

Table II-2
NUMBERS OF BACTERIA IN THE RUMEN

Animal	Ration	Direct microscopic count $\times 10^{-9}$	Culture count $\times 10^{-9}$	Reference
Sheep	Test rations for effects of cobalt	30-56	—	Gall <i>et al.</i> (1949b)
Sheep	Chaffed oat hay, casein, and starch to give:			
	24 gm N	29	—	Moir and Williams (1950)
	62 gm N	40	—	Moir and Williams (1950)
	82 gm N	55	—	Moir and Williams (1950)
	100 gm N	55	—	Moir and Williams (1950)
	122 gm N	61	—	Moir and Williams (1950)
Sheep	Pasture at various seasons	32-88	—	Moir (1951)
Sheep	Chaff + various concentrates	18-44	—	Williams and Moir (1951)
Cattle	Hay, straw, and concentrates in several combinations	14-25	1.3-6.5	Bryant and Burkey (1953b)
Sheep	Hay, protein, and starch in various combinations	27-58	—	Williams <i>et al.</i> (1953)
Year-old steers	Hay + 4 lb grain	—	1.01-1.35	King and Smith (1955)
Pregnant range cows	2/3 timothy hay, 1/3 concentrates	8-47	0.008-0.6	Hungate (1957)
	8/9 timothy hay, 1/9 concentrates	7-29	0.002-0.2	Hungate (1957)
Ewes, Rahmani	Chopped wheat straw + 65 gm various protein equivalents	4-61	—	Shehata (1958)
Steers	Feed-lot bloat ration	—	0.2-10	Gutierrez <i>et al.</i> (1959)
Calves, no protozoa	Hay-grain mixture	—	13.6	Bryant and Small (1960)
Calves, protozoa	Same hay-grain mixture	—	6.0	Bryant and Small (1960)
Steers	Lush ladino clover pasture	—	5.8-8.0	Bryant <i>et al.</i> (1960)
Steers	Feed-lot bloat ration	—	1.6-23	Bryant <i>et al.</i> (1961)
Cow	4/5 alfalfa hay, 1/5 concentrates	—	4.0-12.0	Bryant and Robinson (1961b)
Sheep	Pasture	88	—	Warner (1962a)
Sheep	400 gm lucerne chaff + 400 gm wheaten chaff once daily	11.8-24.5	—	Warner (1962b)
Sheep	1 kg mixed lucerne hay	—	0.07-0.84	Kistner <i>et al.</i> (1962)
	1 kg lucerne hay stalks	—	0.06-0.3	Kistner <i>et al.</i> (1962)
	1 kg lucerne hay leaves	—	0.13-0.97	Kistner <i>et al.</i> (1962)
Mature sheep	Hay and gluten, before feeding	24	—	Nottle (1956)
	Hay and gluten, 3 hr after feeding	41	—	Nottle (1956)
	Hay and casein, before feeding	49	—	Nottle (1956)
	Hay and casein, after feeding	38	—	Nottle (1956)
Sheep	Oaten and lucerne chaff + 20% sheep cubes fed in various fashions:			
	1 daily feeding	32	—	Moir and Somers (1957)
	2 daily feedings	28	—	Moir and Somers (1957)
	4 daily feedings	32	—	Moir and Somers (1957)
	chaff A.M., concentrates P.M.	33	—	Moir and Somers (1957)
	concentrates A.M., chaff P.M.	37	—	Moir and Somers (1957)
Cows	Alfalfa hay <i>ad libitum</i>	10.3-12.4	0.33-0.9	Maki and Foster (1957)
	15 lb grain + alfalfa hay	14.8	1.8	Maki and Foster (1957)
	12 lb grain, 25 lb alfalfa meal	22.2	12.7	Maki and Foster (1957)
	15 lb grain, 27 lb alfalfa meal	28.2	20.0	Maki and Foster (1957)
	25 lb grain, 9 lb alfalfa meal	31.4	22.9	Maki and Foster (1957)