Contents

No. 1 JANUARY 1969

Albert Garland Hogan — A Biographical Sketch. L. R. Richardson .... 1

Effect of Vitamin A Deficiency on Mitochondrial Lipids in Rat Liver. G. Vaughan Mitchell, C. R. Seward and M. R. Spivey Fox ............... 8

Apparent Carotenoid Increases in the Digestive Tract of Beef Cattle. R. Almendinger and F. C. Hinds .......................... 13

Influence of Diet on Indirect Systolic Blood Pressure of Rats. Richard L. Engen and Melvin J. Swenson .......................... 19


Effect of Dietary Fat Source on the Apparent Digestibility of Fat and the Composition of Fecal Lipids of the Young Pig. R. M. G. Hamilton and B. E. McDonald ......................... 33

Neural Lesions in the Offspring of Female Rats Fed a Copper-deficient Diet. William W. Carlton and William A. Kelly ................. 42

Effects of Previous Calcium Intakes on Adaptation to Low and High Calcium Diets in Rats. J. D. Benson, R. S. Emery and J. W. Thomas 53

Serum Proteins in Guinea Pig Scurvy. N. P. Torre and F. A. Green .... 61

Influence of Microorganisms on Intestinal Absorption: Oleic Acid I and Triolein I Absorption by Germfree and Conventionalized Rats. Bud Tennant, Mario Reina-Guerra, Doris Harrold and Marvin Goldman 65

Sequence of Limiting Amino Acids in Fish Protein Concentrate Produced by Isopropyl Alcohol Extraction of Red Hake (Urophycis chuss). B. R. Stillings, O. A. Hammerle and D. G. Snyder ......................... 70

Further Studies on Growth and Feed Utilization in Progeny of Underfed Mother Rats. Boon-Nam Blackwell, R. Quentin Blackwell, Thomas T. S. Yu, Yuh-Shyong Weng and Bacon F. Chow ......................... 79

Performance of Rats Alternately Fed Diets Higher and Lower in Energy or Protein. Karl M. Barth and James C. McConnell ................. 85

Fluoride Toxicity in the Mouse. C. W. Weber and B. L. Reid .............. 90

Effect of Dietary Protein Source and Corn Oil and Cellulose Levels on Strontium-calcium Discrimination in Growing Rats. E. W. Hartsough, R. L. Cowan, P. T. Chandler and J. B. Whelan ......................... 95

Copper Interference with the Intestinal Absorption of Zinc-65 by Rats. Darrell R. Van Campen ................................ 104
Factors Affecting Vitamin B₆ Requirement in the Rat as Determined by Erythrocyte Transaminase Activity. Ofelia V. Dirige and John R. Beaton 109

Effect of D-Penicillamine Treatment on Mineral Balance in Guinea Pigs. M. I. Djafar, H. R. Camberos and G. K. Davis 117


Purified Diet for Dental Caries Research with Rats. Juan M. Navia, Hady Lopez and Robert S. Harris 133

Effect of Diet and Manganese Level on Growth, Perosis and ⁴⁰Mn Uptake in Chicks. E. A. Settle, F. R. Mraz, C. R. Douglas and J. K. Bietner 141

Effect of Level and Pattern of Essential Amino Acids on Nitrogen Retention of Adult Man. Gladys S. Romo and Hellen Linkswiler 147

Letters 154

The Journal of Nutrition Guide for Authors 156

Erratum 161

No. 2 FEBRUARY 1969

Essential Fatty Acid Deficiency and the Testis: Lipid Composition and the Effect of Preweaning Diet. J. G. Bieri, K. E. Mason and E. L. Prival 163

Protein Quality of Opaque-2 Corn Evaluation in Rats. R. Bressani, L. G. Elias and R. A. Gómez-Brenes 173

Whole-Body Retention of Strontium-85 in Swine Given Sodium Alginate or Barium and Sodium Sulfates. L. Miltin and J. J. B. Anderson 181

Effect of Varying Dietary Protein-Magnesium Ratios on Nitrogen Utilization and Magnesium Retention in Growing Rats. Ruth Schwartz, Feng Lai Wang and Nancy A. Woodcock 185

Dimers and Trimers of a-Tocopherol: Metabolic and synthetic studies. Barry S. Strauch, Henry M. Fales, Ray C. Pittman and Joel Avigan 194

Transport of Cholesterol by Blood Leukocytes and Plasma in Rabbits. Minoru Suzuki 203

Resting Energy Metabolism in Intermittently Fed Weanling Rats. F. W. Heggeness 207

Studies of Diet as a Factor in ¹³⁷Cs Metabolism by Rats. Morris B. Snipes and Marvin L. Riedesel 212

Effects of Two Synthetic Antioxidants, Vitamin E, and Ascorbic Acid on the Choline-deficient Rat. P. M. Newberne, M. R. Bresnahan and N. Kula 219

CONTENTS

Serum Cholesterol and Glucose Levels in Rats Fed Refined and Less Refined Sugars and Chromium. Henry A. Schroeder .......................... 237

Role of Coprophagy in Utilization of Triglycerides, Calcium, Magnesium and Phosphorus in the Rat. Bahram Tadayyon and Leo Lutwak .... 243

Interrelationship of Triglycerides with Calcium, Magnesium and Phosphorus in the Rat. Bahram Tadayyon and Leo Lutwak ................. 246

Control of Tyrosine-α-Ketoglutarate Transaminase Synthesis in Rat Liver: Studies of superinduction in force-fed rats. Bela Szepesi and R. A. Freedland ........................................ 255

Influence and Degradation of Dietary Cellulose in Cecum of Rats. M. G. Yang, K. Manoharan and A. K. Young .............................. 260

Amylase Synthesis in Pancreas of Rats Fed Soybean Flour. A. M. Kontijn, K. Guggenheim and Y. Birk ........................................... 265

No. 3 MARCH 1969

Influence of Altered Thyroid Status on the Food Intake and Growth of Rats Fed a Thiamine-deficient Diet. H. Appledorf, P. M. Newberne and S. R. Tannenbaum ........................................ 271

Zinc Deficiency and Oxidation of L-Methionine-methyl-14C in Rats. J. M. Hsu, W. L. Anthony and P. J. Buchanan ................................. 279

Factors in Whole-egg Protein Influencing Dietary Induction of Increases in Enzyme and RNA Levels in Rat Pancreas. Jean Twombly Snook ... 286

Monodehydroascorbic Acid-Transhydrogenase Activity and Coenzyme Concentrations in Tissues of Ascorbic Acid-deficient and Control Guinea Pigs. Marjorie M. Devine and Jerry M. Rivers ....... 295

Some Relationships Between Plasma, Liver and Excreta Tocopherol in Chicks Fed Graded Levels of Alpha-Tocopheryl Acetate. W. J. Pudelkiewicz and Nakiya Mary ............................................. 303

Biological Activity and Excretion of the Riboflavin Analogues, 6,7-Dimethyl-9(-ω-carboxyalkyl)-isoalloxazines in Rats. Shiao-Chun Tu and Donald B. McCormick ............................................. 307

Plasma Levels of FFA, Glycerol, β-Hydroxybutyrate and Blood Glucose during the Postnatal Development of the Pig. Gösta Bengtsson, Johan Gentz, Juhani Hakkarainen, Rikard Hellström and Bengt Persson ....... 311

Effect of Fasting, Refeeding and Dietary Protein Level on Uric Acid and Ammonia Content of Blood, Liver and Kidney in Chickens. Jun-Ichi Okumura and Iwao Tasaki .............................................................. 316

Studies on the Mechanism of Copper Absorption in the Chick. Barry C. Starcher ................................................................. 321


Role of Selenium in the Nutrition of the Chick. J. N. Thompson and M. L. Scott ................................................................. 335

Effect of Dietary Amino Acid Composition on the Accumulation of Lipids in the Liver of Growing Rats. Yoritaka Aoyama, Akira Yoshida and Kiyoshi Ashida

Effect of Dietary Magnesium on the Development of Nephrocalcinosis in Rats. Ailsa Goulding and R. S. Malthus

Influence of Age and Calcium-free Diet on Thyroparathyroidectomized Sheep. T. E. Nelson, W. D. Tavernor, E. W. Jones and A. D. Tillman

Fate of Threonine and Leucine in Rats Fed Threonine-deficient Diets. Kanae Yamashita and Kiyoshi Ashida

Influence of Dietary Magnesium on the Development of Nephrocalcinosis in Rats. Ailsa Goulding and R. S. Malthus

No. 4 APRIL 1969 (PART I)

Adaptation of Rats to Selenium Intake. Werner G. Jaffé and Maria C. Mondragon


Iron Restriction in the Nursing Rat: Early effects upon tissue heme proteins, hemoglobin and liver iron. Peter R. Dallman
Synthesis of Phospholipids and Deoxyribonucleic Acid in Choline-supplemented and Choline-deficient Weanling Rats. Paul F. Parks and Robert C. Smith .......................................................... 481


Effect of Food Restriction on Systematic Oscillations in “Control Animals” Used in Studies on Biotin-deficient Rats. M. S. Patel and S. P. Mistry .......................................................... 496

Effect of Scurvy on Deiodination of ¹³I-labeled Thyroxine in Guinea Pigs. Jeng M. Hsu .......................................................... 505

Distribution and Metabolism of Menadiol Diphosphate in the Rat. Myrtle J. Thierry and J. W. Suttie .......................................................... 512

Interrelationships Among Energy Input, Body Size, Age and Body Composition of Sheep. J. H. Burton and J. T. Reid .......................... 517

Effects of Chromium(III) Supplementation on Glucose and Amino Acid Metabolism in Rats Fed a Low Protein Diet. Edward E. Roginski and Walter Mertz .......................................................... 525

Effects of Chromium(III) Supplementation on Growth and Survival Under Stress in Rats fed Low Protein Diets. Walter Mertz and E. E. Roginski .......................................................... 531


Influence of Microorganisms on Oxygen Consumption, Carbon Dioxide Production and Colonic Temperature of Rats. Stanley M. Levenson, Floyd Doft, Meir Lev and Dorinne Kan .......................................................... 542


No. 4 APRIL 1969 (PART II) — Supplement 1

Aging, Nutrition and Hepatic Enzyme Activity Patterns in the Rat. Morris H. Ross .......................................................... 563

Index to Volume 97 .......................................................... 603