "	"	Acidic protein	19.6 per cent of dry weight	
1941	Zittle (30)	" "	"	Nitrogen	52 per cent of total sperm	
1953	Barer (26)	Immersion refractometry	"	Solids	45 per cent	
1955	Nelson (27)	Chemical determination	"	Weight, lipid-free	51 per cent of total sperm	
1956	Leuchtenberger (12)	Microspectrophotometry	"	DNA	2.04 $\times 10^{-12}$ g	
1956	Handbook of Biological Data (28)	Chemical determination	"	DNA	3.3 $\times 10^{-12}$ g	