Contents

No. 1 MAY 1960

A Biographical Sketch of Alfred Fabian Hess (1875–1933) with portrait. William J. Darby and Calvin W. Woodruff .................. 3

The Enhancing Action of Certain Carbohydrates on the Intestinal Absorption of Calcium in the Rat. O. W. Vaughan and L. J. Filer, Jr. 10


Serum Cholesterol Concentrations of Various Ethnic Groups in Hawaii. Lucile F. Adamson .................. 27

A Study on Pigment Deposition by Intravenous Fat Emulsions. Samuel W. Thompson, II, Robert W. Thomassen, Donald H. Yost, Mary A. Fox and Ronald G. Wiegand .................. 37

Effects of Diet on Fish Oil Toxicity in the Rat. Benjamin H. Ershoff .................. 45


Essential Fatty Acid Properties of Tuna, Herring and Menhaden Oils. O. S. Privett, F. J. Pusch, R. T. Holman and W. O. Lundberg .................. 66

Placental Transfer of Fluorine to the Fetus in Rats and Rabbits. D. C. Maplesden, I. Motzok, W. T. Oliver and H. D. Branion .................. 70

Blood Plasma Tocopherol and Phosphorus Levels in a Herd of Beef Cattle. D. C. Maplesden, J. D. Harvey and H. D. Branion .................. 77


The Thiamine-Sparing Action of Sorbitol in Man. E. Peppler, B. Müller and H. D. Cremer .................. 91

A Mechanism for the Copper-Molybdenum Interrelationship. A. W. Halverson, J. H. Phifer and K. J. Monty .................. 95

Coenzyme Q. XVI. The Estimation of the Coenzyme Qo Content of Alfalfa. Robert E. Erickson, Donald E. Wolf and Karl Folkers .................. 101

The Effect of Sources of Nonessential Nitrogen on Nitrogen Balance in Young Adults. Marian E. Swendseid, Cheryl L. Harris and Stewart G. Tuttle .................. 105
CONTENTS

No. 2 JUNE 1960

Studies of the Effects of Dietary NaF on Dairy Cows. IV. Dental Changes as the Result of Long-Term Fluorine Ingestion. J. W. Suttie and P. H. Phillips .......................................................... 109


The Absence of Hemorrhagenic Compounds in Irradiated Beef. M. S. Mameesh and B. Connor Johnson .......................................................... 122

The Effect of Exercise on Nutrient Utilization with Special Reference to Calcium. Frank Konishi and C. M. McCay .......................................................... 125


Phosphorylated Vitamin D3 and Alkaline Phosphatase Activity. Fredrik C. Gran and Nicolay Eeg-Larsen .......................................................... 137

A Fat-Soluble Material in Alfalfa that Reduces the Biological Availability of Tocopherol. W. J. Pudelkiewicz and L. D. Matterson .................. 143

The Mechanism of the Thiamine-Sparing Effect of Penicillin in Rats. Richard H. Barnes, Eva Kwong, Katherine Delany and Grace Fiala .... 149

Effect of Six-Day Starvation on Rat Liver Lactic Dehydrogenase Activity. George Weber .......................................................... 156

Biosynthesis of Sterols and Fatty Acids as Affected by Nicotinic Acid and Related Compounds. R. W. F. Hardy, J. L. Gaylor and C. A. Baumann .......................................................... 159

Intestinal Flora of the Pig as Influenced by Diet and Age. R. D. Wilbur, D. V. Catron, L. Y. Quinn, V. C. Speer and V. W. Hays .......................................................... 168

Amino Acid Requirements of Children. Itsiro Nakagawa, Tetsuzo Takashashi and Takeshi Suzuki .......................................................... 176

The Biological Activity of 6-Ethyl-9-(1'-Ribityl)-Isoalloxazine. J. P. Lambooy and H. V. Aposhian .......................................................... 182

The Control of Filicidal Cannibalism by Vitamin B12. Lester Hankin .............. 188


Guide for Contributors to the Journal of Nutrition .......................................................... 201

No. 3 JULY 1960

Relation of Diet to Rumen Volatile Fatty Acids, Digestibility, Efficiency of Gain and Degree of Unsaturation of Body Fat in Steers. J. C. Shaw, W. L. Ensor, H. F. Tellechea and S. D. Lee .......................................................... 203

CONTENTS


The Effect of Lactose Feeding on the Body Fat of the Rat. Rudolph M. Tomarelli, Ruth Hartz and F. W. Bernhart ...................... 221

Amino Acid Requirements of Men and Women. II. Relation of Lysine Requirement to Sex, Body Size, Basal Caloric Expenditure and Creatinine Excretion. Helen E. Clark, S. P. Yang, Wanda Walton and Edwin T. Mertz .................................................. 229

The Effect of Type of Dietary Fat on Reproductive Performance and Body Composition of the Vitamin B₆-Deficient Rat. Myrtle L. Brown ... 235

Nutrition and Longevity in the Rat. I. Food Intake in Relation to Size, Health and Fertility. Benjamin N. Berg .............................. 242

Nutrition and Longevity in the Rat. II. Longevity and Onset of Disease with Different Levels of Food Intake. Benjamin N. Berg and Henry S. Simms .......................................................... 255

Changes in the Fatty Acid Composition of the Depot Fat of Mice Induced by Feeding Oleate and Linoleate. S. B. Tove and F. H. Smith .... 264

The Effect of Thiamine Deficiency on the Activity of Erythrocyte Hemolysate Transketolase. Myron Brin, Mary Tai, Alvin S. Ostashower and Helen Kalinsky ...................................................... 273


Erythropoiesis in Ducks with Various B-Vitamin Deficiencies. Dan A. Richert, Burnett Q. Fixley and Martin P. Schulman .................. 289

Amino Acid Balance and Imbalance. IV. Specificity of Threonine in Producing an Imbalance in Diets Deficient in Niacin and Tryptophan. Mary A. Morrison and A. E. Harper ................................................. 296

The Effect of Dietary Fat and the Repeated Withdrawal of Small Samples of Blood on Plasma Cholesterol Levels in the Rat. I. W. Coleman and J. M. R. Beveridge ................................................... 303

Sequence in which Indispensable and Dispensable Amino Acids Become Limiting for Growth of Rats Fed Diets Low in Fibrin. U. S. Kumta and A. E. Harper ...................................................... 310

The Cariogenic Property of Cereal Foods. Mary L. Dodds ................. 317

Effect of Hepatic Coccidiosis Infection in Rabbits on Tissue Levels of Vitamins A and E. J. F. Diehl ...................................... 322

The Amino Acid Composition and the Nutritive Value of Proteins. II. Amino Acid Mixtures as a Dietary Source of Nitrogen for Growth. P. B. Rama Rao, V. Chalam Metta and B. Connor Johnson .................. 327

Energy Requirements of the Adult Rat Fed an Amino Acid Diet. V. Chalam Metta, J. A. Firth and B. Connor Johnson ................... 332
A Tribute to John Raymond Murlin (1874–1960) by E. S. Nässet 338

Studies on the Interrelationships between Dietary Magnesium, Quality and Quantity of Fat, Hypercholesterolemia and Lipidosis. Earl E. Hellerstein, Motoomi Nakamura, D. Mark Hegsted and Joseph J. Vitale 339

The Effect of Dietary Magnesium and Thyroxine on Progression and Regression of Cardiovascular Lipid Deposition in the Rat. Motoomi Nakamura, Joseph J. Vitale, D. Mark Hegsted and Earl E. Hellerstein 347

Physiological Aspects of Aging. III. The Influence of Aging on Calcium Metabolism in Rats. R. Hironaka, H. H. Draper and J. Kastelic 356

The Amino Acid Composition and Nutritive Value of Proteins. III. The Total Protein and the Nonessential Amino Nitrogen Requirement. P. B. Rama Rao, V. Chalam Metta, H. W. Norton and B. Connor Johnson 361

An Investigation of the Essential Fatty Acid Activity of Some of the Geometrical Isomers of Unsaturated Fatty Acids. F. H. Mattson . . . 366


Effect of Dietary Protein on the Metabolism of Sodium Acetate-1-C14 in Chicks. Toshiro Nishida, Akira Ueno and Fred A. Kummerow . . . 379

Chemical Pathology of Nutritional Deficiency Induced by Certain Plant Proteins. Herschel Sidransky 387

Medium-chain and Long-chain Saturated Triglycerides and Linoleic Acid Requirements. Hans Kaunitz, C. A. Slanetz, R. E. Johnson and Vigen K. Babayan 400

Lactose Diets and Cholesterol Metabolism. I. Cholesterol Absorption, Coprostanol Formation and Bile Acid Excretion in the Rat. W. W. Wells, S. C. Anderson and R. Quan Ma 405

The Interrelationship between Vitamin B6 and B12 Deficiencies in Rats. Bruno Ranke, Elma Ranke and Bacon F. Chow 411

The Relative Effects of Pyridoxine Deficiency on Two Plasma Transaminases in the Growing and in the Adult Rat. Myron Brin, Mary Tai, Alvin S. Ostashewer and Helen Kalinsky 416

Invitations for Nominations for 1961 American Institute of Nutrition Awards 421

Invitation for Nominations for 1961 American Institute of Nutrition Fellows 423