

REFERENCES

- Agar, N.S., Evans, J.V. and Roberts, J. (1972) Red blood cell potassium and haemoglobin polymorphism in sheep: A review. *Anim.Breed.Abstr.* **40**, 407.
- Agar, N.S., Roberts, J., Gruca, M.A., Mulley, A. and Harley, J.D. (1976) Postnatal changes in the levels of 2,3-diphosphoglycerate, reduced glutathione and some enzyme activities in the erythrocytes of lambs. *Res.Vet.Sci.* **20**, 223.
- Agricultural Research Council (1980) *The Nutrient Requirements of Ruminant Livestock*. Commonwealth Agricultural Bureaux, Farnham Royal.
- Akin, D.E., Gordon, G.L.R. and Hogan, J.P. (1983) Rumen bacterial and fungal degradation of Digitaria pentzii grown with or without sulfur. *Appl.Environ.Microbiol.* **46**, 738.
- Alaghband-Zadeh, J., Fenton, S., Millet, J., Hancock, K. and De Wardener, H.E. (1981) The effect of sodium intake on the content of a substance in rat hypothalamus which stimulates glucose 6 phosphate dehydrogenase (G6PD) in vitro. *Clin.Sci.* **61**, 43P.
- Allen, F. and Tisher, C.C. (1978) Morphology of the ascending thick limb of Henle. *Kidney Int.* **9**, 8.
- Allen, L.H., Bartlett, R.S. and Block, G.D. (1979) Reduction of renal calcium reabsorption in man by consumption of dietary protein. *J.Nutr.* **109**, 1345.
- Allison, M.J. (1970) Nitrogen metabolism of ruminal microorganisms. In 'Physiology of Digestion and Metabolism in the Ruminant' A.T.Phillipson (Ed) p. 456. Oriel Press, Newcastle.
- Andersen, B. and Ussing, H.H. (1957) Solvent drag of non-electrolytes during osmotic flow through isolated toad skin and its response to antidiuretic hormone. *Acta Physiol.Scand.* **39**, 228.
- Andersson, B., Leksell, L.G. and Rundgren, M. (1982) Regulation of water intake. *Ann.Rev.Nutr.* **2**, 73.
- Andreoli, T.E., Schafer, J.A., Troutman, S.L. and Watkins, M.L. (1979) Solvent drag components of Cl^- flux in superficial proximal straight tubules: evidence for a paracellular component of isotonic fluid absorption. *Am.J.Physiol.* **237**, F455.
- Andrews, P.M. and Porter, K.R. (1974) A scanning electron microscopic study of the nephron. *Am.J.Anat.* **140**, 81.
- Antoniewicz, A.M., Heinemann, W.W. and Hanks, E.M. (1980) The effect of changes in the intestinal flow of nucleic acids on allantoin excretion in the urine of sheep. *J.Agric.Sci.* **95**, 395.

- Arruda, J.A.L. and Kurtzman, N.A. (1980) Hyperparathyroidism and metabolic acidosis. A complex interaction of multiple factors. *Nephron* **26**, 1.
- Atherton, J.C., Hai, M.A. and Thomas, S. (1968) Time course of changes in renal tissue composition during water diuresis in the rat. *J.Physiol.* **197**, 429.
- Atkinson, D.E. and Camien, M.N. (1982) The role of urea synthesis in the removal of metabolic bicarbonate and the regulation of blood pH. *Curr.Topics Cell.Regul.* **21**, 261.
- Ausiello, P.A., Kreisberg, J.I., Roy, C. and Karnovsky, M.J. (1979) Contraction of cultured rat glomerular mesangial cells after stimulation with angiotensin II and arginine vasopressin. *J.Clin.Invest.* **65**, 754.
- Austin, J.H., Stillman, E. and Van Slyke, D.D. (1921) Factors governing the excretion rate of urea. *J.Biol.Chem.* **46**, 91.
- Bacon, J.S.D. and Bell, D.J. (1948) Fructose and glucose in the blood of the foetal sheep. *Biochem.J.* **42**, 397.
- Bailey, R.W. (1964) Pasture quality and ruminant nutrition. 1. Carbohydrate composition of ryegrass varieties grown as sheep pastures. *N.Z.J.Agric.Res.* **7**, 496.
- Balch, C.C. and Campling, R.C. (1962) Regulation of voluntary food intake in ruminants. *Nutr.Abstr.Rev.* **32**, 669.
- Baldwin, R.L. and Allison, M.J. (1983) Rumen metabolism. *J.Anim.Sci.* **57**, Suppl.2, 461.
- Barlet, J.P. (1972) Effect of porcine, salmon and human calcitonin on urinary excretion of some electrolytes in sheep. *J.Endocrinol.* **55**, 153.
- Bartoli, E., Conger, J.D. and Earley, L.E. (1973) Effect of intraluminal flow on proximal tubular reabsorption. *J.Clin.Invest.* **52**, 843.
- Barton, F.E., II, and Akin, D.E. (1977) Digestibility of delignified forage cell walls. *J.Agric.Food Chem.* **25**, 1299.
- Bassett, J.M., Oxborrow, T.J., Smith, I.D. and Thorburn, G.D. (1969) The concentration of progesterone in the peripheral plasma of the pregnant ewe. *J.Endocrinol.* **45**, 449.
- Battle, D., Itsarayoungyuen, K., Hays, S., Arruda, J.A.L. and Kurtzman, N.A. (1982) Parathyroid hormone is not anticalciuric during metabolic acidosis. *Kidney Int.* **22**, 264.
- Battle, D. and Kurtzman, N.A. (1983) Acid-base physiology and pathophysiology. *Contemp.Nephrol.* **2**, 193.
- Bauchop, T. (1981) The anaerobic fungi in rumen fibre digestion. *Agric.Environ.* **6**, 339.

- Bauchop, T. and Elsden, S.R. (1960) The growth of microorganisms in relation to their energy supply. *J.Gen.Microbiol.* **23**, 457.
- Beal, A.M. (1979a) Renal calcium and magnesium excretion during vasopressin administration into sheep with acid or alkaline urine. *J.Physiol.* **294**, 223.
- Beal, A.M. (1979b) Plasma insulin concentrations during infusion of potassium and sodium chloride solutions into conscious splenectomized sheep. *Aust.J.Biol.Sci.* **32**, 353.
- Beal, A.M., Budtz-Olsen, O.E., Clark, R.C., Cross, R.B. and French, T.J. (1973) Renal and salivary responses to infusion of potassium chloride, bicarbonate and phosphate in Merino sheep. *Quart.J.Exp.Physiol.* **58**, 251.
- Bean, E.S. and Atkinson, D.E. (1984) Regulation of the rate of urea synthesis in liver by extracellular pH. A major factor in pH homeostasis in mammals. *J.Biol.Chem.* **259**, 1552.
- Beck, N., Kim, H.B. and Kim, K.S. (1975) Effect of metabolic acidosis on renal action of parathyroid hormone. *Am.J.Physiol.* **228**, 1483.
- Bedford, C.A., Challis, J.R.G., Harrison, F.A. and Heap, R.B. (1972) The role of oestrogens and progesterone in the onset of parturition in various species. *J.Reprod.Fert. Suppl.* **16**, 1.
- Bell, P.D., McLean, C.B. and Navar, L.G. (1981) Dissociation of tubuloglomerular feedback responses from distal tubular chloride concentration in the rat. *Am.J.Physiol.* **240**, F111.
- Belogrudov, I.G. and Getmanets, O.D. (1973) Effect of a varying urea level in sheep rations on several indexes of their liquor and blood. *Fiziol.Biokhim.Sil's'kogospod.Tvarin.* Cited in *Chem.Abstr.* Abstr.No. 204107a, 1975, **83**.
- Bennett, C.M., Brenner, B.M. and Berliner, R.W. (1968) Micropuncture study of nephron function in the rhesus monkey. *J.Clin.Invest.* **47**, 203.
- Bennett, C.M., Clapp, J.R. and Berliner, R.W. (1967) Micropuncture study of the proximal and distal tubule in the dog. *Am.J.Physiol.* **213**, 1254.
- Bennink, M.R., Tyler, T.R., Ward, G.M. and Johnson, D.E. (1978) Ionic milieu of bovine and ovine rumen as affected by diet. *J.Dairy Sci.* **61**, 315.
- Bentzel, C.J. (1972) Proximal tubule structure function relationships during volume expansion in *Necturus*. *Kidney Int.* **2**, 324.
- Bergen, W.G. (1972) Rumen osmolality as a factor in feed intake control of sheep. *J.Anim.Sci.* **34**, 1054.

- Bergen, W.G., Purser, D.B. and Cline, J.H. (1967) Enzymatic determination of protein quality of individual ruminal bacteria. *J.Nutr.* **92**, 357.
- Bergen, W.G., Purser, D.B. and Cline, J.H. (1968) Determination of limiting amino acids of rumen isolated microbial proteins fed to rats. *J.Dairy Sci.* **51**, 1698.
- Berry, C.A. and Rector, F.C. (1980) Active and passive sodium transport in the proximal tubule. *Mineral Electrolyte Metab.* **4**, 149.
- Besaarab, A., Silva, P. and Epstein, I.H. (1976) Multiple pumps for sodium reabsorption by the perfused kidney. *Kidney Int.* **10**, 147.
- Bie, P. (1980) Osmoreceptors, vasopressin, and control of renal water excretion. *Physiol.Rev.* **60**, 961.
- Bijvoet, O.L.M., Van der Sluys Veer, J., De Vries, H.R. and Van Koppen, A.T.J. (1971) Natriuretic effect of calcitonin in man. *New Engl.J.Med.* **284**, 681.
- Bishara, H.N. and Bray, A.C. (1978) The validity of endogenous creatinine clearance in measuring the glomerular filtration rate in the ovine kidney. *Aust.J.Exp.Biol.Med.Sci.* **56**, 119.
- Blackburn, T.H. and Hobson, P.N. (1960) Proteolysis in the sheep rumen by whole and fractionated rumen contents. *J.Gen.Microbiol.* **22**, 272.
- Blair-West, J.R., Coghlan, J.P., Denton, D.A., Goding, J.R., Wintour, M. and Wright, R.D. (1968) The local action of ammonium, calcium, and magnesium on adrenocortical secretion. *Aust.J.Exp.Biol.Med.Sci.* **46**, 371.
- Blantz, R.C. (1977) Dynamics of glomerular ultrafiltration in the rat. *Fed.Proc.* **36**, 2602.
- Blantz, R.C. (1980) The glomerulus, passive filter or regulatory organ? *Klin.Wochenschr.* **58**, 957.
- Boda, K., Varady, J. and Havassy, I. (1976) Utilization of urea-nitrogen-15 in ruminants. In 'Tracer Studies on Nonprotein Nitrogen for Ruminants, III' p. 1. Int.Atomic Energy Agency, Vienna.
- Begin, E., Massry, S.G., Levi, J., Djaldetti, M., Bristol, G. and Smith, J. (1982) Effect of parathyroid hormone on osmotic fragility of human erythrocytes. *J.Clin.Invest.* **69**, 1017.
- Boggs, D.E. (1959) An in vivo ^{15}N tracer study of amino acid metabolism in the rumen of sheep on a purified diet. *Dissertation Abstr.* **20**, 55.
- Bondi, A. (1981) Metabolism of protein in ruminant animals. A review. *Nutr.Rep.Int.* **35**, 993.
- Borle, A.B. (1982) Effect of sodium on cellular calcium transport in rat kidney. *J.Membr.Biol.* **66**, 183.

- Boutilier, R.G. and Shelton, G. (1980) The statistical treatment of hydrogen ion concentration and pH. *J.Exp.Biol.* **84**, 335.
- Brahm, J. (1983) Urea permeability of human red cells. *J.Gen.Physiol.* **82**, 1.
- Bray, G.A. and Preston, A.S. (1961) Effect of urea on urine concentration in the rat. *J.Clin.Invest.* **40**, 1952.
- Brenner, B.M. (1977) Functional and structural determinants of glomerular filtration. A brief historical perspective. *Fed.Proc.* **36**, 2599.
- Brenner, B.M. (1978) Glomerular permselectivity: barrier function based on discrimination of molecular size and charge. *Am.J.Physiol.* **234**, 445.
- Brenner, B.M. and Troy, J.L. (1971) Post-glomerular vascular protein concentration: Evidence for a causal role in governing fluid reabsorption and glomerulo-tubular balance by the renal proximal tubule. *J.Clin.Invest.* **50**, 336.
- Brenner, B.M., Troy, J.L. and Daugherty, T.M. (1971) On the mechanism of inhibition in fluid reabsorption by the renal proximal tubule of the volume-expanded rat. *J.Clin.Invest.* **50**, 1596.
- Brenner, B.M., Troy, J.L., Daugherty, T.M., Deen, W.M. and Robertson, C.R. (1972) Dynamics of glomerular ultrafiltration in the rat. II. Plasma flow dependence of GFR. *Am.J.Physiol.* **223**, 1184.
- Breslau, N.A., McGuire, J.L., Zerwekh, J.E. and Pak, C.Y.C. (1982) The role of dietary sodium on renal excretion and intestinal absorption of calcium and on vitamin-D metabolism. *J.Clin.Endocrinol.Metabol.* **55**, 369.
- Breslau, N.A. and Pak, C.Y.C. (1983) Lack of effect of salt intake on the excretion of uric acid. *J.Urol.* **129**, 531.
- Bricker, N.S., Fine, L.G., Kaplan, M.A., Epstein, M., Bourgoignie, J.J and Licht, A. (1978) "Magnification phenomenon" in chronic renal disease. *N Engl.J.Med.* **299**, 1287.
- Briggs, J.P., Steipe, B., Schubert, G. and Schnermann, J. (1982) Micropuncture studies of the renal effects of atrial natriuretic substance. *Pflugers Arch.* **395**, 271.
- Brobst, D. (1983) Pathophysiologic and adaptive changes in acid-base disorders. *J.Am.Vet.Med.Assoc.* **7**, 773.
- Brook, A.H., Waites, G.M.H. and Stacy, B.D. (1964) Cutaneous ureterostomy in the sheep. *Quart.J.Exp.Physiol.* **49**, 297.
- Brown, G.D. and Lynch, J.J. (1972) Some aspects of the water balance of sheep at pasture when deprived of drinking water. *Aust.J.Agric.Res.* **23**, 669.

- Brownfield, M.S. and Wunder, B.A. (1976) Relative medullary area: A new structural index for estimating urinary concentrating capacity of mammals. *Comp.Biochem.Physiol.* **55A**, 69.
- Bryant, M.P. (1965) Dry matter digestibility as an indicator of the fate of dietary nitrogen in the ruminant. *N.Z.J.Agric.Res.* **8**, 204.
- Bryant, M.P. and Robinson, I.M. (1963) Apparent incorporation of ammonia and amino acid carbon during growth of selected species of ruminal bacteria. *J.Dairy Sci.* **46**, 150.
- Bulger, R.E., Siegel, F.L. and Pendergrass, R. (1974) Scanning and transmission electron microscopy of the rat kidney. *Am.J.Anat.* **139**, 483.
- Burg, M.B. and Green, N. (1973) Function of the thick ascending limb of Henle's loop. *Am.J.Physiol.* **224**, 659.
- Burg, M.B. and Green, N. (1977) Bicarbonate transport by isolated perfused rabbit proximal convoluted tubules. *Am.J.Physiol.* **233**, F307.
- Burg, M.B., Patlak, C., Green, N. and Villey, D. (1976) Organic solutes in fluid absorption by renal proximal tubules. *Am.J.Physiol.* **231**, 627.
- Burghardt, W., Schweisfurth, H. and Dahlheim, H. (1982) Juxtaglomerular angiotensin II formation. *Kidney Int.* **S12**, S-49.
- Burstyn, P.G., Horrobin, D.F. and Manku, M.S. (1972) Saluretic action of aldosterone in the presence of increased salt intake and restoration of normal action by prolactin or oxytocin. *J.Endocrinol.* **55**, 369.
- Care, A.D., Farrar, A.R. and Pickard, D.W. (1981) Factors affecting the absorption of magnesium from the rumen in sheep. *J.Physiol.* **325**, 55P.
- Carruthers, J.M.S., Davis, K.R. and Bonneville, M.A. (1980) Facilitated diffusion of urea in sheep urothelium. *Eur.J.Cell.Biochem.* **22**, 476.
- Chabardes, D., Imbert, M., Clique, A., Montegut, M. and Morel, F. (1975) PTH sensitive adenyl cyclase activity in different segments of the rabbit nephron. *Pflugers Arch.* **354**, 229.
- Chalupa, W. (1976) Degradation of amino acids by the mixed rumen microbial population. *J.Anim.Sci.* **43**, 828.
- Chalupa, W. (1980) Chemical control of rumen microbial metabolism. In 'Digestive Physiology and Metabolism in Ruminants' Y.Ruckebusch and P.Thivend (Eds) p. 325. MTP Press Ltd., Lancaster.

- Cheng, K.-J. and Costerton, J.W. (1980) Adherent rumen bacteria - their role in the digestion of plant material, urea and epithelial cells. In '*Digestive Physiology and Metabolism in Ruminants*' Y.Ruckebusch and P.Thivend (Eds) p. 227. MTP Press Ltd., Lancaster.
- Cheng, K.-J. and Wallace, R.J. (1979) The mechanism of passage of endogenous urea through the rumen wall and the role of ureolytic epithelial bacteria in the urea flux. *Br.J.Nutr.* **42**, 553.
- Chesley, L.C., Holm, L.W., Parker, H.R. and Assali, N.S. (1978) Renal tubular secretion of urate in sheep. *Proc.Soc.Exp.Biol.Med.* **159**, 386.
- Christian, K.R. and Coop, M.R. (1954) A colourimetric method for the determination of chromic oxide in faecal material. *N.Z.J.Sci.Technol.* **36**, 328.
- Christian, K.R. and Williams, V.J. (1966) Rumen fermentation of herbage in sheep receiving carbohydrate supplements. *J.Agric.Sci.* **66**, 285.
- Christopherson, R.J. and Kennedy, P.M. (1983) Effect of the thermal environment on digestion in ruminants. *Can.J.Anim.Sci.* **63**, 477.
- Christy, N.P. and Shaver, J.C. (1974) Estrogens and the kidney. *Kidney Int.* **6**, 366.
- Clark, R.C., French, T.J., Beal, A.M., Cross, R.B. and Budtz-Olsen, O.E. (1975) The acute effects of intravenous infusion of parathyroid hormone on urine, plasma and saliva in the sheep. *Quart.J.Exp.Physiol.* **60**, 95.
- Cocimano, M.R. and Leng, R.A. (1967) Metabolism of urea in sheep. *Br.J.Nutr.* **21**, 353.
- Cohen, J.J., Berglund, E. and Lotspeich, W.D. (1956) Renal tubular reabsorption of acetoacetate, inorganic sulfate and inorganic phosphate in the dog as affected by glucose and phlorizin. *Am.J.Physiol.* **184**, 91.
- Coleman, G.S. (1975) The interrelationship between rumen ciliate protozoa and bacteria. In '*Digestion and Metabolism in the Ruminant*' I.W.McDonald and A.C.I.Warner (Eds) p. 149. The University of New England Publishing Unit, Armidale.
- Coleman, G.S. (1978) The metabolism of cellulose, glucose and starch by the rumen ciliate protozoon *Eudiplodinium maggi*. *J.Gen.Microbiol.* **107**, 359.
- Coleman, G.S. (1980) Rumen ciliate protozoa. *Adv.Parasitol.* **18**, 121.
- Conger, J.D., Bartoli, E. and Earley, L.E. (1976) A study in vivo of peritubular oncotic pressure and proximal tubular reabsorption in the rat. *Clin.Sci.Mol.Med.* **51**, 379.
- Cook, A.R. (1976) Urease activity in the rumen of sheep and the isolation of ureolytic bacteria. *J.Gen.Microbiol.* **92**, 32.

- Corbett, J.L. (1981) Determination of the utilisation of energy and nutrients by grazing animals. In '*Forage Evaluation: Concepts and Techniques*' . J.L.Wheeler and R.D.Mochrie (Eds). p. 383. CSIRO Australia, Melbourne.
- Corbett, J.L. and Farrell, D.J. (1970) Energy expenditure of grazing sheep. *Proc.XI Int.Grassl.Congr.* p. 754. Surfers Paradise, Australia.
- Corbett, J.L., Lynch, J.J., Nicol, G.R. and Beeston, J.W.U. (1976) A versatile peristaltic pump designed for grazing lambs. *Lab.Pract.* **25**, 458.
- Corbett, J.L. and Pickering, F.S. (1983) Estimation of daily flows of digesta in grazing sheep. *Aust.J.Agric.Res.* **34**, 193.
- Crane, M.G. and Harris, J.J. (1974) Suppression of plasma aldosterone by partial immersion. *Metabolism.* **23**, 359.
- Cresser, M.S. and Parsons, J.W. (1979) Sulphuric-perchloric acid digestion of plant material for the determination of nitrogen, phosphorus, potassium, calcium and magnesium. *Anal.Chim.Acta* **109**, 431.
- Croom, W.J.Jr, Harvey, R.W., Linnerud, A.C. and Froetschel, M. (1982) High levels of sodium chloride in beef cattle diets. *Can.J.Anim.Sci.* **62**, 217.
- Cross, R.B., Lee, E. and Thornton, W.M. (1966) The effect of vasopressin on urea excretion by the sheep. *J.Physiol.* **187**, 34.
- Dale, H.E., Brody, S. and Burge, G.J. (1956) Effect of environmental temperature rhythms on blood and serum volumes and body water in dairy cattle. *Fed.Proc.* **15**, 43.
- Danielson, R.A., Schmidt-Nielsen, B. and Hohberger, C. (1970) Micropuncture study of the regulation of urea excretion by the collecting ducts in rats on high and low protein diets. In '*Urea and the Kidney*' B.Schmidt-Nielsen (Ed) p. 375. Excerpta Medica Foundation, Amsterdam.
- Davidovitch, A., Bartley, E.E., Bechtle, R.M. and Dayton, A.D. (1977) Ammonia toxicity in cattle. 3. Absorption of ammonia gas from the rumen and passage of urea and ammonia from the rumen to the duodenum. *J.Anim.Sci.* **45**, 551.
- Davidson, M. and Toporek, J. (1981) General univariate and multivariate analysis of variance and covariance, including repeated measures (URWAS). In '*BMDP Statistical Software*' W.J.Dixon (Ed) p. 388. University of California Press, Berkeley.
- Decaux, G., Brimioule, S., Genette, F. and Mockel, J. (1980) Treatment of the syndrome of inappropriate secretion of antidiuretic hormone by urea. *Am.J.Med.* **69**, 99.

- DeFronzo, R.A., Cooke, C.R., Andres, R., Faloona, G.R. and Davis, P.J. (1975) The effect of insulin on renal handling of sodium, potassium, calcium, and phosphate in man. *J.Clin.Invest.* **55**, 845.
- Denton, D.A. (1973) The brain and sodium homeostasis. *Cond.Reflex* **8**, 125.
- Desforges, J.F. and Dawson, J.P. (1958) The anemia of renal failure. *Arch.Int.Med.* **101**, 326.
- DeSousa, R.C. and Gross, A. (1981) The mode of action of vasopressin: membrane microstructure and biological transport. *J.Physiol.(Paris)* **77**, 643.
- Devandra, C. (1976) Studies on the utilization of rice straw by sheep Part 3. Water metabolism. *Malays.Agric.J.* **50**, 340.
- De Wardener, H. (1978) The control of sodium excretion. *Am.J.Physiol.* **235**, F163.
- De Wardener, H. (1982a) The natriuretic hormone. *Ann.Clin.Biochem.* **19**, 137.
- De Wardener, H. (1982b) The natriuretic hormone. *Quart.J.Exp.Physiol.* **67**, 371.
- De Wardener, H. and Clarkson, E.M. (1982) The natriuretic hormone: recent developments. *Clin.Sci.* **63**, 415.
- DiBona, G.F. (1977) Neurogenic regulation of renal tubular sodium reabsorption. *Am.J.Physiol.* **266**, F73.
- Dirks, J.H., Seely, J.F. and Levy, M. (1976) Control of extracellular fluid volume and pathophysiology of edema formation. In 'The Kidney' B.M.Brenner and F.C.Rector (Eds) p.495. Saunders, Philadelphia.
- Dixon, R.M. and Milligan, L.P. (1983) Urea metabolism in steers fed mature grass hay and given fresh or salt water. *Can.J.Anim.Sci.* **63**, 149.
- Dixon, W.J. (1981) Description of groups (strata) with histograms and analysis of variance. In 'BMDP Statistical Software' W.J.Dixon (Ed) p. 105. University of California Press, Berkeley.
- Dobson, A., Sellers, A.F. and Gatewood, V.H. (1976) Dependence of Cr⁵¹-EDTA absorption from the rumen on luminal osmotic pressure. *Am.J.Physiol.* **231**, 1595.
- Dooley, P.C. and Williams, V.J. (1975) Changes in the jugular haematocrit of sheep during feeding. *Aust.J.Biol.Sci.* **28**, 43.
- Edelman, I.S. (1975) Thyroidal regulation of renal energy metabolism and (Na⁺ + K⁺)-activated adenosine triphosphatase activity. *Med.Clin.N.Am.* **59**, 605.
- Edelman, I.S. and Fanestil, J.A. (1970) Specific action of aldosterone in RNA synthesis. *Trans.Assoc.Am.Physicians* **77**, 307.

- Egan, A.R. and Kellaway, R.C. (1971) Evaluation of nitrogen metabolism as indices of nitrogen utilization in sheep given frozen and dry mature herbages. *Br.J.Nutr.* **26**, 335.
- Epstein, M. (1978) Renal effects of head-out water immersion in man: implications for an understanding of volume homeostasis. *Physiol.Rev.* **58**, 529.
- Epstein, M., Bricker, N.S. and Bourgoignie, J.J. (1978) The presence of a natriuretic factor in the urine of normal men undergoing water immersion. *Kidney Int.* **13**, 152.
- Epstein, M., DeNunzio, A.G. and Loutzenhiser, R.D. (1981) Effects of vasopressin administration on diuresis of water immersion in normal humans. *J.Appl.Physiol.* **51**, 1384.
- Epstein, M., Duncan, D.C. and Fishman, L.M. (1972) Characterisation of the natriuresis caused in normal man by immersion in water. *Clin.Sci.* **43**, 275.
- Epstein, M., Katsikas, J.L. and Duncan, D.C. (1973) Role of mineralocorticoids in the natriuresis of water immersion in normal man. *Circ.Res.* **32**, 228.
- Epstein, M., Pins, D.S. and Miller, M. (1975) Suppression of ADH during water immersion in normal man. *J.Appl.Physiol.* **38**, 1038.
- Ergene, N. (1976) *Studies on urea excretion in sheep*. Ph.D. Thesis, University of Liverpool.
- Ergene, N. and Pickering, E.C. (1978a) The effects of reducing dietary nitrogen and of increasing sodium chloride intake on urea excretion and reabsorption and on urine osmolality in sheep. *Quart.J.Exp.Physiol.* **63**, 67.
- Ergene, N. and Pickering, E.C. (1978b) The effects of urea infusion on glomerular filtration rate and renal plasma flow in sheep fed low and high protein diets. *Quart.J.Exp.Physiol.* **63**, 77.
- Eschbach, J.W., Detter, J.C. and Adamson, J.W. (1980) Physiologic studies in normal and uremic sheep: II. Changes in erythropoiesis and oxygen transport. *Kidney Int.* **18**, 732.
- Fahy, G.C. and Jung, H.G. (1983) Lignin as a marker in digestion studies: a review. *J.Anim.Sci.* **57**, 220.
- Faichney, G.J. (1975) The use of markers to partition digestion within the gastrointestinal tract of ruminants. In '*Digestion and Metabolism in the Ruminant*' I.W.McDonald and A.C.I.Warner (Eds) p. 277. University of New England Publishing Unit, Armidale.
- Faichney, G.J. and Colebrook, W.F. (1979) A simple technique to establish a self-retaining rumen catheter suitable for long-term infusions. *Res.Vet.Sci.* **26**, 385.

- Finn, A.C. (1971) The kinetics of sodium transport in the toad bladder. II Dual effects of vasopressin. *J.Gen.Physiol.* **57**, 349.
- Foote, J.J. and Grafflin, A.L. (1942) Cell contours in the two segments of the proximal tubule in the cat and dog nephron. *Am.J.Anat.* **70**, 1.
- Forster, R.P. (1954) Active cellular transport of urea by frog renal tubules. *Am.J.Physiol.* **179**, 372.
- Forster, R.P. (1970) Active tubular transport of urea and its role in environmental physiology. In '*Urea and the Kidney*' B.Schmidt-Nielsen (Ed) p. 225. Excerpta Medica Foundation, Amsterdam.
- Foster, D.M. and Jacquez, J.A. (1978) Comparison using central core model of renal medulla of the rabbit and rat. *Am.J.Physiol.* **234**, F402.
- Franki, N., Levine, S. and Hays, R.M. (1972) Evidence that vasopressin opens independent pathways for water and urea in the cell membrane. *Proc.5th.Int.Congr.Nephrol.* Mexico City, p. 78A.
- Frindt, G. and Burg, M.B. (1972) Effect of vasopressin on sodium transport in renal cortical collecting tubules. *Kidney Int.* **1**, 224.
- Fromter, E., Muller, C.W. and Wick, T. (1971) Permeability properties of the proximal tubular epithelium of the rat kidney studied with electrophysiological methods. In '*Electrophysiology of Epithelial Cells*' G.Giebisch and F.K.Schattauer (Eds) p. 119. Verlag, Stuttgart.
- Fulop, M. and Brazeau, P. (1968) The phosphaturic effect of sodium bicarbonate and acetazolamide in dogs. *J.Clin.Invest.* **47**, 983.
- Fylling, P. (1970) The effect of pregnancy, ovariectomy and parturition on plasma progesterone level in sheep. *Acta Endocrinol.* **65**, 273.
- Gaertner, K. (1961) Studies of the size of distribution pool of urea in goats. *Z.Tierphysiol.Tierernahr.Futt.* **16**, 366.
- Ganote, C.E., Grantham, J.J., Moses, H.L., Burg, M.B. and Orloff, J. (1968) Ultrastructural studies of vasopressin effect on isolated perfused renal collecting tubules of the rabbit. *J.Cell.Biol.* **36**, 355.
- Garrett, W.N., Meyer, J.H. and Lofgreen, G.P. (1959) An evaluation of the antipyrene dilution technique for the determination of total body water in ruminants. *J.Anim.Sci.* **18**, 116.
- Gartner, K. (1962) Mechanism of transfer of urea-N through the mucous membrane of the bovine rumen in vitro. *Pflugers Arch.* **276**, 292.
- Gauer, O.H., Henry, J.P. and Behn, C. (1970) The regulation of extracellular fluid volume. *Ann.Rev.Physiol.* **32**, 547.

- Gertz, K.H., Schmidt-Nielsen, B. and Pagel, D. (1966) Exchange of water, urea and salt between the mammalian renal papilla and the surrounding urine. *Fed.Proc.* **25**, 327.
- Giebisch, G. and Windhager, E. (1973) Electrolyte transport across renal tubular membranes. In '*Handbook of Physiology, Renal Physiology*' J. Orloff and R.W. Berliner (Eds) p. 315. American Physiological Society, Washington.
- Gillette, D.D. (1967) Transfer of urine into the rumen of goats by a transplanted ureter. *Am.J.Physiol.* **213**, 271.
- Ginsburg, J.N. (1972) Effect of glucose and free fatty acid on phosphate transport in dog kidney. *Am.J.Physiol.* **222**, 1153.
- Godwin, I.R. and Agar, N.S. (1983) Plasma inorganic phosphate, packed cell volume and red cell ATP and DPG in sheep. *IRCS Med.Sci.* **11**, 512.
- Godwin, I.R., Agar, N.S. and Roberts, J. (1983) Measurement of erythrocyte ATP, DPG, glucose and lactate with a Cobas-Bio centrifugal analyzer. *Clin.Chem.* **29**, 1855.
- Godwin, I.R. and Williams, V.J. (1982) Urinary calculi formation in sheep on high wheat grain diets. *Aust.J.Agric.Res.* **33**, 843.
- Goetz, K.L., Bend, G.C. and Bloxham, D.D. (1975) Atrial receptors and renal function. *Physiol.Rev.* **55**, 157.
- Goldberg, M., Wojtczak, A.M. and Ramirez, M.A. (1967) Uphill transport of urea in the dog kidney: effects of certain inhibitors. *J.Clin.Invest.* **46**, 388.
- Goldstein, L. (1976) Ammonia production and excretion in the mammalian kidney. In '*International Review of Physiology; Kidney and Urinary Tract Physiology II*' K.Thurau (Ed), University Park Press, Baltimore.
- Good, D.W. and Burg, M.B. (1984) Ammonia production by individual segments of the rat nephron. *J.Clin.Invest.* **73**, 602.
- Good, D.W., Knepper, M.A. and Burg, M.B. (1984) Ammonia and bicarbonate transport by thick ascending limb of rat kidney. *Am.J.Physiol.* **247**, F35.
- Gottschalk, C.W. and Mylle, M. (1959) Micropuncture study of the mammalian urinary concentrating mechanism: evidence for the counter current hypothesis. *Am.J.Physiol.* **196**, 927.
- Goulding, A. and Campbell, D. (1983) Dietary NaCl loads promote calciuria and bone loss in adult oophorectomized rats consuming a low calcium diet. *J.Nutr.* **113**, 1409.
- Grace, N.C. (1981) Phosphorus kinetics in sheep. *Br.J.Nutr.* **45**, 367.

- Grantham, J.J. (1974) Action of antidiuretic hormone in the mammalian kidney. In 'MTP International Review of Science' p. 247. University Park Press, Baltimore.
- Grantham, J.J. (1978) Studies of isolated renal tubules in vitro. *Ann.Rev.Physiol.* **40**, 249.
- Grantham, J.J. and Edwards, R.M. (1984) Natriuretic hormones: At last, bottled in bond? *J.Lab.Clin.Med.* **103**, 333.
- Grantham, J.J., Ganote, C.E., Burg, M.B. and Orloff, J. (1969) Paths of transtubular water flow in isolated renal collecting tubules. *J.Cell Biol.* **41**, 562.
- Greger, R. (1981) Chloride reabsorption in the rabbit cortical thick ascending limb of the loop of Henle. A sodium dependent process. *Pflugers Arch.* **390**, 38.
- Grimes, A.T. (1980) *Human Red Cell Metabolism*. Blackwell Scientific, Oxford.
- Gross, J.B., Imai, M. and Kokko, J.P. (1975) A functional comparison of the cortical collecting tubule and the distal convoluted tubule. *J.Clin.Invest.* **55**, 1284.
- Grovum, W.L. and Williams, V.J. (1977) Rate of passage of digesta in sheep. 6. The effect of level of food intake on mathematical predictions of the kinetics of digesta in the reticulorumen and intestines. *Br.J.Nutr.* **38**, 425.
- Guder, W.G. and Ross, E.D. (1984) Enzyme distribution along the nephron. *Kidney Int.* **26**, 101.
- Gutsche, H.-U. and Hegel, U. (1980) Influence of aldosterone on epithelial leakiness of rat proximal tubules. Microconductivity measurements. *Pflugers Arch.* **385**, 29.
- Habener, J.F. and Potts, J.T. (1976) Chemistry, biosynthesis, secretion, and metabolism of parathyroid hormone. In 'Handbook of Physiology, Endocrinology, Vol. VII Parathyroid Gland' G.D.Aurbach (Ed) p. 313. American Physiological Society, Washington.
- Haberle, D.A. and Davis, J.M. (1982) Chronic salt loading - effects on plasma volume and regulation of glomerular filtration rate in Wistar rats. *Klin.Wochenschr.* **60**, 1245.
- Hales, J.R.S. (1974) Radioactive microsphere techniques for studies of the circulation. *Clin.Exp.Pharmacol.Physiol.* **1**, Suppl.1, 31.
- Hall, D.A. and Varney, D.M. (1980) Effect of vasopressin on electrical potential difference and chloride transport in mouse medullary thick ascending limb of Henle's loop. *J.Clin.Invest.* **66**, 792.
- Halperin, M.L. and Jungas, R.L. (1983) Metabolic production and renal disposal of hydrogen ions. *Kidney Int.* **24**, 709.

- Hamilton, J.A., Burton, M.A. and Webster, M.E.D. (1983) Effects of sodium chloride intake in lambs on growth rate, food intake and urine osmolarity. *Proc. Int. Union Physiol. Soc.* **29**, 1024.
- Harmeyer, J. and Martens, H. (1980) Aspects of urea metabolism in ruminants with reference to the goat. *J. Dairy Sci.* **63**, 1707.
- Harmeyer, J., Varady, J. and Birck, R. (1973a) Kinetics of urea metabolism in small ruminants during feeding and hunger. *Arch. Tierernahr.* **23**, 461.
- Harmeyer, J., Varady, J., Birck, R. and Martens, H. (1973b) Urea distribution pool in small ruminants after feeding and hunger. *Arch. Tierernahr.* **23**, 537.
- Harris, H., McDonald, I.R. and Williams, W. (1952) The electrolyte pattern in experimental anuria. *Aust. J. Exp. Biol.* **30**, 33.
- Harris, L.E. and Phillipson, A.T. (1962) The measurement of the flow of food to the duodenum of the sheep. *Anim. Prod.* **4**, 97.
- Harrison, D.G., Beever, D.E., Thomson, D.J. and Osbourn, D.F. (1975) Manipulation of rumen fermentation in sheep by increasing the rate of flow of water from the rumen. *J. Agric. Sci.* **85**, 93.
- Haussinger, D., Gerok, W. and Sies, H. (1984) Hepatic role in pH regulation: role of the intercellular glutamine cycle. *TIBS* **7**, 300.
- Havassy, I., Boda, K., Kosta, K., Rybosova, E. and Kuchar, S. (1974) Retention of intravenously administered ^{15}N -labelled urea in sheep. *Physiol. Bohemoslov.* **23**, 297.
- Havassy, I., Boda, K., Rybosova, F. and Kuchar, S. (1973) Increased urea transport from muscle tissue to blood in fasting sheep. *Physiol. Bohemoslov.* **22**, 261.
- Havassy, I., Kuchar, S. and Boda, K. (1971) Uneven urea distribution in body fluids of sheep. *Proc. 19th. Wld. Vet. Congr.* **2**, 573P.
- Hayes, C.P.Jr, Mayson, J.S., Owens, E.E. and Robinson, R.R. (1964) A micropuncture evaluation of renal ammonia excretion in the rat. *Am. J. Physiol.* **207**, 77.
- Hays, R.M. (1978) Familial azotemia. *N. Engl. J. Med.* **298**, 161.
- Hebert, S.C. and Andreoli, T.E. (1984) Control of NaCl transport in the thick ascending limb. *Am. J. Physiol.* **245**, F745.
- Hebert, S.C., Culpepper, R.M. and Andreoli, T.E. (1981) NaCl transport in mouse medullary thick ascending limbs. II. ADH enhancement of transcellular NaCl cotransport; origin of transepithelial voltage. *Am. J. Physiol.* **241**, F432.
- Hemsley, J.A. (1975) Effect of high intakes of sodium chloride on the utilization of a protein concentrate by sheep. I. Wool growth. *Aust. J. Agric. Res.* **26**, 709.

- Hemsley, J.A., Hogan, J.P. and Weston, R.H. (1975) Effect of high intakes of sodium chloride on the utilization of protein concentrate by sheep. II. Digestion and absorption of organic matter and electrolytes. *Aust.J.Agric.Res.* **26**, 715.
- Himmelsbach, D.S. and Barton, F.E., II (1980) C¹⁴ nuclear magnetic resonance of grass lignins. *J.Agric.Food Chem.* **28**, 1203.
- Hobson, P.N. (1965) Continuous culture of some anaerobic and facultative anaerobic rumen bacteria. *J.Gen.Microbiol.* **38**, 167.
- Hobson, P.N. and Summers, R. (1967) Continuous culture of anaerobic bacteria. *J.Gen.Microbiol.* **47**, 53.
- Hogan, J.P. (1965) The digestion of pasture plants by the grazing sheep. III The quantity of protein reaching the small intestine. *Aust.J.Agric.Res.* **16**, 179.
- Hogan, J.P. (1975) Quantitative aspects of nitrogen utilization in ruminants. *J.Dairy Sci.* **58**, 1164.
- Hogan, J.P. and Hemsley, J. (1976) Protein digestion in the rumen. *Rev.Rur.Sci.* **2**, 73.
- Hogan, J.P. and Weston, R.H. (1967) The digestion of chopped and ground roughages by sheep. II. The digestion of nitrogen and some carbohydrate fractions in the stomach and intestines. *Aust.J.Agric.Res.* **18**, 803.
- Holmes, E.C., Jones, E.R., Lyle, M.D. and Stanier, M.W. (1956) Malnutrition in African adults. 3. Effect of diet on body composition. *Br.J.Nutr.* **10**, 198.
- Horster, M., Schmidt, H. and Schmidt, U. (1980) Aldosterone in vitro restores nephron Na-K-ATPase of distal segments from adrenalectomized rabbits. *Pflugers Arch.* **384**, 203.
- Houpt, T.R. and Houpt, K.A. (1968) Transfer of urea nitrogen across the rumen wall. *Am.J.Physiol.* **214**, 1296.
- Hsu, C.H., Kurtz, T.W., Massari, P.U., Ponze, S.A. and Chang, B.S. (1978) Impaired urea excretion despite normal renal function. *N Engl.J.Med.* **298**, 117.
- Huber, J.T. and Kung, L.Jr. (1981) Protein and nonprotein nitrogen utilization in dairy cattle. *J.Dairy Sci.* **64**, 1170.
- Hungate, R.E. (1966) *The Rumen and its Microbes*. Academic Press. New York.
- Hungate, R.E. (1982) Methane formation and cellulose digestion - biochemical ecology and microbiology of the rumen ecosystem. *Experientia* **38**, 189.
- Ide, Y. (1975) Quantitative aspect of the endogenous urea cycle in goats. *Jap.J.Vet.Sci.* **37**, 327.
- Imai, M. (1977) Function of the thin ascending limb of Henle of rats and hamsters perfused in vitro. *Am.J.Physiol.* **232**, F201.

- Imai, M. and Kokko, J.P. (1974) Sodium chloride, urea and water transport in the thin ascending limb of Henle. Generation of osmotic gradient by passive diffusion of solutes. *J.Clin.Invest.* **53**, 393.
- Imai, M. and Kokko, J.P. (1976) Mechanism of sodium and chloride transport in the thin ascending limb of Henle. *J.Clin.Invest.* **58**, 1054.
- Imbert, M., Chabardes, D., Montegut, M., Clique, A. and Morel, F. (1975) Vasopressin-dependent adenylate cyclase in single segments of rabbit kidney tubule. *Pflugers Arch.* **357**, 173.
- Isaacson, H.R., Hinds, F.C., Bryant, M.P. and Owens, F.N. (1975) Efficiency of energy utilization by mixed rumen bacteria in continuous culture. *J.Dairy Sci.* **58**, 1645.
- Jackson, H.M., Kromann, R.P. and Ray, E.E. (1971) Energy retention in lambs as influenced by various levels of sodium and potassium in the rations. *J.Anim.Sci.* **33**, 872.
- Jacobson, H.R. and Seldin, D.W. (1977) Proximal tubular reabsorption and its regulation. *Ann.Rev.Physiol.* **17**, 623.
- Jamison, R.L. and Kriz, W. (1982) *Urinary Concentrating Mechanism: Structure and Function*. Oxford University Press, New York.
- Jennrich, R., Sampson, P. and Frane, J. (1981) Analysis of variance and covariance including repeated measures. In 'BMDP Statistical Software' W.J.Dixon (Ed) p. 359. University of California Press, Berkeley.
- Johns, A.T. (1955) Pasture quality and ruminant nutrition. 1. Seasonal change in botanical and chemical composition of pasture. *N.Z.J.Sci.Technol.* **37**, 301.
- Kahl, F.R., Flint, J.F. and Szidon, J.P. (1974) Influence of left atrial distension on renal vasomotor tone. *Am.J.Physiol.* **226**, 240.
- Kaissling, B. and Kriz, W. (1979) Structural analysis of the rabbit kidney. *Adv.Anat.Embryol.Cell Biol.* **56**, 1.
- Kaplan, E.L., Hill, B.J., Locke, S. and Peskin, G.W. (1971) Acid-base balance and parathyroid function: Metabolic alkalosis and hyperparathyroidism. *Surgery* **70**, 198.
- Kaplan, E.L., Hill, B.J., Locke, S., Toth, D.N. and Peskin, G.W. (1971) Metabolic acidosis and parathyroid hormone secretion in sheep. *J.Lab.Clin.Med.* **78**, 819.
- Kaplan, M.A., Bourgoignie, J.J., Rosecan, J. and Bricker, N.S. (1974) The effect of natriuretic factor from uraemic urine on sodium transport, water and electrolyte content, and pyruvate oxidation by the isolated toad bladder. *J.Clin.Invest.* **53**, 1568.

- Kato, S., Sasaki, Y. and Tsuda, T. (1979) Food intake and rumen osmolality in sheep. *Ann.Rech.Vet.* **10**, 229.
- Katz, A.I. and Lindheimer, M.D. (1977) Actions of hormones on the kidney. *Ann.Rev.Physiol.* **39**, 97.
- Kauker, M.L., Lassiter, W.E. and Gottschalk, C.W. (1970) Micropuncture study of effects of urea infusion on tubular reabsorption in the rat. *Am.J.Physiol.* **219**, 45.
- Kawamura, S., Imai, M., Seldin, D.W. and Kokko, J.P. (1975) Characteristics of salt and water transport in superficial and juxtamedullary straight segments of proximal tubules. *J.Clin.Invest.* **55**, 1269.
- Kawamura, S. and Kokko, J.P. (1976) Urea secretion by the straight segment of the proximal tubule. *J.Clin.Invest.* **58**, 604.
- Kennedy, P.M. and Milligan, L.P. (1978) Transfer of urea from the blood to the rumen of sheep. *Br.J.Nutr.* **40**, 149.
- Kennedy, P.M. and Milligan, L.P. (1980) Input of endogenous protein into the forestomachs of sheep. *Can.J.Anim.Sci.* **60**, 1029.
- Kinne, R., Macfarlane, W.V. and Budtz-Olsen, O.E. (1961) Hormones and electrolyte excretion in sheep. *Nature* **192**, 1084.
- Kissileff, H.R. and Van Itallie, T.B. (1982) Physiology of the control of food intake. *Ann.Rev.Nutr.* **2**, 371.
- Knight, R., Sutton, J.D., McAllan, A.B. and Smith, R.H. (1978) The effect of dietary lipid supplementation on digestion and synthesis in the stomach of sheep. *Proc.Nutr.Soc.* **37**, 14A.
- Knox, F.G., Burnett, J.C., Kohan, D.E., Spielman, W.S. and Strand, J.C. (1980) Escape from the sodium-retaining effects of mineralocorticoids. *Kidney Int.* **17**, 263.
- Knox, F.G. and Haas, J.A. (1982) Factors influencing renal sodium reabsorption in volume expansion. *Rev.Physiol.Biochem.Pharmacol.* **92**, 75.
- Koepsell, H., Nicholson, W.A.P., Kriz, W. and Hohling, H.J. (1974) Measurements of exponential gradients of sodium and chlorine in the rat kidney medulla using the electron microprobe. *Pflugers Arch.* **350**, 167.
- Kokko, J.P. (1970) Sodium chloride and water transport in the descending limb of Henle. *J.Clin.Invest.* **49**, 1838.
- Kokko, J.P. and Rector, F.C. (1972) Countercurrent multiplication system without active transport in inner medulla. *Kidney Int.* **2**, 214.

- Kuchar, S., Rybosova, H. and Havassy, I. (1972) Distribucia mucoviny medzi plasnu a erythrocyty oviec za hladu. *Vet.Cas.(Bratislava)* **14**, 85.
- Kuhn, W. and Ryffel, K. (1942) Herstellung konzentrierter losungen aus verdunnten durch blosse membranwirkung. *Hoppe-Seylers Z.Physiol.Chem.* **276**, 145.
- Kurtzman, N.A. (1970) Regulation of renal bicarbonate reabsorption by extra-cellular volume. *J.Clin.Invest.* **49**, 586.
- Kuttler, K.L. and Marble, D.W. (1960) Serum protein changes in lambs with naturally acquired nematode infections. *Am.J.Vet.Res.* **21**, 445.
- Ladegaard-Pedersen, H.J. and Engel, H.C. (1972) A comparison of the distribution volumes of inulin and [⁵¹Cr]EDTA in man and nephrectomized dogs. *Scand.J.Clin.Lab.Invest.* **30**, 267.
- Lambourne, L.J. and Reardon, T.F. (1963) The use of chromic oxide to estimate the faecal output of merinos. *Aust.J.Agric.Res.* **14**, 239.
- Lameire, N.H., Lifschitz, M.D. and Stein, J.H. (1977) Heterogeneity of nephron function. *Ann.Rev.Physiol.* **39**, 159.
- Langberg, H., Mathisen, O., Holdaas, H. and Kiil, F. (1981) Filtered bicarbonate and plasma pH as determinants of renal bicarbonate reabsorption. *Kidney Int.* **20**, 780.
- Lassiter, W.E., Mylle, M. and Gottschalk, C.W. (1966) Micropuncture study of urea transport in rat renal medulla. *Am.J.Physiol.* **210**, 965.
- Leaf, A. and Hays, R.M. (1967) Permeability of the isolated toad bladder to solutes and its modification by vasopressin. *J.Gen.Physiol.* **45**, 921.
- Leatherwood, J.M. (1973) Cellulose degradation by Ruminococcus. *Fed.Proc.* **32**, 1814.
- Leng, R.A. (1970) Glucose synthesis in ruminants. *Adv.Vet.Sci.* **14**, 209.
- Leng, R.A. (1982) Dynamics of protozoa in the rumen of sheep. *Br.J.Nutr.* **48**, 399.
- Leng, R.A. and Nolan, J.V. (1984) Nitrogen metabolism in the rumen. *J.Dairy Sci.* **67**, 1072.
- Levinsky, N.G. and Berliner, R.W. (1959) Changes in composition of urine in ureters and bladder at low urine flow. *Am.J.Physiol.* **196**, 549.
- Levitian, B.A. (1951) Effect in normal man of hypoglycemia and glucosuria on excretion and reabsorption of phosphate. *J.Appl.Physiol.* **4**, 225.
- Lewis, D. (1951) The metabolism of nitrate and nitrite in sheep. *Biochem.J.* **48**, 175.
- Lewy, J.E. and Windhager, E.E. (1968) Peritubular control of proximal tubular fluid reabsorption in the rat kidney. *Am.J.Physiol.* **214**, 943.

- Leyssac, P.P. (1976) The regulation of proximal tubular reabsorption in the mammalian kidney. *Acta Physiol.Scand. Suppl.* **291**, 1.
- Long, W.S. (1970) Renal secretion of urea in *Rana catesbeiana*. In 'Urea and the Kidney' B.Schmidt-Nielsen (Ed) p. 216. Excerpta Medica Foundation, Amsterdam.
- Loosli, J.K., Williams, H.H., Thomas, W.E., Terris, F.H. and Maynard, L.A. (1949) Synthesis of amino acids in the rumen. *Science* **110**, 144.
- Lore, J.K. and Lifson, N. (1958) Transtubular movements of urea in the doubly perfused bullfrog kidney. *Am.J.Physiol.* **193**, 662.
- Lucci, M.S., Evan, A., Bengele, H.H. and Solomon, S. (1974) Altered effect of saline loading on the lateral intercellular spaces of the proximal tubule during prolactin infusion. *Fed.Proc.* **33**, 368.
- Lucenda-Conde, F. and Prat, L. (1957) A new reagent for the colorimetric and spectrophotometric determination of phosphorus, arsenic and germanium. *Anal.Chim.Acta* **16**, 473.
- Macfarlane, W.V. (1963) Endocrine functions in hot environments. In 'Environmental Physiology and Psychology in Arid Conditions. A Review of Research.' p. 153. UNESCO, Paris.
- Macfarlane, W.V. (1976) Water and electrolytes in domestic animals. In 'Veterinary Physiology' J.W. Phillis (Ed) p. 461. Wright-Scientechnica, Bristol.
- Macfarlane, W.V., Howard, B. and Siebert, B.D. (1967) Water metabolism of merino and border leicester sheep grazing saltbush. *Aust.J.Agric.Res.* **18**, 947.
- Macfarlane, W.V., Morris, R.J.H. and Howard, B. (1956) Water economy of tropical merino sheep. *Nature* **178**, 304.
- MacRae, J.C. (1976) Utilization of the protein of green forage by ruminants at pasture. *Rev.Rur.Sci.* **2**, 93.
- MacRae, J.C., Milne, J.A., Wilson, S. and Spence, A.M. (1979) Nitrogen digestion in sheep given poor-quality indigenous hill herbages. *Br.J.Nutr.* **42**, 525.
- MacRae, J.C. and Reeds, P.J. (1979) Prediction of protein deposition in ruminants. In 'Protein Deposition in Animals' P.J.Buttery and D.B.Lindsay (Eds) p. 147. Butterworths, London.
- Maffly, R.H., Hays, R.M., Lamdin, E. and Leaf, A. (1960) The effect of neurohypophyseal hormones on the permeability of the toad bladder to urea. *J.Clin.Invest.* **39**, 630.
- Malnic, G., Mello-Aires, M. and Giebisch, G. (1971) Potassium transport across renal distal tubules during acid-base disturbances. *Am.J.Physiol.* **221**, 1192.

- Malvin, R.L. and Lotspeich, W.D. (1956) Relation between tubular transport of inorganic phosphate and bicarbonate in the dog. *Am.J.Physiol.* **187**, 51.
- Marsh, D.J. and Martin, C.M. (1977) Origin of electrical PD's in hamster thin ascending limbs of Henle's loop. *Am.J.Physiol.* **232**, F348.
- Marshall, E.K.Jr, (1932) The secretion of urea in the frog. *J.Cell.Comp.Physiol.* **2**, 349.
- Marshall, E.K.Jr, and Crane, M.M. (1925) The secretory function of the renal tubules. *Am.J.Physiol.* **70**, 465.
- Marshall, R.W. and Hodgkinson, A. (1983) Calculation of plasma ionised calcium from total calcium, proteins and pH: comparison with measured values. *Clin.Chim.Acta* **127**, 305.
- Martens, H. and Rayssiguier, Y. (1980) Magnesium metabolism and hypomagnesaemia. In '*Digestive Physiology and Metabolism in Ruminants*' Y.Ruckebusch and P.Thivend (Eds) p. 447. MTP Press Ltd. Lancaster.
- Martin, D.L. and DeLuca, H.F. (1969) Influence of sodium on calcium transport by the rat small intestine. *Am.J.Physiol.* **216**, 1351.
- Massry, S.G., Coburn, J.W., Chapman, L.W. and Kleeman, C.R. (1967) Effect of NaCl infusion on urinary Ca and Mg during reduction in their filtered load. *Am.J.Physiol.* **213**, 1218.
- Massry, S.G., Coburn, J.W., Chapman, L.W. and Kleeman, C.R. (1968) Role of serum Ca, parathyroid hormone, and NaCl infusion on renal Ca and Na clearances. *Am.J.Physiol.* **214**, 1403.
- Maude, D.L. and Wesson, L.G.Jr. (1963) Renal water reabsorption during saline and urea osmotic diuresis in the dog. *Am.J.Physiol.* **205**, 477.
- Maunsbach, A.B. (1964) Ultrastructure of different segments within the rat renal proximal tubule. *Anat.Rec.* **148**, 387.
- Maunsbach, A.B. (1966) Observations on the segmentation of the proximal tubule in the rat kidney. Comparison of results from phase contrast, fluorescence and electron microscopy. *J.Ultrastruct.Res.* **16**, 239.
- Maunsbach, A.B. (1973) Ultrastructure of the proximal tubule. In '*Handbook of Physiology, Renal Physiology*' J. Orloff and R.W. Berliner (Eds) p.31. American Physiological Society, Washington.
- McAllan, A.B. and Smith, R.H. (1973) Degradation of nucleic acid derivatives by rumen bacteria in vitro. *Br.J.Nutr.* **29**, 467.
- McAlly, M. (1964) Plasma volume response to water immersion: implication for space flight. *Aerospace Med.* **25**, 130.

- McDonald, I.W. (1968) The nutrition of grazing ruminants. *Nutr. Abstr. Rev.* **38**, 381.
- McIntosh, G.H., Filsell, O.H. and Jarrett, I.G. (1973) Kidney function and net glucose production in normal and acidotic sheep. *Aust. J. Biol. Sci.* **26**, 1389.
- McIntyre, K.H. (1970) The effects of increased nitrogen intakes on plasma urea nitrogen and rumen ammonia levels in sheep. *Aust. J. Agric. Res.* **21**, 501.
- McIntyre, K.H. (1971) The effects of continuous intravenous and intraruminal infusions of urea on nitrogen metabolism in sheep. *Aust. J. Agric. Res.* **22**, 429.
- McIntyre, K.H. and Williams, V.J. (1969) The role of the bladder in nitrogen retention in sheep. *Aust. J. Biol. Sci.* **47**, 633.
- McKenna, T.J., Island, D.P., Nicholson, W.E. and Liddle, G.W. (1978) The effects of potassium on early and late steps in aldosterone biosynthesis in cells of the zona glomerulosa. *Endocrinology* **103**, 1411.
- McKinley, M.J., Denton, D.A. and Weisinger, R.S. (1978) Sensors for antidiuresis and thirst - osmoreceptors or CSF sodium detectors? *Brain Res.* **141**, 89.
- Mead, L.J. and Jones, G.A. (1981) Isolation and identification of adherent bacteria ("epimural" bacteria) from the ovine rumen wall. *Appl. Environ. Microbiol.* **41**, 1020.
- Mercado, A. Slatopolsky, E. and Klahr, S. (1975) On the mechanisms responsible for the phosphaturia of bicarbonate administration. *J. Clin. Invest.* **56**, 1386.
- Michell, A.R. (1981) Fluid and electrolyte excretion in sheep: comparison of the effect of reduced food and water intake with oestrus. *Quart. J. Exp. Physiol.* **66**, 515.
- Mills, I.H. (1982) The renal kallikrein-kinin system and sodium excretion. *Quart. J. Exp. Physiol.* **67**, 393.
- Minson, D.J., Harris, C.E., Raymond, W.F. and Milford, R. (1964) The digestibility and voluntary intake of S22 and H1 ryegrass, S170 tall fescue, S48 timothy, S215 meadow fescue, and "germinal cocksfoot". *J. Br. Grassld. Soc.* **19**, 298.
- Mitchell, T.R. (1979) The relationship between plasma inorganic phosphate and whole blood haemoglobin concentration in normal subjects. *J. Physiol.* **289**, 66P.
- Momose, T., Ohkura, Y. and Tomita, J. (1965) Determination of urea in blood and urine with diacetyl monoxime-glucuronolactone reagent. *Clin. Chem.* **11**, 113.
- Morel, F., Chabardes, D. and Imbert, M. (1976) Functional segmentation of the rabbit distal tubule by microdetermination of hormone-dependent adenylate cyclase activity. *Kidney Int.* **9**, 264.
- Morgan, T. and Berliner, R.W. (1968) Permeability of the loop of Henle, vasa recta, and collecting ducts to water, urea and sodium. *Am. J. Physiol.* **215**, 108.

- Morgan, T., Sasaki, F. and Berliner, R.W. (1968) In vitro permeability of medullary collecting ducts to water and urea. *Am.J.Physiol.* **214**, 574.
- Mudge, G.H., Berndt, W.O. and Valtin, H. (1973) Tubular transport of urea, glucose, phosphate, uric acid, sulfate and thiosulfate. In '*Handbook of Physiology. Renal Physiology*' J.Orloff and R.W.Berliner (Eds) p. 587. American Physiological Society, Washington.
- Mudge, G.H., Foulks, J. and Gilman, A. (1949) Effect of urea diuresis on renal excretion of electrolytes. *Am.J.Physiol.* **158**, 218.
- Mulvehill, J.B., Hui, Y.S., Barnes, L.D., Palumbo, P.J. and Dousa, T.P. (1976) Glucagon-sensitive adenylate-cyclase in human renal medulla. *J.Clin.Endocrinol.Metab.* **42**, 380.
- Murer, H., Hopfer, U. and Kinne, R. (1976) Sodium/proton antiport in brush-border membrane vesicles isolated from rat small intestine and kidney. *Biochem.J.* **154**, 597.
- Nagami, G.T. and Kurokawa, K. (1985) Regulation of ammonia production by mouse proximal tubules perfused in vitro. Effect of luminal perfusion. *J.Clin.Invest.* **75**, 844.
- Nawaz, M. and Shah, B.H. (1984) Renal clearance of endogenous creatinine and urea in sheep during summer and winter. *Res.Vet.Sci.* **36**, 220.
- Nicol, G.R. and Corbett, J.L. (1971) Equipment for hourly feeding of sheep. *Lab.Pract.* **20**, 727.
- Nolan, J.V. (1975) Quantitative models of nitrogen metabolism in sheep. In '*Digestion and Metabolism in the Ruminant*' I.W.McDonald and A.C.I.Warner (Eds) p. 416. The University of New England Publishing Unit, Armidale.
- Nolan, J.V., Cocimano, M.R. and Leng, R.A. (1970) Prediction of parameters of urea metabolism in sheep from the concentration of urea in plasma. *Proc.Aust.Soc.Anim.Prod.* **8**, 22.
- Nolan, J.V. and Leng, R.A. (1972) Dynamic aspects of ammonia and urea in sheep. *Br.J.Nutr.* **27**, 177.
- Nolan, J.V., Norton, B.W. and Leng, R.A. (1976) Further studies of the dynamics of nitrogen metabolism in sheep. *Br.J.Nutr.* **35**, 127.
- Nube, M., Van Der Aarsen, C.P.M., Giliams, J.P. and Hekkens, W.Th.J.M. (1980) The determination of ammonium in kjeldahl digests using the gas-sensing ammonia electrode. Comparison of the direct method with the known addition method. *Clin.Chim.Acta.* **100**, 239.

- Obara, Y. and Shimbayashi, K. (1980) The appearance of re-cycled urea in the digestive tract of goats during the final third of a once daily feeding of a low-protein ration. *Br.J.Nutr.* **44**, 295.
- Oparil, S., Ehrlich, E.N. and Lindheimer, M.D. (1975) Effects of progesterone on renal sodium handling in man: Relation to aldosterone excretion and plasma renin activity. *Clin.Sci.Mol.Med.* **49**, 139.
- Orpin, C.G. and Letcher, A.J. (1979) Utilization of cellulose, starch, xylan, and other hemicelluloses for growth by the rumen phycomycete *Neocallimastix frontalis*. *Curr.Microbiol.* **3**, 121.
- Oster, J.R., Perez, G.O., Canterbury, J.M., Alpert, H.C. and Vaamonde, C.A. (1982) Plasma parathyroid hormone and divalent cation response to induction of acute metabolic acidosis. *Can.J.Physiol.Pharmacol.* **60**, 1505.
- Owens, F.N. and Bergen, W.G. (1983) Nitrogen metabolism of ruminant animals: historical perspective, current understanding and future implications. *J.Anim.Sci.* **57**, Suppl.2, 498.
- Page, L.B. and Reem, C.H. (1952) Urinary concentrating mechanisms in the dog. *Am.J.Physiol.* **171**, 572.
- Panaretto, B.A. (1963) Body composition in vivo. III. The composition of living ruminants and its relation to the tritiated water spaces. *Aust.J.Agric.Res.* **14**, 944.
- Payne, E. and Morris, J.G. (1969) The effect of protein content of the diet on the rate of urea formation in sheep liver. *Biochem.J.* **113**, 659.
- Petrucelli, R.J.II, and Egguna, P. (1982) Importance of molecular size and hydrogen bonding in vasopressin-stimulated urea transport. *Am.J.Physiol.* **243**, C27.
- Pfeiffer, E.W. (1968) Comparative anatomical observations of the mammalian renal pelvis and medulla. *J.Anat.* **102**, 321.
- Phillips, T.G., Sullivan, J.T., Loughlin, M.E. and Sprague, V.G. (1954) Chemical composition of some forage grasses. 1. Changes with plant maturity. *Agron.J.* **46**, 361.
- Phillipson, A.T. and Storry, J.E. (1965) The absorption of calcium and magnesium from the rumen and small intestine of the sheep. *J.Physiol.* **181**, 130.
- Pitts, R.F. (1973) Production and excretion of ammonia in relation to acid-base regulation. In 'Handbook of Physiology. Renal Physiology' J. Orloff and R.W. Berliner (Eds) p. 455. American Physiological Society, Washington.
- Pitts, R.F. (1974) *Physiology of the Kidneys and Body Fluids*. 3rd.Ed . Year Book Medical Publishers, Chicago.

- Potter, B.J. (1961) The renal response of sheep to prolonged ingestion of sodium chloride. *Aust.J.Agric.Res.* **12**, 440.
- Potter, B.J. (1968) The influence of previous salt ingestion on the renal function of sheep subjected to intravenous hypertonic saline. *J.Physiol.* **194**, 435.
- Potter, B.J. (1972) The effect of prolonged salt intake on blood pressure in sheep. *Aust.J.Exp.Biol.Med.Sci.* **50**, 387.
- Poulsen, H.L., Jensen, H.A.E. and Parving, H.-H. (1977) Extracellular fluid volume determined by a single injection of inulin in men with untreated essential hypertension. *Scand.J.Clin.Lab.Invest.* **37**, 691.
- Procos, J., Schubert, A. and Briel, B.J. (1970) Changes in the levels of plasma electrolytes and glucose in severely artificially induced acidosis in merino sheep. *Onderstepoort J.Vet.Res.* **37**, 151.
- Purkeson, M.C., Lubowitz, H., White, R.W. and Bricker, N.S. (1969) On the influence of extracellular fluid volume expansion on bicarbonate reabsorption in the rat. *J.Clin.Invest.* **48**, 1754.
- Rabinowitz, L. and Gunther, R.A. (1972) Renal concentrating ability in sheep during urea, mannitol, and methylurea diuresis. *Am.J.Physiol.* **222**, 801.
- Rabinowitz, L. and Gunther, R.A. (1978) Renal potassium excretion in sheep during sodium sulfate, phosphate and chloride infusion. *Am.J.Physiol.* **234**, F371.
- Rabinowitz, L., Gunther, R.A., Shoji, E.S., Freedland, R.A. and Avery, E.H. (1973) Effects of high and low protein diets on sheep renal function and metabolism. *Kidney Int.* **4**, 188.
- Rabinowitz, L., Wegienka, E.A., Gunther, R.A. and Warren, D.T. (1971) Maximum tubular transport of paraminohippuric acid in sheep. *Nephron.* **8**, 313.
- Ralls, J.O. (1943) Urea is not equally distributed between the water of the blood cells and that of the plasma. *J.Biol.Chem.* **151**, 529.
- Rawlins, F.A., Gonzalez, E., Perez-Gonzalez, M. and Whittembury, G. (1975) Effect of transtubular osmotic gradients on the paracellular pathway in toad kidney proximal tubule. *Pflugers Arch.* **353**, 287.
- Read, B.E. (1925) Chemical constituents of camel's urine. *J.Biol.Chem.* **64**, 615.
- Rector, F.C., Brunner, F.P. and Seldin, D.W. (1966) Mechanism of glomerular-tubular balance. *J.Clin.Invest.* **45**, 390.
- Reddy, V.K., Zamora, C.S., Frandle, K.A. and Samson, M.D. (1981) Regional renal blood flow in ewes. *Am.J.Vet.Res.* **42**, 1802.
- Reinhardt, H.W. and Behrenbeck, D.W. (1967) Untersuchungen an wachen hunden über die einstellung der natriumbalanz. *Pflugers Arch.* **295**, 266.

- Reinking, L.N. and Schmidt-Nielsen, B. (1981) Peristaltic flow of urine in the renal papillary collecting ducts of hamsters. *Kidney Int.* **20**, 55.
- Roch-Ramel, F., Chometry, F. and Peters, G. (1968) Urea concentrations in tubular fluid and in renal tissue of non-diuretic rats. *Am.J.Physiol.* **215**, 429.
- Roch-Ramel, F., Diezi, J., Chometry, F., Michoud, P. and Peters, G. (1970) Urea concentrations in tubular fluid and in renal tissue of rats overloaded with urea or with saline solutions. In '*Urea and the Kidney*' B.Schmidt-Nielsen. (Ed) p. 333. Excerpta Medica Foundation, Amsterdam.
- Rogers, J.A., Marks, B.C., Davis, C.L. and Clark, J.H. (1979) Alteration of rumen fermentation in steers by increasing rumen fluid dilution rate with mineral salts. *J.Dairy Sci.* **62**, 1599.
- Romero, P.J. and Whittam, R. (1971) The control by internal calcium of membrane permeability to sodium and potassium. *J.Physiol.* **214**, 481.
- Rundgren, M., Ericksson, S. and Appelgren, B. (1979) Urea-induced inhibition of antidiuretic hormone (ADH) secretion. *Acta Physiol.Scand.* **106**, 491.
- Ryan, T.A.Jr, Joiner, B.L. and Ryan, B.F. (1976) *Minitab Student Handbook*. Duxbury Press, Massachusetts.
- Rys, R., Antoniewicz, A and Maciejewicz, J. (1975) Allantoin in urine as an index of microbial protein in the rumen. In '*Tracer studies on non-protein nitrogen for ruminants II.*' p. 95. International Atomic Energy Agency, Vienna.
- Sajo, I.M., Goldstein, M.B., Sonnenberg, H., Stinebaugh, B.J., Wilson, D.R. and Halperin, M.L. (1981) Sites of ammonia addition to tubular fluid in rats with chronic metabolic acidosis. *Kidney Int.* **20**, 353.
- Sasaki, S. and Imai, M. (1980) Effects of vasopressin on water and NaCl transport across the in vitro perfused medullary thick ascending limb of Henle's loop of mouse, rat, and rabbit kidneys. *Pflugers Arch.* **383**, 215.
- Schafer, J.A., Troutman, S.L. and Andreoli, T.E. (1974) Volume reabsorption, transepithelial potential differences, and ionic permeability properties in mammalian superficial proximal straight tubules. *J.Gen.Physiol.* **64**, 582.
- Scherer, B., Siess, W. and Weber, P.C. (1977) Radioimmunological and biological measurement of prostaglandins in rabbit urine: Decrease of PGE₂ excretion at high NaCl intake. *Prostaglandins* **13**, 1127.
- Schiller, A., Taugner, R. and Kriz, W. (1980) The thin limbs of Henle's loop in the rabbit: a freeze-fracture study. *Cell Tiss.Res.* **207**, 249.
- Schmidt-Nielsen, B. (1958) Urea excretion in mammals. *Physiol.Rev.* **38**, 139.

- Schmidt-Nielsen, B. (1970) Urea analogues and tubular transport competition. In '*Urea and the Kidney*' B.Schmidt-Nielsen (Ed) p. 252. Excerpta Medica Foundation, Amsterdam.
- Schmidt-Nielsen, B., Churchill, M. and Reinking, L.N. (1980) Occurrence of renal pelvic reflexes during rising urine flow rate in rats and hamsters. *Kidney Int.* **18**, 419.
- Schmidt-Nielsen, B. and Forster, R.P. (1954) The effect of dehydration and low temperature on renal function in the bullfrog. *J.Cell.Comp.Physiol.* **44**, 233.
- Schmidt-Nielsen, B. and Odell, R. (1959) Effect of diet on distribution of urea and electrolytes in kidneys of sheep. *Am.J.Physiol.* **197**, 856.
- Schmidt-Nielsen, B., Osaki, H., Murdaugh, H.V.Jr, and Odell, R. (1958) Renal regulation of urea excretion in sheep. *Am.J.Physiol.* **194**, 221.
- Schmidt-Nielsen, B. and Rabinowitz, L. (1964) Methylurea and acetamide: active reabsorption by elasmobranch renal tubules. *Science* **146**, 1587.
- Schmidt-Nielsen, B. and Shranger, C.R. (1963) Handling of urea and related compounds by the renal tubules of the frog. *Am.J.Physiol.* **205**, 483.
- Schnermann, J., Plotz, D.W. and Hermle, M. (1976) Activation of tubulo-glomerular feedback by chloride transport. *Pflugers Arch.* **362**, 229.
- Schutz, W. and Schnermann, J. (1972) Pelvic urine composition as a determinant of inner medullary solute concentration and urine osmolality. *Pflugers Arch.* **334**, 154.
- Schwartz, A., Lindenmayer, G.E. and Allen, J.C. (1975) The sodium-potassium adenosine triphosphatase: pharmacological, physiological and biochemical aspects. *Pharmacol.Rev.* **27**, 1.
- Schwartz, G.J. and Burg, M.B. (1978) Mineralocorticoid effects on cation transport by cortical collecting tubules in vitro. *Am.J.Physiol.* **235**, F576.
- Schwartz, M.M., Karnovsky, M.J. and Venkatachalam, M.A. (1979) Regional membrane specialization in the thin limbs of Henle's loops as seen by freeze-fracture electron microscopy. *Kidney Int.* **16**, 577.
- Schwartz, M.M. and Venkatachalam, M.A. (1974) Structural differences in thin limbs of Henle: Physiological implications. *Kidney Int.* **6**, 193.
- Scott, D. (1969) The effects of intravenous infusion of KCl or HCl on the renal excretion of potassium in sheep. *Quart.J.Exp.Physiol.* **54**, 25.
- Scott, D. (1972) Excretion of phosphorus and acid in the urine of sheep and calves fed either roughage or concentrate diets. *Quart.J.Exp.Physiol.* **57**, 379.

- Scott, D. (1975) Changes in mineral, water and acid-base balance associated with feeding and diet. In '*Digestion and Metabolism in the Ruminant*' I.W.McDonald and A.C.I.Warner (Eds) p. 205. University of New England Publishing Unit, Armidale.
- Scott, D. and Buchan, W. (1981) Changes in blood composition and urinary mineral excretion in the sheep in response to acute acid-base disturbance. *Res. Vet. Sci.* **31**, 43.
- Scott, D. and McLean, A.F. (1981) Control of mineral absorption in ruminants. *Proc. Nutr. Soc.* **40**, 257.
- Scott, T.W. (1971) Ruminant lipids. In '*Biochemistry and Methodology of Lipids*' A.R.Johnson and J.B.Davenport (Eds) p. 459. John Wiley and Sons, New York.
- Sealey, J.E., Kirschmann, J.D., Laragh, J.H. (1969) Natriuretic activity in plasma and urine of salt loaded man and sheep. *J. Clin. Invest.* **48**, 2210.
- Shannon, J.A. (1936) Glomerular filtration and urea excretion in relation to urine flow in the dog. *Am.J.Physiol.* **117**, 206.
- Shukla, P.C. and Tripathi, B.N. (1978) Electro-osmotic studies of aqueous solutions of urea, acetamide, thiourea, glucose and sucrose across inner membrane of urinary bladder of goat. *Ind.J.Biochem.Biophys.* **15**, 421.
- Simmons, D.H. and Avedon, M. (1959) Acid-base alterations and plasma potassium concentration. *Am.J.Physiol.* **197**, 319.
- Smith, H.W. (1936) The retention and physiological role of urea in the elasmobranchii. *Biol.Rev. Cambridge Phil.Soc.* **11**, 49.
- Smith, H.W., Finkelstein, L., Aliminosa, B., Crawford, B. and Craber, M. (1945) The renal clearances of substituted hippuric acid derivatives and other aromatic acids in dog and man. *J. Clin. Invest.* **24**, 388.
- Smith, R.H. (1975) Nitrogen metabolism in the rumen and the composition and nutritive value of nitrogen compounds entering the duodenum. In '*Digestion and Metabolism in the Ruminant*' I.W.McDonald and A.C.I.Warner (Eds) p. 399. The University of New England Publishing Unit., Armidale.
- Smith, R.H. (1979) Synthesis of microbial nitrogen compounds in the rumen and their subsequent digestion. *J.Anim.Sci.* **49**, 1604.
- Somers, M. (1961) Factors influencing the secretion of nitrogen in sheep saliva. *Aust.J.Exp.Biol.Med.Sci.* **39**, 111.
- Sonnenberg, H., Cupples, W.A., DeBold, A.J. and Veress A.T. (1982) Intrarenal localization of the natriuretic effect of cardiac atrial extract. *Can.J.Physiol.Pharmacol.* **60**, 1149.

- Sorensen, S.S., Christensen, F. and Clausen, T. (1980) The relationship between the transport of glucose and cations across cell membranes in isolated tissues X. Effect of glucose transport stimuli on the efflux of isotopically labelled calcium and 3-O-methylglucose from soleus muscles and epididymal fat pads of the rat. *Biochim.Biophys.Acta* **602**, 433.
- Stacy, B. (1969) Augmented renal excretion of calcium and magnesium in sheep after feeding. *Quart.J.Exp.Physiol.* **54**, 1.
- Stacy, B.D. and Thorburn, G.D. (1966) Chromium-51 ethylenediaminetetraacetate for estimation of glomerular filtration rate. *Science* **152**, 1076.
- Stacy, B.D. and Wilson, B.W. (1970) Acidosis and hypercalciuria: renal mechanisms affecting calcium, magnesium and sodium excretion in the sheep. *J.Physiol.* **210**, 549.
- Stahl, R.A.K., Attallah, A.A., Bloch, D.L. and Lee, J.B. (1979) Stimulation of rabbit renal PG biosynthesis by dietary sodium restriction. *Am.J.Physiol.* **237**, F344.
- Stanton, B. and Giebisch, G. (1981) Mechanism of urinary potassium excretion. *Mineral Electrolyte Metab.* **5**, 100.
- Stephenson, J.L. (1972) Central core model of the renal counterflow system. *Kidney Int.* **2**, 85.
- Stephenson,
J.L. (1978) Countercurrent transport in the kidney. *Ann.Rev.Biophys.Bioeng.* **7**, 315.
- Stokes, J.B. (1981) Potassium secretion by cortical collecting tubule: relation to sodium absorption, luminal sodium concentration, and transepithelial voltage. *Am.J.Physiol.* **241**, F395.
- Stoner, L.C. and Roch-Ramel, F. (1979) The effects of perfusion pressure on the water permeability of the descending limb of Henle's loop of rabbits. *Pflugers Arch.* **382**, 7.
- Suttle, N.F. and Field, A.C. (1967) Studies on magnesium in ruminant nutrition. 8. Effect of increased intakes of potassium and water on the metabolism of magnesium, phosphorus, sodium, potassium and calcium in sheep. *Br.J.Nutr.* **21**, 819.
- Suzuki, S. (1981) Carbonic anhydrase, Mg^{2+} - HCO_3^- -ATPase and Mg^{2+} - Na^+ - K^+ -ATPase in rat intestinal mucosa: effects of adrenalectomy and aldosterone administration. *J.Steroid Biochem.* **14**, 449.
- Symonds, H.W., Mather, D.L. and Vagg, M.J. (1981) The maximum capacity of the liver of the adult dairy cow to metabolize ammonia. *Br.J.Nutr.* **46**, 481.

- Szanyiova, M., Leng, L. and Varady, J. (1980) The renal excretion of urea and electrolytes in sheep after the expansion of extracellular fluids by an isotonic solution of NaCl. *Vet.Med.* **25**, 615.
- Tabatabai, M., Cohenim, N. and Kadivar, R. (1980) Ureteral motility in sheep. *Arch.Int.Physiol.Biochim.* **88**, 421.
- Tamminga, S. (1979) Protein degradation in the forestomachs of ruminants. *J.Anim.Sci.* **49**, 1615.
- Ternouth, J.H. (1968) The effect of ruminal hyperosmolality on voluntary food consumption. *Proc.Aust.Soc.Anim.Prod.* **7**, 369.
- Thomson, D.J., Beever, D.E., Latham, M.J., Sharpe, M.E. and Terry, R.A. (1978) The effect of inclusion of mineral salts in the diet on dilution rate, the pattern of rumen fermentation and the composition of the rumen microflora. *J.Agric.Sci.* **91**, 1.
- Thornton, R.F. (1970a) Factors affecting the urinary excretion of urea nitrogen in cattle. I. Sodium chloride and water loads. *Aust.J.Agric.Res.* **21**, 131.
- Thornton, R.F. (1970b) Urea excretion in ruminants. 1. Studies in sheep and cattle offered the same diet. *Aust.J.Agric.Res.* **21**, 323.
- Thurau, K. (1964) Renal hemodynamics. *Am.J.Med.* **36**, 698.
- Tilley, J.M.A. and Terry, R.A. (1963) A two-stage technique for the in vitro digestion of forage crops. *J.Br.Grassl.Soc.* **18**, 104.
- Timet, D., Emanovic, D., Herak, M., Kraljevic, P. and Mitin, V. (1978) The effect of sodium concentration in the contents on gastric absorption of calcium in cattle. *Vet.Arhiv.* **48**, S37.
- Tisher, C.C., Rosen, S. and Osborne, G.B. (1969) Ultrastructure of the proximal tubule of the rhesus monkey kidney. *Am.J.Pathol.* **56**, 469.
- Tisher, C.C. and Yarger, W.E. (1973) Lanthanum permeability of the tight junctions (zonula occludens) in the renal tubules of the rat. *Kidney Int.* **3**, 238.
- Tizianello, A.G., Deferrari, G., Garibotto, G., Robaudo, C., Acquarone, N. and Ghiglieri, G.M. (1982) Renal ammoniogenesis in an early stage of metabolic acidosis in man. *J.Clin.Invest.* **69**, 240.
- Tomas, F.M. (1974) Phosphorus homeostasis in sheep.II. Influence of diet on the pathway of excretion of phosphorus. *Aust.J.Agric.Res.* **25**, 485.
- Tomas, F.M. and Potter, B.J. (1976) The site of magnesium absorption from the ruminant stomach. *Br.J.Nutr.* **36**, 37.
- Truniger, B. and Schmidt-Nielsen, B. (1964) Intrarenal distribution of urea and related compounds: effects of nitrogen intake. *Am.J.Physiol.* **207**, 971.

- Ullrich, K.J. and Jarausch, K.H. (1956) Untersuchungen zum problem der harnkonzentrierung und harnverdunnung. *Arch.Ges.Physiol.* **262**, 537.
- Ullrich, K.J., Rumrich, G. and Baldamus, C.A. (1970) Mode of urea transport across the mammalian nephron. In 'Urea and the Kidney' B. Schmidt-Nielsen (Ed) p. 175. Excerpta Medica, Amsterdam.
- Ullrich, K.J., Rumrich, G. and Fuchs, G. (1964) Wasserpermeabilitat und transtubularer wasserfluB corticaler nephron-abschnitte bei verschiedenen diuresezustanden. *Arch.Ges.Physiol.* **280**, 99.
- Ullrich, K.J., Rumrich, G. and Schmidt-Nielsen, B. (1967) Urea transport in the collecting duct of rats on normal and low protein diets. *Arch.Ges.Physiol.* **295**, 147.
- Valtonen, M. (1979) Renal responses of reindeer to high and low protein diet and sodium supplement. *J.Sci.Agric.Soc.Finland* **51**, 381.
- Valtonen, M. and Eriksson, L. (1977) Responses of reindeer to water loading, water restriction and ADH. *Acta Physiol.Scand.* **100**, 340.
- Valtonen, M.H., Uusri-Rauva, A. and Eriksson, L. (1982) The effect of protein deprivation on the validity of creatinine and urea in evaluation of renal function. An experimental study in the goat. *Scand.J.Clin.Lab.Invest.* **42**, 507.
- Van Soest (1982) *Nutritional Ecology of the Ruminant*. O and B Books Inc., Corvallis, Oregon.
- Varady, J., Tashenov, K.T., Boda, K., Fejes, J. and Kosta, K. (1979) Endogenous urea secretion into the sheep gastrointestinal tract. *Physiol.Bohemoslov.* **28**, 551.
- Verani, R. and Bulger, R.E. (1982) The pelvic epithelium of the rat kidney: A scanning and transmission electron microscopic study. *Am.J.Anat.* **163**, 223.
- Virtanen, A.I. (1966) Milk production of cows on protein-free feed. *Science* **153**, 1603.
- Waite, R. and Gorrod, A.R.N. (1959) The comprehensive analysis of grasses. *J.Sci.Food Agric.* **10**, 317.
- Walker, A.M., Bott, P.A., Oliver, J. and MacDowell, M.C. (1941) The collection and analysis of fluid from single nephrons of the mammalian kidney. *Am.J.Physiol.* **134**, 580.
- Walker, D.M. and Faichney, G.J. (1964) Nitrogen balance studies with the milk fed lamb. *Br.J.Nutr.* **18**, 187.
- Wallace, R.J. (1979) Effect of ammonia concentration on the composition, hydrolytic activity and nitrogen metabolism of the microbial flora of the rumen. *J.Appl.Bacteriol.* **47**, 443.

- Wallnofer, P., Baldwin, R.L. and Stagno, E. (1966) Conversion of ^{14}C -labelled substrates to volatile fatty acids by the rumen. *Appl.Microbiol.* **14**, 1004.
- Walser, M. (1961) Calcium clearance as a function of sodium clearance in the dog. *Am.J.Physiol.* **200**, 1099.
- Warnock, D.G. and Rector, F.C.Jr, (1981) Renal acidification mechanisms. In '*The Kidney*' B.Brenner and F.C.Rector (Eds) p. 440. Saunders, Philadelphia.
- Watanabe, J., Hirate, J., Iwamoto, K. and Ozeki, S. (1981) Absorption and distribution of creatinine and urea in hereditary muscular dystrophic mice. *Chem.Pharm.Bull.* **29**, 3356.
- Watson, R.H. (1933) The threshold for the renal excretion of inorganic phosphates in the sheep. *Aust.J.Exp.Biol.* **11**, 197.
- Weast, R.C. and Selby, S.M. (1966) *CRC Handbook of Chemistry and Physics*. 47th Ed. The Chemical Rubber Co., Cleveland.
- Weber, P.C. and Siess, W. (1982) Interactions of renal prostaglandins with the renin angiotensin system. *Pharmacol.Therap.* **15**, 321.
- Weenink, R.O. (1961) Acetone-soluble lipids of grasses and other forage plants. I. Galactolipids of red clover (*Trifolium pratense*) leaves. *J.Sci.Food.Agric.* **12**, 34.
- Welbourne, T.C. and Pass, P.D. (1982) Function of renal γ -Glutamyltransferase: significance of glutathione and glutamine interactions. *Life Sci.* **30**, 793.
- Welch, J.G. and Smith, A.M. (1969) Influence of forage quality on rumination time in sheep. *J.Anim.Sci.* **28**, 813.
- Wesson, L.G. (1962) Magnesium, calcium, and phosphate excretion during osmotic diuresis in the dog. *J.Lab.Clin.Med.* **60**, 422.
- Wesson, L.G. and Anslow, W.P. (1948) Excretion of sodium and water during osmotic diuresis in the dog. *Am.J.Physiol.* **153**, 465.
- Weston, R.H. and Hogan, J.P. (1967) The transfer of nitrogen from the blood to the rumen of sheep. *Aust.J.Biol.Sci.* **20**, 967.
- Weston, R.H. and Hogan, J.P. (1968) Rumen ammonia in relation to characteristics of the diet and parameters of nitrogen metabolism. *Proc.Aust.Soc.Anim.Prod.* **7**, 359.
- Whang, R., Oei, T.O., Aikawa, J.K., Ryan, M.P., Watanabe, A., Chrysant, S.G. and Fryer, A. (1981) Magnesium and potassium interrelationships experimental and clinical. *Acta Med.Scand. Suppl.* **647**, 139.
- Wilcox, C.S. (1980) The renal response to salt loading. *Proc.28th Int.Congr.Physiol.Sci.(Budapest)*. **11**, 621.

- Williams, J.H. and Pickering, E.C. (1980) Effects of an intravenous infusion of hydrochloric acid on renal function in sheep. *Res. Vet. Sci.* **28**, 347.
- Wilson, A.D. (1966a) The intake and excretion of sodium by the sheep fed on species of Atriplex (saltbush) and Kochia (bluebush). *Aust. J. Agric. Res.* **17**, 155.
- Wilson, A.D. (1966b) The tolerance of sheep to sodium chloride in food or drinking water. *Aust. J. Agric. Res.* **17**, 503.
- Winer, B.J. (1971) *Statistical Principles in Experimental Design* 2nd Ed. McGraw-Hill, New York.
- Wirz, H., Hargitay, B. and Kuhn, W. (1951) Lokalisation des Konzentrierungsprozesses in der niere durch direkte kryoskopie. *Helv. Physiol. Pharmacol. Acta* **9**, 196.
- Wise, B.L. and Ganong, W.F. (1972) Effect of brain-stem stimulation on renal function. *Am. J. Physiol.* **198**, 1291.
- Wistrand, P.J. and Kinne, R. (1977) Carbonic anhydrase activity of isolated brush-border and basal-lateral membranes of renal tubular cells. *Pflugers Arch.* **370**, 121.
- Wohlt, J.E., Sniffen, C.J. and Hoover, W.H. (1973) Measurement of protein solubility in common feedstuffs. *J. Dairy Sci.* **56**, 1052.
- Wright, F.S. (1971) Increasing magnitude of electrical potential along the renal distal tubule. *Am. J. Physiol.* **220**, 624.
- Wright, F.S. and Briggs, J.P. (1979) Feedback control of glomerular blood flow, pressure, and filtration rate. *Physiol. Rev.* **59**, 958.
- Yesberg, N.E., Henderson, M. and Budtz-Olsen, O.E. (1978) The effect of intravenous hypertonic saline infusion on renal function and vasopressin excretion in sheep. *Quart. J. Exp. Physiol.* **63**, 331.
- Yesberg, N.E., Henderson, M. and Budtz-Olsen, O.E. (1979) Inhibition by angiotensin II of some vasopressin effects on renal function in sheep. *Quart. J. Exp. Physiol.* **64**, 161.
- Yousri, R.M., Abouakkada, A.R. and Abouraya, A.K. (1977) Rumen activity and blood urea of sheep as affected by climatic conditions. *World Rev. Anim. Prod.* **13**, 51.
- Zak, G.A.C., Brun.C. and Smith, H.W. (1954) The mechanism of formation of osmotically concentrated urine during the antidiuretic state. *J. Clin. Invest.* **34**, 1064.
- Zilenovsky, A.M., Kuroda, S., Bhat, S., Bank, D.E. and Bank, N. (1979) Effect of sodium bicarbonate on phosphate excretion in acute and chronic PTX rats. *Am. J. Physiol.* **236**, F184.