

BIBLIOGRAPHY

BIBLIOGRAPHY

- Abdullah, A., Baldwin, R.E. and Minor, H. (1984). Germination effects on flatus causing factors and antinutrients of mung beans and two strains of small-seeded soybeans. *J. Food Protect.* 47 : 441-444.
- Acharya, B.N., Niyogi, S.P. and Patwardhan, V.N. (1942). Balanced diet : Part III. The effect of parching on the biological value of the proteins of some cereals and pulses. *Ind. J. Med. Res.* 30 : 73-80.
- Adams, W.H. and Shresta, S.M. (1974). Hemoglobin levels, vitamin B₁₂ and folate status in a Himalayan Village. *Am. J. Clin. Nutr.* 27 : 217-219.
- Adams, M., Richtmyer, N.K. and Hudson, C.S. (1943). Some enzymes present in highly purified invertase preparations; a contribution to the study of fructofuranosidases, α -galactosidases, glucosidases and mannosidases. *J. Am. Chem. Soc.* 65 : 1369-1380.
- Adiga, P.R., Rao, S.L.N. and Sarma, P.S. (1963). Some structural features and neurotoxic action of a compound from L. sativus seeds. *Curr. Sci.* 32 : 153-155.
- Adya, S. and Elbein, A.D. (1977). Glycoprotein enzymes secreted by Aspergillus niger : Purification and properties of α -galactosidase. *J. Bacteriol.* 129 : 850-856.
- Agrawal, K.M.L. and Bahl, O.P. (1968). Glycosides and Phaseolus vulgaris II : Isolation and general properties. *J. Biol. Chem.* 243 : 103-111.
- Ahmad, K. and Jahan, K. (1980). Paper presented to Third Asian Congress of Nutrition, Jakarta, Indonesia, 6-10 Oct., 1980, p. 190.
- Akiba, T. and Horikoshi, K. (1976). Properties of α -galactosidases of alkalophilic bacteria. *Agric. Biol. Chem.*, 40 : 1851-1855.
- Akinrele, I.A. (1964). Fermentation of cassava. *J. Sci. Food Agric.* 2 : 589.
- Akinrele, I.A. (1970). Fermentation studies on maize during the preparation of traditional African starch cake food. *J. Sci. Food Agric.* 21 : 619-625.
- Akinrele, I.A., Dhankhai, S.I. and Koleoso, O.A. (1975). Chemical constituents of gari flavor (Conference Proceedings) IV Int'l. Congress of Food Science Technology, 12, 64-66.

- Akolkar, P.N. (1977). Studies on 'Soyidli' fermentation. 519
Ph.D. Thesis, M.S. University of Baroda, Baroda, India.
- Alden, J. and Herman, R.K. (1971). Cold-hardiness mechanism in plants. Bot. Rev. 37 : 37.
- Allen, O.N. and Allen, E.K. (1933). The manufacture of 'Poi' from 'Taru' in Hawaii with special emphasis upon its fermentation. Hawaii Agric. Expt. Bulletin. 70.
- Allison, M.J. and Cook, H.M. (1981). Oxalate degradation by microbes of the large bowel of herbivores : the effect of dietary oxalate. Science. 212 : 675-676.
- Allison, M.J. and Littledike, E.T. and James, L.F. (1979). Changes in ruminal oxalate degradation rates associated with adaptation to oxalate ingestion. J. Anim. Sci. 45 : 1173-1179.
- Alter, B. (1981). Prenatal diagnosis of haemoglobinopathies : a status report. Lancet 2 : 151-155.
- Altschul, A.M. (1958). Processed plant protection foodstuffs. Academic Press, New York.
- Aman, P. (1979). Carbohydrates in raw and germinated seeds from mung bean and chick pea. J. Sci. Food Agric. 30 : 869-875.
- Amuti, K.S. and Pollard, C.J. (1977). Soluble carbohydrates of dry and developing seeds. Phytochemistry. 16 : 529-532.
- Anderson, G. and Boggs, L.A. (1966). Abstr. Papers. Amer. Chem. Soc. Meeting. 152 : 18. cf. Dutton, G.G.S. (1973). Applications of gas liquid chromatography to carbohydrates - Part I. In Adv. Carbohydrate Chem. Biochemistry, 28 : 11-160.
- Anderson, L.A.P., Albert, H. and Simonsen, J.L. (1924). Studies on lathyrism. Indian J. Med. Res. 12 : 613-643.
- Anderson, R.L., Rackis, J.J. and Tallent, W.H. (1979). Biologically active substances in soy proteins. In "Soy protein and human nutrition". (H.L. Wikke, Hopkins, D.T. and Waggle, D.H. eds.). Academic Press, New York, pp. 209.
- Andrews, P. (1964). Estimation of the molecular weights of proteins by sephadex gel filtration. Biochem. J. 91 : 222-233.
- Anonymous (1968). Annual Report, pp. 14-16. Nutr. Res. Lab., Indian Council Med., New Delhi.
- Anna, L. Tan Wilson, Rightmire, B.R. and Wilson, K.A. (1982). Different rates of metabolism of soybean protease inhibitors during germination. Plant Physiol. 70, 493-497.

- Aries, V.C., Crowther, J.S., Draser, B.S., Hill, M.J. and Williams, R.E.O. (1969). Bacteria and the aetiology of cancer of the large bowel. *Gut*, 10 : 334-335.
- Arnold, W.N. (1965). β -Fructofuranosidase from grape berries. *Biochim. Biophys. Acta.*, 110 : 134-147.
- Arnold, W.N. (1966). A column method for enzymic characterization of coarse cellular fractions : Application to insoluble β -fructofuranosidase from grapes. *Arch. Biochem. Biophys.* 113 : 451-456.
- Arnold, W.N. (1972). Location of acid phosphatase and β -fructofuranosidase within yeast cell envelopes. *J. Bact.*, 112 : 1346-1352.
- Asamizu, T., Inoue, Y. and Nishi, A. (1981). Glycosidases in carrot cells in suspension culture : localization and activity change during growth. *Plant Cell Physiol.* 22 : 469-478.
- Asano, Y., Fujishiro, K., Tani, Y. and Yamada, H. (1982). Aliphatic nitrile hydratase from *Arthrobacter* sp. J-1 purification and characterization. *Agric. Biol. Chem.*, 46, 1165-1174.
- Atlas, R.M. (1981) Microbial degradation of petroleum hydrocarbons : an environmental perspective. *Microbiol. Rev.* 45 : 180-209.
- Aykroyd, W.R. and Doughty, J. (1964). Legumes in human nutrition. F.A.O. Publication.
- Aykroyd, W.R. (1966). The nutritive value of Indian foods and the planning of satisfactory diets. Sp. Report Series No.42, I.C.M.R., New Delhi, India.
- Aykroyd, W.R., Doughty, J. and Walker, A.F. (1982). Legumes in human nutrition, 2nd Edn. F.A.O. Nutritional Studies, No.19, FAO : Rome.
- Bachmann, B.J. (1983). Linkage map of *Escherichia coli* K₁₂ edition-7. *Microbiol. Rev.* 47 : 180-230.
- Badenhop, A.P. and Hackler, L.R. (1971). Protein quality of dry roasted soybeans - Amino acid composition and protein efficiency ratio. *J. Food Sci.* 36 : 1-4.
- Bahl, O.P. and Agrawal, K.M.L. (1969). Glycosidases of *A. niger* : I. Purification and characterization of α - and β -galactosidases and β -N-acetyl glycosaminidase. *J. Biol. Chem.* 244 : 2970.
- Bailey, R.W. (1963). The intracellular α -galactosidases of a rumen strain of *Streptococcus bovis*. *Biochem. J.*, 86, 509-514.

- Bailey, K.V. (1963). Nutritional status of east New Guinean populations. *Trop. Geograph. Med.* **15**, 389. cf.: *Trop. Ferro-Luzzi, A., Morgan, N.G. and Durnin, J.V.G.A.* (1975). Food intake, its relationship to body weight and age, and its apparent nutritional adequacy in New Guinean children. *Am. J. Clin. Nutri.*, **28**, 1443-1453.
- Bakir, A.L., Sachde, A.Y. and Naum, A.G. (1982). Occurrence and stability of trypsin inhibitors in Iraqi local legume. *J. Agri. Food Chem.* **30** (6) : 1184-1185.
- Balasubramaniam, K., Dey, P.M. and Pridham, J.B. (1976). α -Galactosidase from coconut kernel. *Phytochemistry*. **16** : 1445-1446.
- Bandopadhyay, A.K., Asano, Y., Nagasawa, T., Tani, V. and Yamada, H. (1982). Purification and characterisation of Acrylonitrilase from *Arthrobacter* sp. 19. Annual Reports of International Centre of Cooperative Research and development in microbial engineering, Japan, **2**, 123-135.
- Banerjee, S. and Banerjee, R. (1950). Studies on the biosynthesis of nicotinic acid. *Indian J. Med. Res.* **38**, 53-160.
- Banigo, E.O.I. and Muller, H.G. (1972). Manufacture of 'Ogi' (a Nigerian fermented cereal porridge) : comparative evaluation of corn, Sorghum and millet. *Journal of Canadian Institute of Food Sci. Tech.* **2**, 217-221.
- Barbor, A.G. and Garon, C.F. (1987). Linear plasmids of the bacterium *Borrelia burgdorferi* have covalently closed ends. *Science*, **237**, 409-411.
- Barham, D., Dey, P.M., Griffiths, D. and Pridham, J.B. (1971). Studies on the distribution of α -galactosidases in seeds. *Phytochemistry*, **10** : 1759-1763.
- Barnett, J.A. (1980). The utilization of disaccharides and some other sugars by yeasts. *Adv. Carbohydr. Chem. Biochem.* **39**, 347-404.
- Baseer, A. and Shall, S. (1971). Properties of the internal invertase of yeast, *Saccharomyces cerevisiae*. *Biochimica. ET. Biophysica Acta.* **250** : 192-202.
- Basha, S.M. and Roberts, R.M. (1981). The Glycoproteins of plant seeds. *Plant Physiol.* **67** : 936-939.
- Basu, K.P., Nath, H.C., Ghani, M.C. and Mukherjee, R. (1936). Extraction and chemical analysis of the proteins of green gram (*Phaseolus mungo*) and *Lathyrus sativus*. *Ind. J. Med. Res.* **24** : 1027-1042.
- Batra, L.R. and Millner, P.D. (1974). Some Asian fermented foods and beverages and associated fungi. *Mycologia*, **66**, 942-950.

- Batra, L.R. and Milner, P.D. (1976). Asian fermented foods and beverages. Developments in Industrial Microbiology. Society of Industrial Microbiologists, U.S.A.
- Bauman, C.M., Rudiger, H. and Strosberg, D. (1981). In. "Lectins: Biology, Biochemistry, Clinical Biochemistry", Vol.1, T.C. Bog - Hansen, Ed. Walter de Gruyter, Berlin, pp. 93-100.
- Bauman, C.M., Strosberg, D. and Rudiger, H. (1982). Purification and characterization of a mannosyl glucose specific lectin from Vicia cracca. Eur. J. Biochem. 122, 105-110.
- Becker, R., Olson, A.C., Frederick, D.P., Kon, S., Gumbmann, M.R. and Wagner, J.R. (1974). Conditions for the autolysis of alpha galactosides and phytic acid in a California Small White beans. J. Food Sci., 39, 66.
- Beckwith, J.R. (1963). Restoration of operon activity by suppressors. Biochim. Biophys. Acta., 76 : 162-164.
- Beckwith, J.R. (1970). In : The Lactose Operon (Beckwith, J.R. and Zipser, D. Eds.). pp. 5-26, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
- Bell, E.A. (1973). Aminonitriles and amino acids not derived from proteins. In "Toxicants occurring naturally in foods" National Academy of Science, Washington, D.C. Chapter 7.
- Bell, E.A. and O'Donovan, J.P. (1966). The isolation of α and γ -oxalyl derivatives of L- α , γ -diaminobutyric acid from seeds of Lathyrus latifolius and the detection of the α -oxalyl isomer of the neurotoxin alpha amino-beta-oxalyl aminopropionic acid which occurs together with the neurotoxin in this and other species. Phytochemistry. 5 : 1211-1219.
- Bell, E.A. and Tirimanna, A.S.L. (1965). Association of amino acids and related compounds in the seeds of 47 species of Vicia : Their taxonomic and nutritional significance. Biochem. J., 97, 104.
- Bendor, A.E. (1970). Factors affecting the nutritive value of protein foods. In : Evaluation of novel protein products. Eds. Bendor, A.E., Kihlberg, B.L. and Munk, L. Pergamon Press, Oxford.
- Berg, J.O., Lindqvist, L. and Nord, C.E. (1980). Purification of glycoside hydrolases from Bacteroides fragilis. Appl. Environ., Microbiol. 40, 40-47.
- Berggren, B. (1970). Yeast β -fructofuranosidase (invertase) XXVII. Kinetic examination of isoenzymes. Ark. Kemi. 32 : 167-180.

- Bernhard, K., Schrenpf, H. and Goebel, W. (1978). Bacteriocin and antibiotic resistance plasmids in Bacillus cereus and Bacillus subtilis. J. Bacteriol. 133 : 897-905.
- Berthelot, M. (1860). Compt. Rend. Acad. Sci., 50, 980-984.
cf. Dey, P.M. and del Campillo, E. (1984) Biochemistry of the multiple forms of glycosidases in plants. Adv. Enzymol. 55, 142.
- Beuchat, L.R. (1976). Fungal fermentation of peanut press cake. Econ. Bot., 30, 227.
- Beuchat, L.R. (1978). Traditional fermented food products, in Food and Beverage Mycology, Beuchat, L.R., Ed., AVI Publishing, Westport, Conn., 224.
- Beuchat, L.R., Young, C.T. and Cherry, J.P. (1975). Electrophoretic patterns and free amino acid composition of peanut meal fermented with fungi. Can. Inst. Food Sci. Technol. J. 8, 40.
- Bianchi, M.L.P., Silva, H.C. and Campos, M.A.P. (1983). Effect of several treatments of the oligosaccharide content of a Brazilian soybean variety (Glycine max. (L) Merrill). J. Agri. Food Chem. 1363-1364.
- Bingham, A.H.A., Bruton, C.J. and Atkinson, T. (1979). Isolation and partial characterization of four plasmids from antibiotic resistant thermophilic bacilli. J. Gen. Microbiol. 114 : 401-408.
- Birk, Y. (1961). Purification and some properties of a highly active inhibitor of Trypsin and α -chymotrypsin from soyabeans. Biochimica et Biophysica Acta. 54, 378-381.
- Birk, Y. (1969). Saponins, In "Toxic constituents of plant foodstuffs". pp. 169-212, Ed. Liener, I.Z. Academic Press, New York.
- Birnboim, H.C. and Doly, J. (1979). A rapid alkaline extraction procedure for screening recombinant plasmid DNA. Nucleic Acids Res. 7, 1513.
- Bishop, D.F. and Sweeley, C.C. (1978). Plasma α -galactosidase-A : properties and comparisons with tissue α -galactosidases. Biochim. Biophys. Acta. 525 : 399-409.
- Bishop, D.F., Wampler, D.E., Sgouris, J.T., Bonefeld, R.J., Anderson, D.K., Hawley, M.C. and Charles, C. (1978). Pilot scale purification of galactosidase-A from cohn fraction IV-1 of human plasma. Biochim. Biophys. Acta. 524 : 109-120.

- Bishop, D.F. and Deanick, R.J. (1981). Affinity purification of alpha galactosidase-A from human spleen, placenta and plasma with elimination of pyrogen contamination. *J. Biol. Chem.* 256 : 1307-1316.
- Bitar, K. and Reinhold, J.G. (1972). Phytase and alkaline phosphatase activities in intestinal mucosae of rat, chicken, calf and man. *Biochim. Biophys. Acta.* 268, 442.
- Black, L.T. and Bagley, E.B. (1978). Determination of oligosaccharides in soybeans by HPLC using an internal standard. *J. Am. Oil Chem. Soc.* 55 : 228-232.
- Blackmore, M.A. and Quayle, J.R. (1970). Microbial growth on oxalate by a route not involving glyoxylate carboligase. *Biochem. J.* 118 : 53-59.
- Blair, H.A., Dern, R.J. and Bates, P.L. (1947). The measurement of volume of gas in the digestive tract. *Am. J. Physiol.* 149, 688-707.
- Bhagwat, K. (1946). Toxic effects in guinea-pigs of diets containing large proportions of Lathyrus sativus. *Indian J. Med. Res.* 34 : 299-304.
- Bhaskaran, C. and Reddy, V. (1979). Role of dietary phytate in the aetiology of nutritional rickets. *Ind. J. Med. Res.* 69 : 265-270.
- Bhat, J.V. and Barker, H.A. (1948). Studies on a new oxalate decomposing bacterium, Vibrio oxaliticus. *J. Bacteriol.* 55, 359-368.
- Bolivar, F., Rodriguez, R.L., Greene, P.J., Betlach, M.C., Heynecker, H.L., Boyer, H.W., Cross, J.H. and Falkow, S. (1977). Construction and characterisation of new cloning vehicles. II. A multipurpose cloning system. *Gene* 2 : 95.
- Bollen, A., Herzog, A., Cravador, A., Herion, P., Chuchana, P., Straten, A.V., Loriau, R., Jacobs, P. and Van Elsen, A. (1983) Cloning and expression in Escherichia coli of full length complementary DNA coding -antitrypsin. *DNA.* 2, 255-265.
- Bouanchand, D.H., Scavizzi, M.R. and Chabert, Y.A. (1968). Elimination by ethidium bromide of antibiotic resistance in enterobacteriaceae and staphylococci. *J. Gen. Microbiol.* 54 : 417-425.
- Bourne, E.J., Fridham, J.B. and Walker, M.W. (1962). The biosynthesis of galactosylsucrose derivatives. *Biochem. J.* 82 : 44-48.

- Bradford, M. (1976). A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein dye binding. *Anal. Biochem.* 72 : 248-254.
- Braun, H. (1977). External yeast β -fructosidase : Stereospecific labeling by (^3H) conduritol- β -epoxide and isolation of labelled peptides from the active site. *Biochim. Biophys. Acta.* 485 : 141-146.
- Braunstein, A.E., Goryachenkova, E.V., Tolosa, E.A., Willhardt, I.H. and Yefremova, L.L. (1971). *Biochim. Biophys. Acta.* 242, 247-260.
- Braunstein, A.E. and Goryachenkova, E.V. (1976). *Biochimie (Paris)*, 58, 5-17. cf. Braunstein, A.E. and Goryachenkova, E.V. (1984). The β -replacement specific pyridoxal-p-dependent lyases. In "Advances in Enzymology" Vol.56, Eds. Meister, A. An Interscience Publication, pp. 1-39.
- Braunstein, A.E. and Goryachenkova, E.V. (1984). The β -replacement-specific pyridoxal p-dependent lyases. In: *Adv. Enzymol.* Vol.56 (Meister, A. Ed.), An Interscience Publications, John Wiley and Sons, New York, pp. 1-90.
- Braunstein, A.E., Goryachenkova, E.V., Kazaryan, R.A., Polyakova, L.A. and Tolosa, E.A. (1979). "The Eliminating and β -Replacement-specific pyridoxal-P-Dependent lyases : Enantiomeric cycloserine Pseudosubstrates and Catalytic Mechanism, "in *Perspectives in Bio-organic Chemistry*, Yu.A. Ovchinnikov, Ed., Nauka Publishing House, Moscow, 1978, pp. 183-202, English Version, in *Frontiers in Bioorganic Chemistry and Molecular Biology*, Elsevier/North Holland, New York, 1979, pp. 167-189.
- Brawerman, G., Mendecki, J. and Lee, S.Y. (1972). A procedure for the isolation of mammalian messenger nucleic acid. *Biochemistry.* 11 : 637.
- Bressani, R. (1973). Legumes in human diets and how they might be improved. In *PAG/WHO*, 1973, pp. 15-42.
- Bressani, R. and Elias, L.G. (1974). Legume Foods. In "New Protein Foods". Vol. 1A. (Ed. A.M. Altschul), Academic Press, New York, p. 230.
- Bressani, R. and Elias, L.G. (1979). Improvement of the nutritional quality of food legumes. *Food, Nutr. Bulletin.* 1 : 23-34.
- Bressani, R., Murillo, B. and Elias, L.G. (1974). Whole soya-beans as a means of increasing protein and calories in maize based diets. *J. Food Sci.*, 39, 577-580.

- Britten, E.J., Matsumoto, H. and Palafox, A.L. (1959). 526
 Agronomy. Journal, 51, 462. cf. Roy, D.N. (1981).
 Toxic amino acids and proteins from lathyrus plants and
 other leguminous species : A literature Review.
 Nutr. Abstr. Review : Series A, 51 (10), 690.
- Broach, J.R. (1979). Galactose regulation in Saccharomyces cerevisiae. The enzymes encoded by the 'Gal-7', 10, 1 cluster are co-ordinately controlled and separately translated. J. Mol. Biol. 131 : 41-53.
- Broberg, P., Miller, D.O. and Parsons, H.T. (1953).
 Fed. Proc. 12, 183. cf. Michelson (1956). Intestinal
 synthesis of vitamins in the nonruminant. Vitamins and
 Hormones. 14 : 1-95.
- Broda, P. (1979). Plasmids. W.H. Freeman and Co., San Francisco.
- Brown, J.E., Brown, P.R. and Clarke, P.H. (1969) Butyramide
 utilizing mutants of Pseudomonas aeruginosa which produce
 an amidase with altered substrates specificity.
 J. Gen. Microbiol. 57 : 273-285.
- Buchanan, R.E. and Gibbons, N.E. (1974). Bergey's manual of
 determinative bacteriology, 8th Ed. The Williams and
 Wilkins Co., Baltimore.
- Burgess, R.R. (1969). RNA polymerase. Ann. Rev. Biochem.
711-735.
- Burkhardt, H.J., Mattes, R., Schmid, K. and Schmitt, R. (1978).
 Properties of two conjugative plasmids mediating tetra-
 cycline resistance, raffinose catabolism and hydrogen
 sulphide production in Escherichia coli.
 Mol. Gen. Genet. 166 : 75-84.
- Burkholder, P.R. (1943). Vitamins in hydrated seeds and sprouts.
 Science. 97 : 562.
- Burr, H.K. (1975). Pulse proteins. "Protein Nutritional
 Quality of Foods and Feeds". Friedman, M. (Ed.).
1 : 119.
- Burstein, C. and Kepes, A. (1971). The α -galactosidase from
Escherichia coli K12. Biochim. Biophys. Acta.
230 : 52-63.
- Buss, L.W. and Goddard, V.R. (1948). Effect of heat upon the
 nutritive value of peanut. I Protein Quality.
 Food Res., 13 : 506-611.
- Bussierf, J., Coynault, C. and Le Minor, L. (1977). Etude des
 conditions d'expression du caractere raffinose chez les
Escherichia coli et Salmonella. Annals de Microbiologie.
128A : 167-183.

- Butler, L.G., Riedl, D.L., Lebryk, D.G. and Blytt, H.J. (1984). Interaction of proteins with sorghum tannin : mechanism, specificity and significance. *J. Am. Oil Chem. Soc.*, 61 : 916.
- Buzzard, E.F. and Greenfield, J.G. (1921). Pathology of the nervous system. Constable, London.
- Cadjar, I. (1978). Fermentation of the winged bean seeds, workshop/seminar on the development of the potential of the winged bean. Los Banos, Philippines, 330.
- Calloway, D.H. and Murphy, E.L. (1968). The use of expired air to measure intestinal gas formation. *Ann. N.Y. Acad. Sci.*, 150 : 82-95.
- Calloway, D.H., Colasito, D.J. and Mathews, R.D. (1966). Gases produced by human intestinal microflora. *Nature (London)*, 212 : 1238-1239.
- Calloway, D.H., Hickey, C.A. and Murphy, E.L. (1971). Reduction of intestinal gas forming of legumes by traditional and experimental food processing methods. *J. Food Sci.*, 36 : 251-255.
- Calvori, C., Frontali, L., Leoni, L., Tecce, G. (1965). Effect of rifampicin on protein synthesis. *Nature*, 207, 417.
- Cannon, F.C. and Postgate, J.R. (1976). Expression of Klebsiella nitrogen fixation genes (nif) in Azotobacter. *Nature*. 260 : 271-272.
- Cannon, F.C., Dixon, R.A. and Postgate, J.R. (1976). Derivation and properties of F-prime factors in Escherichia coli carrying nitrogen fixation genes from Klebsiella pneumoniae. *J. Gen. Microbiol.* 93 : 111-125.
- Carchon, H., De C.K. and Bruyne, C.K. (1975). Purification and properties of coffee-bean α -D-galactosidase. *Carbohydr. Res.*, 41 : 175-189.
- Carlton, B.C. and Helinski, D.R. (1969). Heterogeneous circular DNA elements in vegetative cultures of Bacillus megaterium. *Proc. Nat. Acad. Sci. USA*. 64 : 592-599.
- Carlton, B.C. and Smith, M.P.W. (1974). Size distribution of the closed circular deoxyribonucleic acid molecules of Bacillus megaterium-sedimentation velocity and electron microscope measurements. *J. Bacteriol.*, 117 : 1201-1209.
- Carvalho, C.C.C., Jansen, G.R. and Harper, J.M. (1977). Protein quality evaluation of an instant bean powder produced by dry heat processing. *J. Food Sci.*, 42 : 553.

- Cerning-Bercard, J. and Filiatre, A. (1976). A comparison of the carbohydrate composition of legume seeds - horsebeans, peas and lupines. *Cereal Chem.*, 53 : 968-978.
- Cerning and Guilbot (1973). Changes in the carbohydrate composition during development and maturation of the wheat and barley kernel. *J. Cereal Chem.*, 50 : 220-231.
- Cegla, G.F. and Bell, K.R. (1977). High pressure liquid chromatography for the analysis of soluble carbohydrates in defatted oilseed flours. *J. Amer. Oil Chem. Soc.*, 54 : 150-152.
- Chakrabarty, A.M. (1980). In "Plasmids and Transposons : Environmental effects and maintenance mechanisms. (C.Stuttard and K.R. Rozee, Eds.). 21-30, Academic Press, New York, and London.
- Chakrabarty, A.M. (1982). Genetic basis of the degradation of salicylate in *Pseudomonas*. *J. Bact.* 112 (2) : 815.
- Chakrabarty, A. (1983). Genetic engineering and problems of environmental pollution. In : *Biotechnology - a comprehensive treatise*, Vol.8, Verlag-Chemie., Weinheim.
- Champagnol, F. and Bourzeix, M. (1971). Identification of sugars contained in a plant extract and determination of individual contents by chromatography and photodensitometry. *J. Chromatogr.*, 52, 472-475.
- Chandra, T.S. and Shethna, Y.I. (1975). Isolation and characterization of some new oxalate decomposing bacteria. *Antonie Van Leeuwenhoek.*, 41 : 101-111.
- Chatterjee, D.K. and Chakrabarty, A.M. (1981). Plasmids in Biodegradation of PCBs and chlorobenzoates. In "Microbial Degradation of Xenobiotics and recalcitrant compounds - FEMS Symposium No.12. (Leisinger, T., Hutter, R., Cook, A.M. and Nuesch, J. Eds.). Academic Press, London, pp. 213-219.
- Chatterjee, D.K. and Chakrabarty, A.M. (1982). Plasmids in the biodegradation of PCBs and chlorobenzoates. *Mol.Gen.Genet.*, 188, 279.
- Chatterjee, D.K., Kellogg, S.T., Hamada, S. and Chakrabarty, A.M. (1981). Plasmid specifying total degradation of 3-chlorobenzoate by a modified ortho pathway. *J. Bact.*, 146 : 639-646.
- Chattopadhyay, H. and Banerjee, S. (1953). Effect of germination on biological value and trypsin inhibitor activity of common Indian pulses. *Ind. J. Med. Res.*, 41 : 185-189.
- Cheeke, P.R. (1976). Nutritional and physiological properties of saponins. *Nutr. Rep. Int.*, 13 : 315.

- Cheema, P.S., Malathi, K. and Padmanaban, G. (1968). Neurotoxicity of beta-N-oxalyl-L-alpha-beta diaminopropionic acid, the Lathyrus sativus neurotoxin. Proc. Nutr. Soc. (India) (Sept.).
- Cheema, P.S., Malathi, K. and Padmanaban, G. (1969). Neurotoxic action of β -N-oxalyl-L- α,β -diaminopropionic acid in acidotic adult rats. Indian J. Biochem., 6, 146.
- Cheema, P.S., Padmanaban, G. and Sarma, P.S. (1970). Biochemical characterization of β -N-oxalyl- α,β -diaminopropionic acid, the Lathyrus sativus neurotoxin as an excitant amino acid. J. Neurochem., 17, 1295-1298.
- Cheema, P.S., Padmanaban, G. and Sarma, P.S. (1971a). Mechanism of action of β -N-oxalyl- α,β -diaminopropionic acid, the L. sativus neurotoxin. J. Neurochemistry. 18 : 2137-2144.
- Chen, L.H. and Pan, S.H. (1977). Decrease of phytates during germination of pea seeds (Pisum sativa). Nutr. Rep. Int., 16 : 125.
- Cheryan, M. (1980). Phytic acid interactions in food systems. CRC Crit. Rev. Food Sci. Nutr., 12 : 297.
- Christian, W.F.M. (1966). Fermented foods of Ghana. Presented at the symposium on Food Science and Technol. Accra, Ghana. (May, 1966).
- Christian, W.F.K. (1970). Lactic acid bacteria in fermenting maize dough. Ghana J. Sci., 10 : 22-28.
- Chinen, I., Nakamura, T. and Fukada, N. (1981). Purification of alpha-galactosidase from immature stalks of Saccharum officinarum (sugar cane). J. Biochem., 90 : 1453-1461.
- Chu, F.K. and Maley, F. (1980). The effect of glucose on the synthesis and glycosylation of the polypeptide moiety of yeast external invertase. J. Biol. Chem., 255 (13) : 6392-6397.
- Chu, F.K. and Maley, F. (1980a). Growth phase dependence of invertase mRNA levels in yeast. J. Biol. Chem., 255 : 6397-6391.
- Chu, F.K. and Maley, F. (1980b). The effect of glucose on the synthesis and glycosylation of the polypeptide moiety of yeast external invertase. J. Biol. Chem., 255 : 6392-6397.
- Chung, H.J. and Fields, M.L. (1986) Production of riboflavin and vitamin B12 by Bacillus megaterium ATCC 13639 and Enterobacter aerogenes in corn meal. J. Food Sci., 51(6) : 1514-1517.
- Churchich, J.S., Beeler, T. and Oh, K.J. (1975). Nonequivalent binding sites in cystathionase-nanosecond and steady fluorescence studies. J. Biol. Chem., 250 : 7722-7727.

- Clancy, M.J. and Whenlan, W.J. (1967). Enzyme polymerisation of monosaccharides. II. Synthesis of α -acetamido-2-deoxy-6-O (α -D-galactopyranosyl)-D-glucose-N-acetyl-melibiosamine. Arch. Biochem. Biophys., 118 : 724-729.
- Clarke, A.E. and Denborough, M.S. (1971). The interaction of concanavalin-A with blood group substance glycoprotein from human secretion. Biochem. J. 121, 811-816.
- Clewell, D.B. (1981). Plasmids, drug resistance and gene transfer in the genus Streptococcus. Microbiol. Rev. 45 (3) : 409-436.
- Coffey, D.G., Vebersax, M.A., Hosfield, G.L. and Brunner, J.R. (1985) Evaluation of the hemagglutinating activity of low temperature cooked kidney beans. J. Food Sci., 50 : 78.
- Cohen, S.N. (1975). The manipulation of genes. Scient. Am., 233 : 25.
- Coleman, R.L. (1968). Separation of an α -galactosidase from rat uterus. Biochem. Biophys. Acta. 159 : 192-193.
- Colonna, W.J., Cano, F.R. and Lampen, J.O. (1975). Microheterogeneity in yeast invertase. Biochim. Biophys. Acta., 386 : 293-300.
- Collard, P. and Levi, S. (1959). A two stage fermentation of cassava. Nature. 183 : 620-621.
- Collins, C.H. (1967). Microbiological Methods. IInd Edition. Butterworths, London.
- Collins, C.N. and Taylor, C.E.D. (1967). Microbiological Methods, II Edn. Butterworths, London.
- Combe, E., Demarne, Y., Gueguen, L., Ivorec-Szyllit, O., Meslin, J.C., Sacquet, E. and Jouy-en-Josas (1976). Some aspects of the relationship between gastrointestinal flora and host nutrition. World Rev. Nutr. Diet., 24 : 1-57.
- Conkerton, E.J., Parrish, F.W., Chapital, D.C. and Ory, R.L. (1983). Isolation of a stachyose-sucrose complex from soybeans and peanuts. J. Food Sci., 48 : 1269-1271.
- Cornelis, G., Ruke, R.K.J., Richmond, M.H. (1978). Fermentation of raffinose by lactose fermenting strains of Yersinia enterocolitica and by sucrose fermenting strains of Escherichia coli. J. Clin. Microbiol., 7 : 180-183.
- Cosgrove, D.J. (1970). Inositol phosphatases of microbial origin. Inositol phosphate intermediates in the dephosphorylation of the hexaphosphate of myo-inositol, scryllo-inositol and D-chiro-inositol by a bacteria (Pseudomonas sp.) phytase. Aust. J. Biol. Sci., 23 : 1207.

- 531
- Courtois, J. (1945). Phytase I. Comparative action of various enzyme preparation on inositol phosphate and sodium glycerophosphate. *Bull. Soc. Chim. Biol.* 27, 411-415.
cf; Bhandari, S.D. (1976). Studies on rat intestinal phytase. Ph.D. Thesis, M.S. University of Baroda, Baroda, India.
- Courtois, J.E., Carrerem, C. and Petek, F. (1959). Galactomannans (I), isolation of a galactomannan from a lucerene, and its partial hydrolysis by the α -galactosidase. *Bull. Soc. Chim. Biol.*, 41 : 1251.
- Creanor, J., May, J.W. and Mitchison, J.M. (1975). *Eur. J. Biochem.* 60 : 487-493. Cf. Elorza, M.V., Villanueva, J.R. and Sentandreu, R. (1977). The mechanism of catabolite inhibition of invertase by glucose in *S. cerevisiae*. *Biochim. Biophys. Acta.*, 472 : 103-122.
- Cristofaro, E., Mottu, F., Wuhrmann, J.J. (1974). Involvement of the raffinose family of oligosaccharides in flatulence. In "Sugars in nutrition". (Sipple, H.L., McNutt, K.W., Eds.), Academic Press, New York, 313-336.
- Cromack, K., Sollins, J.P., Todd, R.L., Fogel, R., Todd, A.W., Fender, W.M., Crossley, M.E. and Crossley, D.A. Jr. (1977). The role of oxalic acid and bicarbonate in calcium cycling by fungi and bacteria, some possible implications for soil animals. *Ecol. Bull. (Stockholm)*, 25 : 246-252.
- Cronk, T.C., Steinkraus, K.H., Hackler, L.R. and Mattick, L.R. (1977). Indonesian tape ketan fermentation. *Appl. Environ. Microbiol.*, 33 (6) : 1067-1073.
- Cruickshank, R., Duguid, T.P. and Swain, R.H.A. (1965). Medical microbiology. The English language Book Society and E. and S. Livingstone Ltd.
- Cruz, R. and Parle, Y.K. (1982). Production of fungal α -galactosidase and its application to the hydrolysis of galactooligosaccharides in soybean milk. *J. Food Sci.*, 47 : 1973.
- Cruz, R., Patistela, J.C. and Wosiacki, G. (1981). Microbial α -galactosidase for soymilk processing. *J. Food Sci.*, 46 : 1196-1200.
- Curtis, P.R., Cullen, R.E. and Steinkraus, K.H. (1977). Identification of the bacterium producing vitamin B₁₂ activity in Indonesian 'Tempe'. Symposium on Indigenous Fermented Foods, Bangkok, Thailand, 21-27 Nov., 1977.
- Culvenor, J.C. and Weidemann, M.J. (1976). Phytohemagglutinin stimulation of rat thymus lymphocyte glycolysis. *Biochim. Biophys. Acta.*, 437, 354-363.

- Cummings, J.M., Southgate, A.T., Branch, W.J., Wiggins, H.S., Houston, H., Jenkins, D.J.A., Jivraj, T. and Hill, M.J. (1979). The digestion of pectin in the human gut and its effect on calcium absorption and large bowel function. *Br. J. Nutr.*, 41 : 477-485.
- Curtis, D.R. and Watkins, J.C. (1965). The pharmacology of amino acids related to γ -amino butyric acid. *Pharmacol. Rev.* 17 : 347-391.
- Daft, F.S., McDaniel, E.G., Herman, L.G., Romine, M.K. and Hegner, J.R. (1963). Role of coprophagy in utilization of B vitamins synthesized by intestinal bacterial. *Fed. Proc.*, 22 : 129-133.
- Dahiya, B.S. (1976). Seed morphology as an indicator of low neurotoxin in Lathyrus sativus. L. *Qual. Plant Foods Hum. Nut.* 25 : 391.
- Dahlquist, A. (1961). Determination of maltase and isomaltase activities with a glucose oxidase reagent. *Biochem. J.*, 80 : 547-551.
- Dahlquist, A. and Nordstrom, C. (1966). The distribution of disaccharide activities in the villi and crypts of the small intestinal mucosa. *Biochim. Biophys. Acta.*, 113 : 624-625.
- Daniel, V.A., Leela, R., Subramanyaraj, T.S., Venkatrao, S., Rajalakshmi, D., Swaminathan, M. and Parpia, H.A.B. (1965). The supplementary value of the protein of the soyabean as compared with those of bengal-gram, red gram and skim milk powder to poor Indian diets based on rice and wheat. *Ind. J. Nutr. Diet.*, 2 : 128-133.
- Daniel, V.A., Marayan Swamy, D., Desai, B.L.M., Kurien, S., Swaminathan, M. and Parpia, H.A.B. (1970). Supplementary value of varying levels of redgram (Cajanus cajan) to poor diets based on rice and ragi. *Ind. J. Nutr. Diet.*, 7 : 358-362.
- Das, A.D., Sahani, K. and Meddo, A.K. (1974). Incidence of lathyrism in man. *Ind. J. Physiol. Allied Sci.*, 28 : 100-106.
- Davies, N.T. (1979). Antinutritional factors affecting mineral nutrition. *Proc. Nutr. Soc.*, 38 : 121.
- Davidson, C.M. and Gronin, F. (1973). Medium for selective enumeration of lactic acid bacteria from foods. *Appl. Microbiol.*, 26 : 439-440.
- Davies, S.L. and Metzler, D.E. (1972). In: 'The Enzymes' (Boyer, P.D. Ed.), 3rd Edn. Vol. 7, pp. 33-74, Academic Press, New York.

- Davies, N.T. and Nightingale (1975). The effects of phytate on intestinal absorption and secretion of zinc and whole body retention of zinc, copper, iron and manganese in rats. *Br. J. Nutr.*, 34 : 243.
- Davies, N.T. and Olphin (1979). Studies on the phytate : zinc molar contents in diets as a determinant of zinc availability to young rats. *Br. J. Nutr.*, 41 : 591.
- Davies, R. (1953). Enzyme formation in *Saccharomyces fragilis* I Invertase and raffinose. *Biochem. J.*, 52 : 484-497.
- Dawson, K.A., Allison, M.J. and Hartman, P.A. (1980). Isolation and some characteristics of anaerobic oxalate degrading bacteria from the rumen. *Appl. Environ. Microbiol.*, 40 : 833-839.
- de Billy, G., Muller, P. and Chatagner, F. (1975). New insights into the active center of rat liver cystathionase. *Biochim. Biophys. Acta.*, 397 : 231-243.
- Debris, M.W., Courtois, J.E. and Petek, F. (1962). Characteristics of renal α -galactosidase. *Bull. Soc. Chim. Biol.*, 44 : 291.
- de Boland, A.R., Garner, G.B. and O'Dell, B.L. (1975). Phytate in grains and oil seeds. *J. Agric. Food Chem.*, 23 : 1186.
- de Crombrughe, B., Chen, B., Anderson, W., Nissley, P., Gottesman, M., Pastan, I. and Perlman, R. (1971). lac DNA, RNA polymerase, cyclic AMP receptor protein, cyclic AMP, lac repressor and inducer are essential elements for controlled lac transcription. *Nature, New Biol.*, 231 : 139-142.
- Deguchi, E., Niiyama, M., Nagota, K. and Mamioka, S. (1978). Role of intestinal flora on incorporation of ^{15}N from dietary ^{15}N -urea and ^{15}N -diammonium citrate into tissue proteins in pigs. *J. Nutr.*, 108 : 1572-1580.
- del Campillo, E., Shannon, L.M. and Hankins, C.N. (1981). Molecular properties of the enzymic phytohemagglutinin of mung bean. *J. Biol. Chem.*, 256 : 7177-7180.
- del Campillo, E. and Shannon, L.M. (1982). An α -galactosidase with hemagglutinin properties from soybean seeds. *Plant Physiol.*, 69 : 628-631.
- Delente, J., Johnson, J.H., Kuo, M.J., O'Connor, R.J. and Weeks, L.E. (1974). Production of a new thermostable neutral α -galactosidase from a strain of *Bacillus stearothermophilus*. *Biotech. Bioeng.*, 16 : 1227-1243.

- Delente, J. and Ladenburg, K. (1972). Quantitative determination of the oligosaccharides in defatted soybean meal by gas-liquid chromatography. *J. Food Sci.*, 37 : 372-374.
- de Man, J.C., Rogosa, M. and Sharpe, M.E. (1960). A medium for cultivation of lactobacilli. *J. Appl. Bact.*, 23 : 130-135.
- de Muelenaere, H.J.H. (1964). Studies on the digestion of soybeans. *J. Nutr.*, 82 : 197-205.
- de Pasquale, Jardiev and Fraker (1979). The role of corticosterone in the loss of immune function in the zinc-deficient A/J mouse. *J. Nutr.*, 109 : 1847.
- Desai, I.D. (1966). Effect of kidney beans (*Phaseolus vulgaris*) on plasma tocopherol level and its relation to nutritional muscular dystrophy in the chick. *Nature*. 209 : 810.
- Desikachar, H.S.R. and De, S.S. (1950). The Tryptic inhibitor and the availability of cystine and methionine in Raw and Germinated Soya beans. *Biochimica et Biophysica Acta*. 5 : 285.
- Desikachar, H.S.R., Radhakrishnamurthy, R., Rama Rao, G., Kadkol, S.B., Srinivasan, N. and Subramanyan, V. (1960). Studies on Idli fermentation, Part-I. Some accompanying changes in the batter. *J. Sci. Ind. Res.*, 19 : 168-172.
- Desphande, S.S. and Cheryan, M. (1984). Preparation and anti-nutritional characteristics of dry bean (*Phaseolus vulgaris*, L.) protein concentrates. *Qual. Plant Foods Human Nutr.* 34 : 185.
- Dessein, A., Tillier, F. and Ullmann, A. (1978b). Catabolite modulator factor : Physiological properties and *in vivo* effects. *Mol. Gen. Genet.*, 162 : 89-94.
- Dessein, A., Schwartz, M. and Ullmann, A. (1978a). Catabolite repression in *Escherichia coli* mutants. Lacking cyclic AMP. *Mol. Gen. Genet.*, 162 : 83-87.
- Dey, B.B. (1972). Laboratory manual of organic chemistry. Academic Press, New York.
- Dey, P.M. (1969). Inhibition, Transgalactosylation and mechanism of action of sweet almond α -galactosidase. *Biochim. Biophys. Acta.*, 191 : 644-652.
- Dey, P.M. (1978). Biochemistry of plant galactomannans. *Adv. Carbohydr. Chem. Biochem.*, 35 : 341-376.
- Dey, P.M. (1979). Transgalactosylation activity of sweet almond α -galactosidase : synthesis of saccharides. *Phytochemistry*. 18 : 35-38.

- Dey, P.M. (1980). Biochemistry of α -galactosidic linkages in the plant kingdom. In: "Advances in Carbohydrate Chem. and Biochem. Vol. 37 (R. Tipson and D. Horton, Eds.) Academic Press, pp. 283-372.
- Dey, P.M. (1981). α -Galactosidase from sweet chestnut seeds. *Phytochemistry*. 20 : 1493-1496.
- Dey, P.M. (1985). D-Galactose containing oligosaccharides. In: "Biochemistry of Storage Carbohydrates in green plants" (Dey, P.M., Dixon, R.A. Eds.), Academic Press, London.
- Dey, P.M. (1986). Changes in the forms of invertase during germination of mung bean seeds. *Phytochemistry*, 25 (1) : 51-53.
- Dey, P.M. and del Campillo, E. (1984). Biochemistry of the multiple forms of glycosidases in plants. IN "Advances in Enzymology and related areas of molecular Biology". (A. Meister, Ed.), Vol. 56, John Wiley & Sons, New York, pp. 141-249.
- Dey, P.M., del Campillo, E. and Pontlezica, R. (1983). Characterization of a glycoprotein α -galactosidase from lentill seeds (*lens culinaris*). *J. Biol. Chem.* 258 (2) : 923-929.
- Dey, P.M. and Dixon, M. (1974). Separation and properties of α -galactosidases and α -galactosidase from *Cajanus indicus*. *Biochem. Biophys. Acta.*, 370 : 269-275.
- Dey, P.M., Hustler, M.J., Fridham, J.B. and Sumar, N. (1982). Factors affecting the extraction and the relative proportions of multiple forms of plant α -galactosidases. *Phytochemistry.*, 21 : 1557-1562.
- Dey, P.M., Khaleque, A. and Fridham, J.B. (1971). Further observations on the α -galactosidase activity of *Vicia faba* seeds. *Biochem. J.*, 124 : 27.
- Dey, P.M. and Malhotra, O.P. (1969). Kinetic behaviour of sweet almond alpha galactosidase. *Biochem. Biophys. Acta.*, 185 : 402.
- Dey, P.M. and Fridham, J.B. (1968). Multiple forms of α -galactosidase in *Vicia faba* seeds. *Phytochemistry.*, 7 : 1737-1739.
- Dey, P.M. and Fridham, J.B. (1969a). Substrate specificity and kinetic properties of α -galactosidases from *Vicia faba* seeds. *Biochem. J.*, 115, 47.

- Dey, P.M. and Fridham, J.B. (1969b). Purification and properties of α -galactosidase from Vicia faba seeds. Biochem. J., 112 : 9-55.
- Dey, P.M. and Fridham, J.B. (1972). Biochemistry of α -galactosidases. In : "Advances in Enzymol". Vol. 36, pp. 91-131. Wiley (Intersciences), New York.
- Dey, P.M., Fridham, J.B., and Sumar, N. (1982). Multiple forms of Vicia faba α -galactosidases and their relationships. Phytochemistry. 21 (9) : 2195-2199.
- Dey, P.M. and Fridham, J.B. (1977). Biochemistry of alpha galactosidases. Adv. Enzymol., 15, 91-130.
- Dhand, H. (1964). Nutritive value of some processed foods and food mixtures. M.Sc. (Home) Thesis submitted to M.S. University of Baroda, Baroda, India.
- Difco Manual (1971). Manual of dehydrated culture media and reagents for microbiological and clinical laboratory procedures. Difco Laboratories, Detroit, 1, Michigan, U.S.A.
- Dodyk, F., Rothstein, A. (1964). Factors influencing the appearance of invertase in Saccharomyces cerevisi. Arch. Biochem. Biophys., 104 : 473-486.
- Doel, M.T., Eaton, M., Cook, E.A., Lewis, H., Patel, T. and Carey, N.H. (1980). The expression in E. coli of synthetic repeating polymeric genes coding for poly-(L-aspartyl-L-phenylalanine). Nucleic Acids Res., 8 : 4575-4592.
- Domen, D.C., Walker, J.C., Trelease, R.N. and Moore, B.D. (1982). Metabolism of carbohydrate and lipid reserves in germinated cotton seeds. Planta. 155 : 502-510.
- Don, R.H. and Pemberton, J.M. (1981). Properties of six pesticide degradation plasmids isolated from Alcaligenes paradoxus and Alcaligenes eutrophus. J. Bacteriol., 145 : 681-686.
- Donald, P., Nierlich (1978). Regulation of bacterial growth, RNA and protein synthesis. Annual Review of Microbiol., 32 : 393-432.
- Donatucci, D.A., Liener, I.E. and Gross, C.J. (1987). Binding of navy bean (Phaseolus vulgaris) lectin to the intestinal cells of the rat and its effect on the absorption of glucose. The J. of Nutr., 117 (4) : 2154-2160.
- Donoso, G., Hedayat, H. and Khayatian, H. (1969). Favism, with special reference to Iran. WHO Bull. 40 : 513.

- Drassar, B.S. and Hill, M.J. (1972). Intestinal bacteria and cancer. *Am. J. Clin. Nutr.*, 25 : 1399-1414.
- ^a
Drasgr, B.S. and Hill, M.J. (1974). Human Intestinal Flora. Academic Press, New York.
- Dubois, M., Gilles, K.A., Hamilton, J.K., Robert, P.A. and Smith, F. (1956). Colorimetric methods for determination of sugars and related substances. *Anal. Chem.*, 28 : 350-356.
- Dunn, K.R. and Goddard, V.R. (1948). Effect of heat upon the nutritive value of peanut. II. Riboflavin and pantothenic acid content. *Food Res.*, 13 : 512-517.
- Dunn, N.W. and Gunsalus, I.C. (1973). Transmissible plasmid coding early enzymes of naphthalene oxidation in *Pseudomonas putida*. *J. Bacteriol.*, 114 : 974-979.
- Dupuy, H.P. and Lee, J.G. (1954). *Journal of American Pharmaceutical Association (Scientific Edition)*, 43, 61.
cf. Roy, D.N. (1981). Toxic amino acids and proteins from lathyrus plants and other leguminous species : A literature review. *Nutr. Abst. Rev. Series A*, 51 (10 : 690.
- Duque-Magalhaes, M.C. and Parker, L. (1972). Action of the neurotoxin β -N-Oxalyl-L- α , β -diaminopropionic acid on glutamate metabolism of brain mitochondria. *FEBS Letters*, 23 : 188.
- Dutton, G.G.S. (1973). Applications of Gas-liquid chromatography to carbohydrates : Part-I. In: "Advances in Carbohydrate Chemistry and Biochemistry". (Tipson, R.S. and Horton, D. Eds.), Vol. 28, pp. 11-160, Academic Press, New York, and London.
- Dwivedi, M.P. and Prasad, B.G. (1964). An epidemiological study of lathyrism in the district of Rewa, M.P., India. *Indian J. Med. Res.*, 52 : 81-116.
- Dwivedi, C.M., Ragin, R.C. and Uren, J.R. (1982). Cloning, purification and characterization of β -cystathionase from *Escherichia coli*. *Biochemistry*, 21 : 3064-3069.
- Edelstein, S. and Guggenheim, K. (1970a). Changes in the metabolism of vitamin B₁₂ and methionine in rats fed unheated soya-bean flour. *Brit. J. Nutr.*, 24 : 735.
- Edelstein, S. and Guggenheim, K. (1970b). Causes of the increased requirement for vitamin B₁₂ in rats subsisting on an unheated soybean flour diet. *J. Nutr.*, 100 : 1377.
- Efstathiou, J.D. and McKay, L.L. (1976). Plasmids in *Streptococcus lactis* : Evidence that lactose metabolism and proteinase activity are plasmid linked. *Appl. Environ. Microbiol.*, 32 : 38-44.

- Elias, L.G. and Bressani, R. (1974). Arch. Latinoam Nutr., 24 : 365.
- Elias, L.G., Colindres, R. and Bressani, R.J. (1964). Nutritive value of light varieties of cow pea. J. Food Sci., 29 : 118.
- Elkowicz, K. and Sosulski, F.W. (1982). Oligosaccharides in eleven legumes and their air - classified protein and starch fractions. J. Food Science. 47 : 1301.
- Elorza, M.V., Villanueva, J.R. and Sentandreu, R. (1977). The mechanism of catabolite inhibition of invertase by glucose in Saccharomyces cerevisiae. Biochim. Biophys. Acta., 475 : 103-112.
- Emtage, J.S., Angal, S., Doel, M., Harris, T.J.R., Jentins, B., Lilley, G. and Lowe, P.A. (1983) Synthesis of calf prochymosin (prorennin) in Escherichia coli. Proc. Nat. Acad. Sci. U.S.A. 80 : 3671-3675.
- Etzler, M.E. (1974). Use of plant agglutinins in characterization of glycoproteins and glycolipids from mammalian cells. Ann. N.Y. Acad. 234 : 260-273.
- Etzler, M.E. (1979). Lectins as probes in studies of intestinal glycoproteins and glycolipids. Am. J. Clin. Nutr., 32 : 133-138.
- Evans, J.B. and Niven, C.F. (1957). Nutrition of homofermentative lactobacilli that causes greening of cured meat products. J. Bact., 62 : 599-602.
- Ewing, W.H. (1962). Enterobacteriaceae, Biochemical methods for group Differentiation, U.S. Department of Health, Education and Welfare, Public Health Service, Publication No. 734.
- Ewing, W.H. and Edwards, B.R. (1962). Identification of Enterobacteriaceae. II. Edn., Burgen Publishing Co., Minneapolis, U.S.A.
- F.A.O. (1973). Energy and protein requirements. FAO Nutritional Reports Series No.52, Rome : FAO.
- Fairbanks, G., Steck, T.L. and Wallach, D.F.H. (1971). Electrophoretic analysis of the major polypeptide of the human erythrocyte membrane. Biochemistry. 10 : 2606-2617.
- Faki, H.A., Bhavanishankar, T.N., Tharanathan, R.N. and Desikachar, M.S.R. (1983) Flatus effect of chick pea (Cicer arietinum), cow pea (Vigna sinensis) and horse gram (Dolichos biflorus) and their isolated carbohydrate fractions. Nutr. Rep. Int., 27 (5) : 921-929.

- Fardiaz, D. and Markakis, P. (1981a). Degradation of phytic acid in oncom (fermented peanut press cake). *J. Food Sci.*, 46 : 523.
- Fardiaz, D. and Markakis, P. (1981b). Oligosaccharides and protein efficiency ratio of oncom (fermented peanut press cake). *J. Food Sci.*, 46 : 1970-1971.
- Faye, L. (1981). A new enzymatic staining method for the detection of radish β -fructosidase in gel electrophoresis. *Anal. Biochem.*, 112 : 90-95.
- Faye, L. and Berjonneau, C. (1979). Evidence for the glycoprotein nature of radish β -fructosidase. *Biochimie*, 61 : 51-59.
- Faye, L. and Lambert, C. (1980). The effect of protein concentration on the activity of β -fructosidase from radish seedlings. *Biochim. Biophys. Acta.*, 615 : 392-401.
- Faye, L., Berjonneau, C. and Rollin, P. (1981). Studies on β -fructosidase from radish seedlings : I. Purification and partial characterisation. *Plant Sci. Lett.*, 21 : 77-82.
- Faye, L., Berjonneau, C. and Ghorbel, A. (1982). Electrophoretic and immunochemical characterization of radish (*Raphanus sativus*) β -fructosidase (E.C. 3.2.1.26) microheterogeneity. *Arch. Biochem. Biophys.*, 213 : 45-49.
- Fetuga, B.L., Babatunde, G.M. and Oyenuga, V.A. (1973a). Protein quality of some Nigerian feed stuffs : I. Chemical assays of nutrients and amino acids composition. *J. Sci. Food Agric.*, 24 : 1505.
- Fetuga, B.L., Babatunde, G.M. and Oyenuga, V.A. (1973b). Protein quality of some Nigerian feed stuffs. II. Biological evaluation of protein quality. *J. Sci. Food Agric.*, 24 : 1515.
- Filiminoff, I.N. (1926). Zur pathologisch anatomischen charakteristik des lathyrismus. *Zbl. Neurol. Psychiatr.*, 105 : 76.
- Fisher, P.R., Appleton, L. and Pemberton, L.M. (1978). Isolation and characterisation of the pesticide-degrading plasmid PJP 1 from *Alcaligenes paradoxus*. *J. Bact.*, 135 : 798-804.
- Fleischer, B. and Fleischer, S. (1969). Glycosidase activity of Bovine liver plasma membranes. *Biochem. Biophys. Acta.*, 183 : 265-275.
- Fleming, S.E. (1981). A study of relationships between flatus potential and carbohydrate distribution in legume seeds. *J. Food Sci.*, 46 : 794-798.
- Ford, J.A., Colhoun, E.M., McIntosh, W.B. and Dannigan, M.G. (1972a). Biochemical response of late rickets and osteomalacia to a chapatty free diet. *Brit. Med. J.*, 3 : 446.

- Ford, J.A., Colhoun, E.M., McIntosh, W.B. and Dannigan, M.G. (1972b). Rickets and osteomalacia in Glasgow Pakistani community. *Br. Med. J.*, 2 : 677.
- Fowden (1962). *Endeavour*, 21 : 35. cf. Roy, D.N. (1981). Toxic amino acids and proteins from lathyrus plants and other leguminous species : a literature review. In: "Nutrition abstracts and reviews - Series A. Vol. 51 (10). Commonwealth Bureau of Nutrition (Eds.), pp. 691-704.
- Fraser, S.S.R. and Creanor, J. (1974). *Eur. J. Biochem.*, 46 : 67-73.
- Fred, E.B. and Waksman, S.A. (1928). Laboratory manual of General Microbiology. McGraw Hill Book Inc., New York.
- French, D. (1954). The raffinose family of oligosaccharides. *Adv. Carbohydrate Chem.*, 9 : 149-184.
- French, D. and Wild, G.M. (1953). Correlation of carbohydrate structure with papergram mobility. *J. Amer. Chem. Soc.*, 75 : 2612-2616.
- Friedmann, T.E. and Haugen, S. (1943). Pyruvic acid (II) determination of ketoacids in blood and urine. *J. Biol. Chem.*, 147 : 415.
- Friello, D.A., Mylroie, J.R. and Chakrabarty, A.M. (1976). In: "Proc. 3rd Internat. Biodegradation Symposium". (J.M. Sharpley and A.M. Kaplan, eds.), pp. 205-214, Applied Science, London.
- Fukushima, D. (1979). Fermented vegetable (soybean) protein and related foods of Japan and China. *J. Am. Oil Chem. Soc.*, 56 : 357.
- Fukushima, D. (1981). Soy proteins for foods centering around soy sauce and tofu. *J. Am. Oil Chem. Soc.*, 58 : 346.
- Furukawa, K. and Chakrabarty, A.M. (1982). Involvement of plasmids in total degradation of chlorinated biphenyls. *Appl. Environ. Microbiol.*, 44 (3) : 619-626.
- Gallaher, D. and Scheenman, B.O. (1984). Nutritional and metabolic response to plant inhibitors of digestive enzymes. In: "Nutritional and Toxicological aspects of Food Safety" (Ed. M. Friedman), pp. 299. Plenum Press, New York.
- Galoyan, S.M., Tolosa, E.A. and Goryachenkova, E.V. (1982). *Biokhimiya (USSR)*, 47 : 633-636. cf. Brannstein, A.E. and Goryachenkova, E.V. (1984) The β -replacement specific pyridoxal-p-dependent lyases. *Adv. Enzymol.* 56, 1.
- Ganapathi, K.T. and Dwivedi, M.P. (1961). Studies on clinical epidemiology of lathyrism. ICMR, Gandhi Memorial Hospital, Lathyrism Enquiry field Unit, Rewa, M.P., India.

- Garg, S.K., Banerjee, A.C., Verma, J. and Abraham, M.J. (1980). Effect of various treatment of pulses on in vitro gas production by selected intestinal clostridia. J. Food Sci., 45 : 1601-1613.
- Gascon, S. and Lampen, J.D. (1968). Purification of internal invertase of yeast. J. Biol. Chemistry, 243 (7) : 1567-1572.
- Gascon, S. and Ottolenghi, P. (1967). Invertase isoenzymes and their location in yeast. Crit. Trans lab. Carlsberg., 36 : 85.
- Gascon, S. and Ottolenghi, P. (1972). Influence of glucose concentration of the medium on the invertase content of a strain of Saccharomyces bearing the SUC₂ gene. Crit. Trans. lab. Carlsberg, 39 : 15-24.
- Gascon, S., Neumann, N.P. and Lampen, J.O. (1968). Comparative study of the properties of the purified internal and external invertases from yeast. J. Biol. Chem., 243 : 1573-1577.
- Gascon, S., Iazo, P.S., Moreno, F. and Ochoa, A.G. (1973). Secretion of invertase and α -galactosidase by yeasts. In: "Yeast, Mould and Plant Protoplasts" (Villanueva, J.R., Garcia-Acha, I., Gascon, S. and Uruburu, F. Eds.). pp. 157-166. Academic Press, New York.
- Gashe, B.A. (1985). Development of lactic acid bacteria in the fermentation of TEF (Eragrostis tef) - an Ethiopian fermented food. J. Food Sci., 50 : 800.
- Gatt, S. and Baker, E.A. (1970). Purification and separation of α - and β -galactosidases from spinach leaves. Biochim. Biophys. Acta., 206 : 125-135.
- Gauchi, R., Leuenberger, U. and Baumgartner, E. (1979). Quantitative determination of mono, di- and trisaccharides by thin layer chromatography. J. Chromatogr., 174 : 195-200.
- George, A.J. (1965). Legal status and toxicity of saponins. Food Cosmet. Toxicol., 3 : 85.
- Geervani, P. and Theophilus, E. (1979). Flatus inducing effect and processed legumes in preschool children. Ind. J. Med. Res., 70 : 750-755.
- Gertler, A., Birk, Y. and Boudi, A. (1967). A comparative study of the nutritional and physiological significance of pure soybean trypsin inhibitors and of ethanol extracted soybean meals in chicks and rats. J. Nutr., 91 : 358-370.
- Ghebregzabher, M., Rufini, S., Ciuffini, G., and Lato, M. (1974). J. Chromatogr. 95 : 51.
- Ghebregzabher, M., Rufini, S., Monaldi, B. and ~~knaze~~ Lato, M. (1976). Thin layer chromatography of carbohydrates. J. Chromatog., 127 : 133-162.

- 542
- Ghebregzabher, M., Rufini, S., Sapia, G.M. and Lato, M. (1979). Improved thin layer chromatography method for sugar separations. *J. Chromatog.*, 180 : 1-16.
- Gherardini, F., Babcock, M. and Salyers, A.A. (1985). Purification and characterization of two α -galactosidases associated with catabolism of guar gum and other α -galactosidase by Bacteriodes ovatus. *J. Bacteriol.*, 161 : 500-506.
- Ghosal, D., You, I.S., Chatterjee, D.K. and Chakrabarty, A.M. (1984). In "Plasmids in Bacteria" (D. Helinski et al, Eds). pp. 667-686, Plenum Press, New York.
- Gibson, T. and Abd-el-Malek, Y. (1945). The formation of carbon dioxide by lactic acid bacteria and Bacillus licheniformis and a cultural method of detecting the process. *J. Dairy Res.*, 14 : 35.
- Gillman, S.M., Trou, K.C. and Seligman, A.M. (1970). cf. Dey and Fridham, 1972). *Arch. Biochem. Biophys.*, 138 : 264-271.
- Gitzelmann, R. and Auricchio, S. (1965). The handling of soya alpha galactosides by a normal and a galactosemic child. *Pediatrics.*, 36 : 231-235.
- Gloster, J.A. and Harris, P. (1962). Enzymic method for the estimation of pyruvate in blood. *Clin. Chim. Acta.*, 7 : 206.
- Gmelin, R. (1959). Hoppe-Seyler's Zeitschrift fur Physiologische Chemie, 316 : 164.
- Goeddel, D.V., Heyneker, H.L., Hozumi, T., Arentzen, R., Itakura, K., Yansura, D.G., Ross, M.J., Miozzari, G., Crea, R. and Seeburg, P.H. (1979a). Direct expression in Escherichia coli of a DNA sequence coding for human growth hormone. *Nature, London*, 281 : 544-548.
- Goeddel, D.V., Kleid, D.G., Bolivar, F., Heyneker, H.L., Yanusara, D.G., Crea, R., Hirose, T., Kraszewski, A., Itakura, K. and Riggs, A.D. (1979b). Expression in E. coli of chemically synthesized genes for human insulin. *Proc. Nat. Acad. Sci., U.S.A.* 76 : 106-110.
- Goel, R. and Verma, J. (1981). Identification of flatulence factors in some pulses. *Current Science.* 50 : 144.
- Golberg, L. and Thorp, J.M. (1946). A survey of vitamins in East African foodstuffs. *S. Afr. J. Med. Sci.*, 11 : 177-185. cf. Chem. Abst. 5643C (1947).
- Goloyan, S.M., Tolosa, E.A., Wiuhardt, I., and Goryachenkova, E.V. (1981). *Biokhimiya*, 46 : 1855-1861. cf. Braunstein, A.E. and Goryachenkova, E.V. (1984). The β -replacement specific pyridoxal-p-dependent lyases. *Adv. Enzymol.*, 56, 1.

- Gonzalez, U.S., Patent. 4, 508, 738, April (1985).
cf: Gonzalez, C.F. and Kunka, B.S. (1986) Evidence for
plasmid linkage of raffinose utilization and associated
 α -galactosidase, and sucrose hydrolase activity in
Pediococcus pentosaceus. Appl. Environ. Microbiol.,
51 (1), 105-109.
- Gonzalez, C.F. and Kunka, B.S. (1983). Plasmid transfer in
Pediococcus spp. : Intergeneric and intrageneric transfer
of pIP501. Appl. Environ. Microbiol., 46 : 81-89.
- Gonzalez, C.F. and Kunka, B.S. (1986). Evidence for plasmid
linkage of raffinose utilization and associated α -galacto-
sidase and sucrose hydrolase activity in Pediococcus pento-
saceus. Appl. Environ. Microbiol, 51 : 105-109.
- Goodard, V.R. and Mendel, L.B. (1929). Plant hemagglutinins with
special reference to a preparation from the navy bean
(Phaseolus communis). J. Biol. Chem., 82 : 447.
- Gopalan, C. (1982). A revisit to Rewa. ~~New Delhi~~ India.
Bulletin of Nutrition Foundation of India, New Delhi, India.
(Ed. S. Nathan), April, 1982.
- Gopalan, C. and Dwivedi, M.P. (1983). The Lathyrus problem :
current status and new dimensions. In : "Nutrition
Foundation of India". Scientific Report.
- Gopalan, C., Rama Sastri, B. and Balasubramanian, S.C. (1971).
Nutritive value of Indian Foods. Bulletin of National
Institute of Nutrition, ICMR, Hyderabad.
- Gopalan, C., Ramashastri, B.V. and Balasubramanian, S.C. (1978).
Nutritive value of Indian Foods. National Institute of
Nutrition, ICMR, Hyderabad, India.
- Goryachenkova, E.V., Polyakova, L.A., Yefremova, L.L. and Florentiev
V.I. (1973). Interaction of pyridoxal phosphate analogues
with apoenzymes of γ -cystathionase and serine sulphhydra-
se. Biochem. Biophys. Res. Commun., 52 : 1021-1028.
- Greaves, M.P., Anderson, G. and Webley, D.M. (1967). The hydro-
lysis of inositol phosphates by Aerobacter aerogenes.
Biochim. Biophys. Acta., 132 : 412-418.
- Greenberg, D.M. and Matsuo, Y. (1958). A crystalline enzyme
that cleaves homoserine and cystathionine. J. Biol.Chem.,
230 (2) : 454-561.
- Grootwassink, J.W.D. and Fleming, S.E. (1980). Non specific
 β -fructofuranosidase (inulase) from Kluyveromyces fragilis:
batch and continuous fermentation, simple recovery method
and some industrial properties. Enzyme Microb. Technol.,
2 : 45-53.

- Gumbmann, M.R., Spangler, W.L., Dugan, G.M., Rackis, J.J. and Liener, I.E. (1985). The USDA trypsin inhibitor study : IV. The chronic effects of soyflour and soyprotein isolate on the pancreas in rats after two years. *Qual. Plant.*, 35 : 275.
- Gumbmann, M.R., Spangler, W.L., Dugan, G.M. and Rackis, J.J. (1986). Safety of trypsin inhibitors in the diet : Effects on the rat pancreas of long-term feeding of flour and soy protein isolate. In: "Nutritional and Toxicological significance of Enzyme Inhibitors in Foods". (Ed. M.Friedman), p. 33, Plenum Press, New York.
- Gunge, N. (1982).. Linear DNA killer plasmids from Kluyvermyces lactis. Proc. IVth Int. Symposium on 'Genetics of Industrial Micro-organisms.
- Gupta, K. and Wagle, D.S. (1980). Changes in antinutritional factors during germination in Phaseolus mungo (M 1-1) and Phaseolus aureus (T₁). *J. Food Sci.*, 45 : 394.
- Gupta, M.C., Ramachandran, K., Tandon, B.N. and Mithal, S. (1977) A health and nutrition survey of heavy manual workers. *Ind. J. Med. Res.*, 66 : 244-252.
- Gutnick, D.L. and Rosenberg, E. (1977). Oil tankers and pollution : A microbiological approach. *Annu. Rev. Microbiol.* 31 : 379.
- Hadacova, Y. and Benes, K. (1977). *Biol. Plant.* 19 : 436-441. cf. Dey, P.M. and del Campillo, E. (1974). Biochemistry of the multiple forms of glycosidases in plants. *Adv. Enzymol.*, 56 : 141.
- Hallab, A.H., Khatchdourian, H.A. and Jabr, I. (1974). The nutritive value and organoleptic properties of white Arabic bread-supplemented with soybean and chickpeas. *Cereal Chem.*, 51 : 106-112.
- Han, Y.W. and Wilfred, A.G. (1988). Phytate hydrolysis in soybean and cottonseed meals by Aspergillus ficcum. phytase. *J. Agri. Food Chem.*, 36 : 259-262.
- Han, Y.W., Gallagher, D.J. and Wilfred, A.G. (1987). Phytase production by Aspergillus ficcum on solid substrate. *J. Ind. Microbiol.* 2 : 195-200.
- Hanatani, M., Yazyu, H., Shiota-Niiya, S., Moriyama, Y., Kanazawa, H., Futai, M. and Tsuchiya, T. (1984). Physical and genetic characterization of the melibiose operon and identification of the gene products. *J. Biol. Chem.*, 259 : 1807-1812.
- Hankins, C.N. and Shannon, L.M. (1978). The physical and enzymatic properties of phytohemagglutinin from mung beans. *J. Biol. Chem.*, 253 (21) : 7791-7797.

- Hankins, C.N., Kindinger, J.I. and Shannon, L.M. (1980a).
 α -galactosidase forms devoid of hemagglutinin activity.
 Plant Physiol., 66 : 375-378.
- Hankins, C.N., Kindinger, J.I. and Shannon, L.M. (1980b).
 Legume α -galactosidases which have hemagglutinin properties. Plant Physiol., 65 : 618-622.
- Hardinge, M.G., Swarner, J.B. and Crooks, H. (1965). Carbohydrates in foods. J. Am. Diet. Assoc., 46 : 197-204.
- Harland, B.F. and Harland, J. (1980). Fermentative reduction of phytate in rye, wheat and whole wheat breads. J. Cereal Chem., 57 : 226.
- Harper, D.B. (1977). Fungal degradation of aromatic nitriles. Biochem. J., 167, 685-692.
- Harpaz, N., Flowers, H.M. and Sharon, N. (1977). α -D-galactosidase from soybeans destroying blood group-B antigens. Purification by affinity chromatography and properties. Eur. J. Biochem., 77 : 419-426.
- Hansen, S.A. (1975). Thin layer chromatographic method for identification of oligosaccharides in starch hydrolysates. J. Chromatogr., 107 : 224-226.
- Harrigan, W.F. and McCance, M.E. (1966). Laboratory methods in Microbiology. Academic Press, New York.
- Hawker, J.S. (1980). Invertases from leaves of Phaseolus vulgaris plants grown on nutrient solutions containing sodium chloride. Aust. J. Plant. Physiol., 7 : 67-72.
- Heber, U.W. and Santarius, K.A. (1964). Loss of ATP synthesis caused by freezing and its relationship to frost hardiness problems. Plant Physiol., 39 : 712-719.
- Hegsted, D.M. (1978). Protein calorie malnutrition. Amer. Sci., 66 : 61.
- Hellendoorn, E.W. (1969). Intestinal effects following ingestion of beans. Food Technol., 23 : 87-92.
- Hellendoorn, E.W. (1976). Beneficial physiologic action of beans. J. Am. Diet. Assoc., 69 : 248-253.
- Hellendoorn, E.W. (1978). Fermentation as the principal cause of the physiological activity of indigestible food residue. In: "Topics in Dietary Fiber Research". (G.A. Spiller and R.J. Amen, Eds.). pp. 127-167, Plenum Press, New York.
- Hesseltine, C.W. (1961). Research at Northern Regional Research Laboratory on fermented foods. In: "Proceedings of conference on Soybean products for Protein in human foods". pp. 67-74, U.S. Department of Agriculture, Peoria, Illinois.

- Hesseltine, C.W. (1965). A Millennium of fungi, food and fermentation. *Mycologia*, 57 : 149-197.
- Hesseltine, C.W. and Shibasaki, K. (1961). Pure culture fermentation with Saccharomyces rouxii. *Appl. Microbiol.*, 9 : 515-518.
- Hesseltine, C.W. and Wang, H.L. (1967). Traditional fermented foods. *Biotech. Bioeng.*, 4 : 275-288.
- Hewitt, D., Coates, M.E., Kakade, M.L. and Liener, I.E. (1973). A comparison of fractions prepared from navy (haricot) beans (Phaseolus vulgaris L.) in diets for germ free and conventional chicks. *Br. J. Nutr.*, 29 : 423-435.
- Hickey, C.A., Murphy, E.L. and Calloway, D.H. (1972). Intestinal gas production following ingestion of commercial wheat cereals and milling fractions. *Cereal Chem.*, 49 : 276-282.
- Hill, M.J., Drasar, B.S., Aries, V.C., Crowther, J.S., Hawksworth, G.M. and Williams, R.E.O. (1971). Bacteria and aetiology of cancer of large bowel. *Lancet*, 1 : 95-100.
- Hintz, H.F. and Hogue, D.E. (1964). Kidney beans (Phaseolus vulgaris) and the effectiveness of vitamin E for prevention of nutritional muscular dystrophy in the chick. *J. Nutr.*, 84 : 283.
- Hirota, Y. (1960). The effect of acridine dyes on mating type factors in E. coli. *P.N.A.S.* 46 : 57-64.
- Ho, M.W. (1973). Hydrolysis of ceramide trihexoside by a specific α -galactosidase from human liver. *Biochem. J.*, 133:1-10.
- Hogness, D.S. and Battley, E.H. (1957). The α -galactosidase of Aerobacter aerogenes, its characteristics and inducible synthesis. *Fed. Proc. Fed. Am. Soc. Exp. Biol.*, 16 : 197.
- Hohn, B. and Korn, D. (1969). Co-Segregation of a sex factor, with the E. coli chromosome during curing by acridine orange. *J. Molecular Biology*, 45 : 385-395.
- Houghton, M., Eaton, M.A.W., Stewart, A.G., Smith, J.C., Doel, S.M., Catlin, G.H., Lewis, H.M., Patel, T.P., Entage, J.S., Carey, N.H. and Porter, A.G. (1980). The complete amino acid sequence of human fibroblast interferon as deduced using synthetic oligodeoxyribonucleotide primers of reverse transcriptase. *Nucleic Acids Res.*, 8 : 2885-2894.
- Hulse, J.H. (1980). How nutrition properties can be integrated into crop improvement programs. In "Nutrition and Food Science - present knowledge and utilization. Vol. 2, Nutrition Education and Food Science Technology (Santos, W., Lopes, M., Barbosa, J.J. and Chaves, D. and Valente, J.C. Eds.). Plenum Press, New York and London, pp. 7-18.

- Hydowitz, J.D. (1960). Occurrence of goiter in an infant on soy diet. *New England J. Med.*, 262 : 351.
- Hymowitz, T., Collins, F.I., Panczner, J. and Walker, W.H. (1972). Relation between the content of oil protein and sugar in soybean seed. *Agron. J.*, 64 : 613-616.
- ICMR (1968). cf: Gopalan, C., Ramasastry, B. and Balasubrahmanian, S.C. (1971). Nutritive value of Indian foods. National Institute of Nutrition, ICMR, Hyderabad, India.
- ICMR Food Tables (1978). Published by National Institute of Nutrition, Hyderabad, India.
- Iglesias, C.F., Moreno, F. and Gascon, S. (1980) Light and intermediate molecular forms of yeast invertase as precursors of the heavy enzyme. *FEBS. Lett.*, 114 : 57-60.
- Iizuka, M. and Yamamoto, T. (1972). Studies on invertase study of *Candida utilis*. Part-I, A comparative study of isolation methods of the enzyme. *Agric. Biol. Chem.*, 36 : 349-355.
- Ikeda, K. and Haskell, B.E. (1972). *Proc. Fifth International Congress of Pharmacology*.
- Ikeda, K., Oku, M., Kusano, T. and Yasumoto, K. (1986). Inhibitory potency of plant antinutrients towards the *in vitro* digestibility of Buckwheat protein. *J. Food Sci.*, 51 (6) : 1527-1530.
- Indian Council of Medical Research (ICMR) New Delhi (1964). Lathyrism a preventable paralysis. Hyderabad, India. National Research Laboratory.
- Inuzuka, N., Nakamura, S., Inuzuka, M. and Tomoeda, M. (1969). Specific action of sodium dodecyl sulphate on the sex factor of *E. coli* K-12 Hfr strains. *J. Bacteriology*. 100 : 827-835.
- Irwing, G.C.J. and Cosgrove, D.J. (1972). Inositol phosphate phosphatases of microbial origin : the inositol pentaphosphate products of *Aspergillus ficcum* phytases. *J. Bacteriol.*, 112 : 434-438.
- Irwing, G.C.J. and Cosgrove, D.J. (1974). Inositol phosphate phosphatases of microbiological origin. Some properties of the partially purified phosphatases of *Aspergillus ficcum* NRRL 3135. *Aust. J. Biol. Sci.*, 27 : 361-368.
- Isabel, G.F., Iazo, P.S., Ochoa, A.G. and Gascon, S. (1981). The specificity of induction of α -galactosidase from *Saccharomyces carlsbergensis*. *BBA*. 674 : 71-77.
- Iseki, S. and Ikeda, T. (1956). Bacterial enzyme specifically decomposing group-B substance. *Proc. Japan Acad.*, 32 : 201.

- Itakura, K., Hirose, T., Crea, R., Riggs, A.D., Heyneker, H.L., Bolivar, F. and Boyer, H.W. (1977). Expression in Escherichia coli plasmid vector system. Science, 198 : 1056-1063.
- Itanu, T., Hiroyuki, K., Ryo, Y., Yoshimitsu, V. (1982). Transferase action of α -galactosidase from tubers of Stachys. Affinis : Kato, Koji. Agric. Biol. Chem., 46 (4) : 1089-1090.
- Itoh, T., Shimura, S. and Adachi, S. (1979). Alpha galactosidase from alfalfa seeds (Medicago sativa L.). Agri. Biol. Chem., 43 (7) : 1499-1504.
- IUPAC-IUB (1968). Eur. J. Biochem. 2 : 1.
- Iyengar, A.K. and Kulkarni, P.R. (1977). Oligosaccharide levels of processed legumes. J. Food Sci. Technol., 14 : 222-223.
- Jacob, F. and Monod, J. (1958). Symp. Soc. Exptl. Biol. 12 : 75.
- Jacob, E., Patel, A.J. and Ramakrishnan, C.V. (1967). Effect of neurotoxin from L. sativus on glutamic acid metabolism in chick brain. J. Neurochem., 14 : 1091.
- Jacob, M., Hunt, I.F., Dirige, O. and Swendseid, M.E. (1976). Biochemical assessment of the nutritional status of low income pregnant women of Mexican descent. Am. J. Clin. Nutr., 29 : 650-656.
- Jaffe, W.G. (1960). Arzenimittel Forsch. 10 : 1012.
cf: Hemagglutinins. By W.G.Jaffe. In 'Toxic constituents of plant foodstuffs'. (Ed. I.E. Liener), Academic Press, New York (1969).
- Jaffe, W.G. (1969). Hemagglutinins. IN "Toxic constituents of plant foodstuffs". (Ed. Liener, I.E.), Academic Press, New York, 69-101.
- Jaffe, W.G. (1973). In: "Toxicants occurring naturally in foods." National Academy of Science, Washington, D.C.
- Jaffe, W.G. (1980). Hemagglutinins (lectins). Ch.3. In "Toxic constituents of plant foodstuffs" (I.E. Liener, Ed.), p. 73, Academic Press, New York.
- Jaffe, W.G. and Brucher, O. (1972). Toxicity and specificity of different phyto-hemagglutinins of beans (Phaseolus vulgaris). Arch. Latinoamer. Nutr., 22 : 267-281.
cf: Chem. Abstr. 78 : 70386 (1973).
- Jaffe, W.G. and Camejo, G. (1964). La accion de una proteina toxica, aislada de caraoas negras (Phaseolus vulgaris), sobre la absorcion intestinal en ratas. Acta Cient. Venez., 12 : 59-64.

- Jahan, K. and Ahmad, K. (1984). Detoxification of Lathyrus sativus. Food and Nutrition Bulletin. 6 (2) : 52-53.
- Jakoby, W.B. and Bhat, J.V. (1959). Microbial metabolism of oxalic acid. Bacteriol. Rev., 22 : 75-80.
- James, L.F., Street, J.C. and Butcher, M.J. (1967). In vitro degradation of oxalate and of cellulose by rumen ingesta from sheep fed Halogeton glomeratus. J. Anim. Sci., 26 : 1438-1444.
- Jaya, T.V. (1978). Nutritional and biochemical studies of some germinated legumes with particular reference to changes in carbohydrates. Ph.D. Thesis, University of Mysore, Mysore, India.
- Jaya, T.V. and Venkataraman, L.V. (1981). Changes in carbohydrate constituent of chick pea and green gram during germination. Food Chemistry. 7 : 95-104.
- Jaya, T.V., Krishnamurthy, K.S. and Venkataraman, L.V. (1975). Effect of germination and cooking on the protein efficiency ratio of some legumes. Nutr. Rep. Int., 12 : 175-183.
- Jaynes, T.A. and Nelson, O.B. (1971). Invertase activity in normal and mutant maize endosperm during development. Plant Physiol. 47 : 623-628.
- Jeremias, K. (1962). Ber. Deut. Bot. Ges., 75 : 313-322.
- Jeremias, K. (1969). Sugar accumulation in vegetative plant parts during winter. Ber. Deut. Bot. Ges. 81 : 87.
- Jones, R.A. and Kaufman, P.B. (1975). Multiple forms of invertase in developing oat internodes. Plant Physiol., 55 : 114-119.
- Johnson, J.L. (1972). Glutamic acid as a synaptic transmitter in the nervous system. A review. Brain Res., 37 : 1-19.
- Johnston, J.R. (1985). Strain selection and improvement. In: "Microbiology of fermented foods". Vol. 2, Applied Sci. Publishers. pp. 271-292.
- Johnston, G.A.R. and Lloyd, H.J. (1967). Oxalyl coenzyme A synthetase and the neurotoxin β -N-oxalyl-L- α , β -D-diaminopropionate. Aust. J. Biol. Sci. 20 : 1241-1244.
- Jood, S., Mehta, U., Singh, R. and Bhat, C.M. (1985). Effect of processing on flatus producing factors in legumes. J. Agri. Food Chem., 33 : 268-271.
- Jorgensen, B.B. and Jorgensen, O.B. (1967). Inhibition of barley malt α -glucosidase by Tris (hydroxymethyl) methane and erythritol. Biochim. Biophys. Acta., 141 : 167-172.

- Kadota, M.S. (1987). Properties of lactose plasmid pLY 101 in Lactobacillus casei. Appl. Environ. Microbiol., 53 (12) : 2987-2991.
- Kaji, A. and Yoshihara, O. (1972). Purification and properties of α -galactosidase produced by Corticium rolfsii. Agri. Biol. Chem., 36 (8) : 1335-1342.
- Kakade, M.L. and Evans, R.J. (1965a). Growth inhibition of rats fed navy bean fractions. J. Agr. Food Chem., 13 : 450-452.
- Kakade, M.L. and Evans, R.J. (1965b). Nutritive value of navy beans (Phaseolus vulgaris). Brit. J. Nutr., 19 : 269-276.
- Kakade, M.L. and Evans, R.J. (1966). Effect of soaking and germination on the nutritive value of navy beans. J. Food Sci., 31 : 781-783.
- Kakade, M.L., Keahley, K.K., Whitehair, C.K. and Evans, R.J. (1965). Morphological changes in rats fed navy beans. Proc. Soc. Exptl. Biol. Med., 119 : 934-937.
- Kakade, M.L., Haffa, D.E. and Liener, I.E. (1973). Contribution of trypsin inhibitors to the deleterious effects of unheated soybean fed to rats. Journal of Nutrition, 103 : 772-778.
- Kamalakannan, V. and Motlag, D.B. (1982). Effect of Rhizopus oligosporus (NRRL-2710) fermentation on the trypsin inhibitor of black gram (Vigna mungo). Can. J. Microbiol., 28 : 54-57.
- Kamp, P.F. and Chakrabarty, A.M. (1979). In: "Plasmids of Medical Environmental and Commercial Importance" (K.N. Timmis and A. Puhler, Eds.), pp. 275-285. Elsevier/North Holland Biomedical Press, Amsterdam.
- Kanaya, K., Yasumoto, K. and Mitsuda, H. (1976). Pepsin inhibition by phytate contained in rice bran. Eryo To Shokuryo. 29 : 341.
- Kandler, O. (1967). In : "Harvesting the Sun". (A. S. Pietro, F.A. Greer, and T.J. Army, Eds.), pp. 131-152, Academic Press, New York.
- Kandler, O. and Herbert Hopf (1980). Occurrence, metabolism and function of oligosaccharides. In: "The Biochem of Plants" (Stumpf, P.K. and Conn, E.E. Eds.), Acad. Press Inc., New York, 3 : 221-270.
- Kandler, O. and Hopf, H. (1982). Oligosaccharides based on sucrose (Sucrosyl oligosaccharides). In: "Plant carbohydrates, - I - Intracellular carbohydrates". (Loewas, F.A. and Tanner, W. Eds.). Spring-Verlag, New York.

- Kandler, O., Dover, C. and Ziegler, P. (1979). Ber. Deut. Bot. Ges. 92 : 225.
- Kao, C. and Robinson, R.J. (1978). Nutritional aspects of fermented foods from chick pea, horsebean and soybean. Cereal Chem., 55 : 512.
- Kato, T. and Kubota, S. (1978). Properties of invertases in sugar storage tissues of citrus fruit and changes in their activities during maturation. Physiol. Plant., 42 : 67-72.
- Kaufman, P.B., Ghosheh, N.S., La Croix, J.D., Soni, S.L. and Ikuma, H. (1973). Regulation of invertase levels in Avena stem segments by Gibberellic acid, sucrose, glucose and fructose. Plant Physiol., 52 : 221-228.
- Kawamura, S. (1954). Studies on soybean carbohydrates, 4. Determination of oligosaccharides in soybeans. Nippon and Nogei Kagaku Kaishi. 28 : 851.
- Kawamura, G. (1967). Tech. Bull. Fac. Agr. Kagawa Univ. 18 : 117-137. cf. Perl, M., Pinter-Szakacs, M., Kovago, A. and Petroczy, J. (1984). Gas liquid chromatographic determination of the raffinose family of oligosaccharides and their metabolites present in soybeans. J. Chrom., 295 : 433-444.
- Kawamura, S. and Tada, M. (1967). Isolation and determination of sugars from the cotyledon, hull and hypocotyle of soybeans by carbon column chromatography. Tech. Bull. Fac. Agric. Kagawa Uni. Kagawa-prof., Japan, 18 : 138-141.
- Kawamura, S., Kasai, T. and Tanusi, S. (1976). Purification and properties of α -galactosidase from E. coli subsp. Communion. IAN 1272. Agric. Biol. Chem., 40 : 647-648.
- Kawasaki, H., Tone, N. and Tonomura, K. (1981). Plasmid-determined dehaloacetates in Moraxella species. Agric. Biol. Chem., 45, 29.
- Kelemen, M.V. and Whelan, W.J. (1966). Inhibition of Glucosidases and Galactosidases by polyols. Arch. Biochem. Biophys., 117 : 423-428.
- Kempler, G.M. and McKay, L.L. (1979). Characterization of plasmid DNA in S. lactis subsp. diacetylactis : evidence for plasmid linked citrate utilization. Appl. Environ. Microbiol., 37 : 316-323.
- Kepes, A. (1960). Studies cinetiques sur la Galactoside permease D' Escherichia coli. Biochim. Biophys. Acta., 40 : 70.
- Kepes, A. (1963). Kinetics of induced enzyme synthesis. Determination of the mean life of galactosidase - specific messenger RNA. Biochim. Biophys. Acta., 76 : 293-309.

- Kessler, A. (1953). Lathyrismus. Monatsschr. Psychiatr. Neurol., 113 : 345-376.
- Kew, O.M. and Douglas, H.C. (1976). Genetic co-regulation of galactose and melibiose utilisation in *Saccharomyces*. J. Bact., 125 : 33-41.
- Khayambashi, H. and Lyman, R.L. (1966). Stimulation of perfused pancreas secretion by plasma of rat fed soybean trypsin inhibitor. Fed. Proc., 25 : 676.
- Kim, W.J., Smit, C.J.B., Nakayama, T.O.M. (1973). The removal of oligosaccharides from soybean. Food Sci. Technol., 6 : 201-204.
- King, R.W. and Zeevart, J.A.D. (1974). Enhancement of phloem exudation from cut petioles by chelating agents. Plant Physiol., 53 : 96-103.
- King, T.P., Pusztai, A. and Clarke, E.M.W. (1980). Kidney bean (*Phaseolus vulgaris*) lectin-induced lesions in rat small intestine. 1. Light microscopic studies. J. Comp. Pathol., 90 : 585-595.
- King, T.P., Pusztai, A. and Clarke, E.M.W. (1982). Kidney bean (*Phaseolus vulgaris*) lectin-induced lesions in rat small intestine. 3. Ultrastructural Studies. J. Comp. Pathol., 92 : 357-373.
- Kiuchi, K., Ohta, T., Otoh, H., Takabayashi, T. and Ebine, H. (1976). Studies on lipids of natto. J. Agric. Food Chem., 24 : 404.
- Kline, L. and Sugihara, T.F. (1971). Micro-organisms of the San Francisco sour dough bread process. II. Isolation and characterization of undescribed species responsible for souring activity. Applied Microbiol., 21 : 459-465.
- Klipston, F.A. and Lipton, S.D. (1970). Intestinal bacteria of folate deficient mice. Am. J. Clin. Nutr., 23 : 132-140.
- Klis, F.M. and Akster, R.A. (1974). Acid cell wall invertases in *Convolvulus callus*. Phytochemistry. 13 : 1737-1740.
- Knuckles, B.E., Kuzmicky, D.D. and Betschart, A.A. (1985). Effect of phytate and partially hydrolyzed phytate on *in vitro* protein digestibility. J. Food Sci., 50 : 1080.
- Knudson, G.B. (1986). Photoreactivation of ultraviolet-irradiated plasmid bearing and plasmid-free strains of *Bacillus anthracis*. Appl. Environ. Microbiol. pp. 444-449.
- Ko, S.D. (1972). Tape fermentation. Applied Microbiology. 23 : 976-978.
- Kobayashi, H. and Suzuki, H. (1975). Kinetic studies of mold α -galactosidase on PNPG hydrolysis. Biotechnol. Bioengg. 17 : 1455-1465.

- Kodama, K. and Yoshizawa, K. (1977). Sake : In "Economic Microbiology", Vol.1, pp. 432-475. (Rose, A.H. Ed.) Academic Press, New York and London.
- Koijin, A.M. and Guggenheim, K. (1967). Effect of raw soybean on the composition of rat pancreas. Proc. Soc. Exp. Biol. Med., 126 : 65-67.
- Kokhor, S. and Chandran, B.M. (1986). Antinutritional factors in moth bean (Vigna acnitifolia) : Varietal differences and effect of methods of domestic processing and cooking. J. Food Sci., 51 (3) : 591.
- Koniju, A.M., Edelstein, S. and Guggenheim, K. (1972). Separation of a thyroid-active fraction from unheated soybean flour. J. Sci. Food Agri., 23 : 549.
- Koniju, A.M., Gershon, B. and Guggenheim, K. (1973). Further purification and mode of action of a goitrogenic material from soybean flour. J. Nutr., 103 : 378.
- Konishi, S., Kosugi, N., Kawasaki, H. and Tonomura, K. (1985). Cloning of a raf operon that mediates raf catabolism in E. coli. Agri. Biol. Chem., 49 (3) : 855-857.
- Koppel, J.L., Porter, C.J. and Crocker, B.F. (1953). Synthesis of enzymes (I) development of a system. J. Gen. Physiol. 37 : 271.
- Korytnyk, W. and Metzler, E. (1962). Formation of raffinose and stachyose in lima beans (Phaseolus lunatus). Nature. 195 : 616-617.
- Koser, S.A. (1923). In: "Handbook of practical bacteriology". (Mackie & McCartney, Eds.), Livingston Ltd., Edinburg, London.
- Kosugi, N., Okamoto, T., Yanase, H. and Tonomura, K. (1986). A cointegrate plasmid constructed in vivo between a plasmid that mediates raffinose catabolism in E. coli and an IncP-1 plasmid, R-68-45. Agri. Biol. Chem. 50 (1) : 209-212.
- Krause, W., Taeufel, K., Ruttloff, H. and Maune, R. (1968). Zur enzymatischen spaltung and Resorption von di and höheren oligosacchariden im Intestinaltrakt von Tier and Mensch. Ernahrungsforschung. 13 : 161-169.
- Ku, S., Wei, L.S., Steinberg, M.P., Nelson, A.I. and Hymowitz, T. (1976). Extraction of oligosaccharides during cooking of whole soybeans. J. Food Sci., 41 : 361-364.
- Kulp, W.L. and White, V. (1932). A modified medium for plating L. acidophilus. Science. 76 : 17-18.
- Kunitaro, A. (1961). Nutritional research on fermented soybean products. Prog. in meeting protein needs of infants and pre-school children. Nat. Acad. Sci., Nat. Res. Coun. Publ. No. 843, p. 269.

- Kuo, T.M., Van Middlesworth, J.F. and Wolf, W.J. (1988). content of raffinose oligosaccharides and sucrose in various plant seeds. *J. Agric. Food Chem.*, 36 : 32-36.
- Kuppuswami, S., Srinivasan, M. and Subramanyan, V. (1958). *Proteins in Food*. p. 45. Indian Council of Medical Research, New Delhi.
- Lakshmanan, J. and Padmanaban, G. (1974a) Effect of beta-N-oxalyl-L-alpha beta-diaminopropionic acid on glutamate uptake by synaptosomes. *Nature*, 249 : 469-471.
- Lakshmanan, J. and Padmanaban, G. (1974b). Effect of some "strong" excitants of central neurones on the uptake of L-Glutamate and L-aspartate by synaptosomes. *Biochem. Biophys. Res. Commun.*, 58, 690-698.
- Lakshminarayana, H., Nambudripad, V.K.N., Lakshmi, N.V., Anantaramaiah, S.N. and Iya, K.K. (1952). Studies on dahi. III. Taxonomy of lactic acid bacteria of dahi. *Ind. J. Vet. Sci.*, 22 : 27-49.
- Lampen, J.O. (1971). In. P.D. Boyer (Ed.). *Yeast & Neurospora Invertases. The Enzymes*. 3rd Edn. Vol.5, Academic Press, New York, 291-305.
- Larcher, W., Heber, U. and Santarius, K.A. (1973). In "Temperature and Life" (H. Frecht, Ed.), pp. 195-292, Springer-Verlag, Berlin and New York.
- Largitte, F.C., Klein-Eude, D. and Lambert, C. (1981). Developmental changes of radish β -fructofuranosidase isozymes in far-red illumination and etiolated seedlings. *Plant Sci. Lett.*, 21 : 281-288.
- Larson, A.D. and Kallio, R.E. (1954). Purification and properties of bacterial urease. *J. Bacteriol.*, 68 : 67-73.
- Laseer, R.B., Bond, J.H. and Levitt, M.D. (1975). The role of intestinal gas in functional abdominal pain. *New Eng. J. Med.* 293 : 524-526.
- Lato, M., Brunelli, B., Ciuffini, G. and Mezzetti, T. (1968). Analysis of carbohydrates in biological fluids by means of thin layer chromatography. *J. Chromatogr.*, 36 : 191.
- Lautrop, H., Ossokov, I. and Garrslev, K. (1971). Hydrogen sulphide producing variants of *E. coli*. *Acta Path. Microbiol. Scand.* 79 : 641-650.
- Lay, M.M.G. and Fields, M.L. (1981). Nutritive value of germinated corn and corn fermented after germination. *J. Food Sci.*, 46 : 1069.
- Lazo, P.S., Cochra, A.G. and Gascon, S. (1977). α -Galactosidase from *Saccharomyces carlsbergensis*. Cellular localisation and purification of the external enzyme. *Eur. J. Biochem.* 77 : 375-382.

- Lazo, P.S., Ochoa, A.G., and Gascon, S. (1978). α -Galactosidase (melibiose) from Saccharomyces carlsbergensis. Structural and kinetic properties. Arch. Biochem. Biophys., 191 : 316-324.
- Lazo, P.S., Florez, I.G., Ochoa, A.G. and Gascon, S. (1981). Induction and catabolite repression of α -galactosidase from Saccharomyces carlsbergensis. Cell Mol. Biol. 27 (6) : 615-622.
- LeBlanc, D.J., Crow, V.L. and Lee, L.N. (1980). Plasmid mediated carbohydrate catabolite enzymes among strains of Streptococcus lactis p. 31-41. In: (C. Struttard and Rooze, K.R. Eds.) Plasmids and Transposons : environmental effects and maintenance mechanisms. Academic Press Inc., New York.
- Lee, Y.C. and Wacek, V. (1970). Galactosidases from Aspergillus niger. Arch. Biochem. Biophys. 138 : 264-271.
- Legler, G. and Herrchen, M. (1981) FEBS Lett., 135 : 139-144.
- Lehmann, K.L. and Mc Ilroy, R.J. (1967). Soluble carbohydrates in the seeds of tropical pasture species. Nature. 216 : 1044-1045.
- Leitch, I. (1964) Calcium and phosphorus. In "Nutrition - A comprehensive treatise", Vol.I. (Eds. Beaton, G.H. and McHenry, E.W.), pp. 261-307, Academic Press, New York.
- Lester, G. and Bonner, D.M. (1957). Genetic control of raffinose utilisation in Escherichia coli. J. Bacteriol., 73 : 544-552.
- Leucke (1978). The effect of restricted dietary intake on the antibody mediated response of the zinc deficient A/J mouse. J. Nutr., 109 : 881.
- Levitt, J. (1962). J. Theor. Biol. 2 : 355.
- Levitt, J. (1972).. In "Responses of plants to Environmental stress". Academic Press, New York.
- Lewis, Y.S. and Johar, D.S. (1953). Microorganisms in fermenting grain mashes used for food preparation. Bull. C.F.T.R. I., 2 : 288.
- Li, Yu-Teh, and Shetlar, M.R. (1964). Occurrence of α -galactosidase in higher fungi : Isolation of α -galactosidase from Calvatia cyathiformis. Arch. Biochem. Biophys. 109 : 523-530.
- Li, B.W. and Schahmann, P.J. (1980). Gas liquid chromatographic analysis of sugars in ready-to-eat breakfast cereals. J. Food Sci., 45 : 138-141.

- Li, Y. T., Li, S.C., and Shetlar, M.K. (1963). α -galactosidase⁵⁵⁶
from Diplococcus pneumoniae. Arch. Biochem. Biophys.,
103 : 436-442.
- Liem, I.T.H., Steinkraus, K.H. and Cronk, T.C. (1977).
Production of vitamin B-12 in Tempeh, a fermented soybean
food. Appl. Environ. Microbiol., 34 : 773-776.
- Liener, I.E. (1962). Toxic factors in edible legumes and their
elimination. Am. J. Clin. Nutr., 2 : 281-298.
- Liener, I.E. (1969). In : "Toxic constituents of plant food-
stuffs". (Ed. Liener, I.E.), pp. 1-5, Academic Press,
New York.
- Liener, I.E. (1973). Antitryptic and other antinutritional
factors in legumes. In: FAO/WHO, pp. 239.
- Liener, I.E. (1974). Phytohemagglutinins : their nutritional
significance. J. Agric. Food Chem., 22 : 17-22.
- Liener, I.E. (1975). Effects of antinutritional and toxic
factors on the quality and utilization of legume proteins.
In: "Protein Nutritional Quality of Foods and Feeds",
Vol.1, Part-2 (Friedman, M. Ed.), pp. 523-550, Marcel
Decker Inc., New York.
- Liener, I.E. (1976a). Legume toxins in relation to protein
digestibility - a review. J. Food Sci., 41 : 1076.
- Liener, I.E. (1976b). Phytohemagglutinins (phytolectins).
Ann. Rev. Plant Physiol. 27 : 291-319.
- Liener, I.E. (1980). In: "Toxic constituents of plant food-
stuffs". (Ed. Liener, I.E.), Academic Press, New York.
- Liener, I.E. (1986). Nutritional significance of lectins in the
diet. In "The Lectins : properties, functions and
applications in Biology and medicine. (Liener, I.E.,
Sharon, N., and Goldstein, I.J., eds.). pp. 527-552,
Academic Press, New York.
- Liener, I.E. and Kakade, M.L. (1969). Protease inhibitors.
In "Toxic constituents of plant food stuffs", (Ed. Liener,
I.E.). Academic Press, New York.
- Liener, I.E. and Kakade, M. (1980). Protease inhibitors. In:
"Toxic constituents of plant foodstuffs", 2nd ed.
(Liener, I.E. Ed.), pp. 7-57, Academic Press, New York.
- Liener, I.E. and Pallansch, M.J. (1952). Purification of toxic
substance from defatted soybean flour. J. Biol. Chem.,
197 : 29-36.

- Liener, I.E., Deuel, Jr. H.J. and Fevold, H.L. (1949). The effect of supplemental methionine on the nutritive value of diets containing concentrates of soybean trypsin inhibitor. *J. Nutr.* 39 : 325.
- Lilian, U., Thompson and Serraino, H.R. (1985). Effect of germination on phytic acid, protein and fat content of rape seed. *J. Food Sci.* 50 : 1200.
- Liljestrom, P.L. and Liljestrom, P. (1987). Nucleotide sequence of the mel A gene, coding for α -galactosidase in *Escherichia coli* K-12. *Nucleic Acid Research.* 15 (5) : 2213-2220.
- Lindergren, G.C., Spieg mal, S. and Lindergren, G. (1944). Mendelian inheritance of adaptative enzymes in yeast. *Proc. Natn. Acad. Sci. U.S.A.*, 30 : 346-350.
- Linden, J.C. (1982). Immobilized alpha-D-galactosidase in the sugar beet industry. *Enzyme Microbiol. Technol.*, 4 : 130-136.
- Lopez, Y., Gordon, D.T. and Fields, M.L. (1983). Release of phosphorous from phytate by natural lactic acid fermentation. *J. Food Sci.*, 48, 953.
- Lorence-Kubis, I., Morawiecka, B., Wieczorek, E., Wisniowska, J., Wierzba, E., Ferens, M. and Bog-Hansen, T.C. (1981). Lectins : Biology, Biochemistry and Clinical Biochemistry, (Bog-Hansen, T.C. Ed.), Vol.1, p. 169, Watter de Gruyter Berlin.
- Loupou, E.I., Polyakova, L.A., Goryachenkova, E.V., Kochkina, I.M. and Tikhonenko, A.S. (1983). *Dokl. ANSSR.*, 269, 999-1002. Cf. Braunstein, A.E. and Goryachenkova, E.V. (1984). The β -replacement specific pyridoxal-p-dependent lyases. *Adv. Enzymol.*, 56, 1.
- Lowry, O.H., Rosenbergh, N.R., Farr, A.L. and Randall, R.J. (1951). Protein measurement with folin-phenol reagent. *J. Biol. Chem.*, 193 : 265-275.
- Lu, So-Yan, Kim, H., Eskin, N.A.M., Latta, M. and Johnson, S. (1987). Changes in phytase activity and phytate during the germination of six Canola cultivars. *J. Food Sci.*, 52 (1).
- Lyne, R.L. and Rees, T. (1971). Invertase and sugar content during differentiation of roots of *Pisum sativum*. *Phytochemistry.* 10 : 2593-2599.
- Lynn, K.R. (1967). Some properties and purifications of urease. *Biochim. Biophys. Acta.*, 146 : 205-218.
- Mackie and McCartney, (1956). Handbook of practical bacteriology. 9th Edn. Livingstone Ltd., Edinburg, London.

- 558
- Madar, Z. and Klein, M. (1979). Composition and histological observations of enlarged pancreas of chicks adapted to raw soybean meal diets. *Nutr. Metab.*, 23 : 117.
- Madhavsingh, M. and Krikorian, A.D. (1982). Inhibition of trypsin activity in vitro by phytate. *J. Agri. Food Chemistry*. 32, 799.
- Magasanik, B. (1961). Catabolite repression. *Cold Spring Harb. Symp. Quant. Biol.*, 26 : 249-256.
- Magalhaes, M. and Veras, A. (1977). Properties of p PE1572 (Hys-Raf), a plasmid governing hydrogen production and raffinose fermentation in Escherichia coli. *J. of Gen. Microbiol.*, 99 : 445-447.
- Mager, J.A., Razin, A. and Hershko, (1969). Favism. In: (I.E. Liener, Ed.). "Toxic constituents of plant food-stuffs". Academic Press, New York, p. 143.
- Maheshwari, R., Balasubramniyam, P.V. and Palanivelu, P. (1983). Distinctive behaviour of invertase in a thermophilic fungus Thermomyces lanuginosus. *Arch. Microbiol.* 134 : 255-260.
- Malathi, K., Padmanaban, G., Rao, S.L.N. and Sarma, P.S. (1967). Studies on the biosynthesis of β -N-oxalyl-L- α , β -diaminopropionic acid, the Lathyrus sativus neurotoxin. *Biochim. Biophys. Acta.*, 141 : 71-78.
- Malathi, K., Padmanaban, G. and Sarma, P.S. (1968). Oxalylation of some amino acids by an enzyme preparation from Lathyrus sativus. *Indian J. Biochem. Biophys.* 5 : 184.
- Malathi, K., Padmanaban, G. and Sarma, P.S. (1970). Biosynthesis of β -N-oxalyl-L- α , β -diaminopropionic acid, the Lathyrus sativus neurotoxin. *Phytochemistry*. 9 : 1603-1610.
- Malhotra, O.P. and Dey, P.M. (1964). *Biochem. Z.*, 340 : 565.
cf: Dey, P.M. and Pridham, J.B. (1972). Biochemistry of α -galactosidases. *Adv. Enzymol.*, 36 : 91.
- Malhotra, O.P. and Singh, H. (1976). Enzymic hydrolysis of α -galactosides. *Ind. J. Biophys. Biochem.*, 13 : 208-212.
- Mandal, N.C. and Biswas, B.B. (1970). Metabolism of inositol phosphatases. I. Phytase synthesis during germination in cotyledons of mung bean, Phaseolus aureus. *Plant Physiol.*, 45 : 4-7.
- Mandal, N.C., Burman, S. and Biswas, B.B. (1972). Isolation, purification and characterisation of phytase from germinating mung beans. *Phytochemistry*. 11 : 495-502.
- Mandels, G.R. (1956). Synthesis and secretion of invertase in relation to growth of Myrothecium verrucaria. *J. Bact.*, 71 : 684-688.

- Mandel, M. and Higa, A. (1970). Calcium dependent bacteriophage DNA infection. *J. Mol. Biol.*, 52 : 154.
- Maniatis, T., Fritsch, E.F. and Sambrook, J. (1982). *Molecular Cloning : a laboratory Manual*. Cold Spring Harbor Laboratory, New York.
- Mapes, C.A. and Sweeley, C.C. (1972). *FEBS Lett.* 25 : 279-281.
- Mapes, C.A. and Sweeley, C.C. (1973). Preparation and properties of an affinity column adsorbent for differentiation of multiple forms of α -galactosidase activity. *J. Biol. Chem.*, 248 (7) : 2461-2470.
- Maria, J.S. (1962). *Saccharomyces hienipiensis*, a new melibiose fermenting yeast, unable to assimilate raffinose. *J. Gen. Microbiol.*, 28 : 375-384.
- Marickar, Y. and Pattabiraman, T.N. (1988). Changes in protease inhibitor activity in plant seeds on heat processing. *J. Food Sci. Technol.*, 25 (2) : 59-62.
- Martinez, J.P., Elorza, M.V., Gozalbo, D. and Sentandreu, R. (1982) Regulation of α -galactosidase synthesis in *Saccharomyces cerevisiae* and effect of cerulenin on the secretion of this enzyme. *Biochim. Biophys. Acta.*, 716 : 158-168.
- Maruyama, Y. and Onodera, K. (1979). Production and some properties of invertase isozymes of *Fusarium oxysporum*. *J. Gen. Appl. Microbiol.*, 25 : 361-366.
- Mason, B.S. and Slover, H.T. (1971). A gas chromatographic method for the determination of sugars in foods. *J. Agric. Food Chem.*, 19 : 551.
- Matsumoto, H., Okamura, K. and Takahashi, E. (1976). *Plant Cell Physiol.* 17 : 867-874.
- Mayer, A.M. (1958). The breakdown of phytic acid and phytase activity in germinating lettuce seeds. *Enzymologia.* 19 : 1-8.
- Mayer, J.S. and Beutler, E. (1977). α -Galactosidase-A from human placenta : stability and subunit size. *Biochem. Biophys. Acta.*, 484 : 408-416.
- McCance, R.A. and Widdowson, E.M. (1946). *Med. Res. Council (Brit) Spec-Rept. Ser.* 235, cf. Swaminathan, M. (1967). Availability of plant proteins. In newer methods of nutritional Biochemistry. (Ed. Albanese, A.A.), Vol.III, 197-241.

- McCleary, B.V. and Matheson, N.K. (1974). α -D-galactosidase activity and galactomannan and galactosylsucrose. Oligosaccharide depletion in germinating legume seeds. *Phytochemistry*. 13 : 1747-1757.
- Meineertz, F. (1953). Zur etiologie und pathogenese des Lathyrismus. *Monatsschr. Psychiatr. Neurol.*, 126 : 386-393.
- Meister, A., Levintow, L., Greenfield, R.E. and Abendschein, P.A. (1955) Hydrolysis and transfer reactions catalysed by W-amidase preparations. *J. Biol. Chem.*, 215 : 441-460.
- Mehta, T. (1972). Studies on a neurotoxin from Lathyrus sativus. Ph.D. Thesis, University of Illinois, Urbana, IL., U.S.A.
- Mehta, T., Hsu, A.F. and Haskell, B.E. (1972). Specificity of neurotoxin from L. sativus as an amino acid antagonist. *Biochemistry*. 11 : 4053-4063.
- Mehta, T., Zarghani, N.S., Cusick, P.K., Parker, A.J. and Haskell, B.E. (1976). Tissue distribution and metabolism of the L. sativus neurotoxin, L-3-oxalyl amino-2-amino-propionic acid in the squirrel monkey. *J. Neurochem.*, 27 : 1327-1331.
- Mehta, T., Zarghami, N.S., Parker, A.J., Cusick, P.K. and Haskell, B.E. (1979). Neurotoxicity of orally or intraperitoneally administered L-3-oxalylamino-2-amino-propionic acid in the mouse. *Toxicol. Appl. Pharmacol.*, 48 : 1-9.
- Mehta, T., Parker, A.J., Cusick, P.K., Zarghami, N.S. and Haskell, B.E. (1983). The Lathyrus sativus neurotoxin : Resistance of the squirrel monkey to prolonged, oral high doses. *Toxicology and Applied Pharmacology*, 69 : 480-484.
- Metzenberg, R.L. (1962). A gene affecting the repression of invertase and trehalose in Neurospora. *Arch. Biochem. Biophys.*, 96 : 468-474.
- Meyer, S. and Calloway, D.H. (1977). Gastrointestinal response to cat and wheat milling fractions in older women. *Cereal Chem.*, 54 : 110-119.
- Meyer, J. and Matile, P.H. (1974). *Biochem. Physiol. Pflanz.*, 166 : 377-385. cf. Dey, P.M. and del Campillo, E. (1984) Biochemistry of multiple forms of glycosidases in plants. *Adv. Enzymol.*, 56 : 141.
- Meyer, J. and Matile, P.H. (1975). Subcellular distribution of yeast invertase isoenzymes. *Arch. Microbiol.*, 103 : 51-55.
- Miles, E.W. (1970). The B Protein of Escherichia coli Tryptophan synthetase. *J. Biol. Chem.*, 245 : 6016-6025.

- Misra, B.K. and Barat, G.K. (1981). Effect of micronutrients on B-N-oxalyl-L- α , β -diaminopropionic acid levels and its biosynthesis in Lathyrus sativus. J. Plant Nutr. 2 (6) : 997-1003.
- Misra, B.K., Singh, S.P. and Barat, G.K. (1981). Ox-Dapro : the Lathyrus sativus neurotoxin. Qual Plant Foods Hum. Nutr., 30 : 259-270.
- Mital, B.K. and Steinkraus, K.H. (1975). Utilization of oligo-saccharides by lactic acid bacteria during fermentation of soymilk. J. Food Sci., 40 : 114-118.
- Mital, B.K., Shallenberger, R.S. and Steinkraus, K.H. (1973). α -Galactosidase activity of lactobacilli. Appl. Microbiol. 26 (5) : 783-788.
- Mital, B.K., Steinkraus, K.H. and Naylor, H.B. (1974). Growth of lactic acid bacteria in soymilk. J. Food Sci., 39 : 1018-1022.
- Mitsubishi, S., Harada, K. and Kamdea, M. (1961). Elimination of transmissible drug resistance by treatment with acriflavin. Nature, London. 132 : 947.
- Mitsunishi, B., Morinuma, M., Kono, K. and Oshima, H. (1963). Elimination of drug resistance of S. aureus by treatment with acriflavine. J. Bact. 86 : 162-164.
- Mitsutomi, M., Uchida, Y. and Ohtakara, A. (1985). Immobilization of thermostable α -galactosidase from Pycnoparus cinnabarinus on chitin and some properties of immobilized enzyme. J. Ferm. Technol., 63 (4) : 325-329.
- Mohan, V.S., Nagarajan, V. and Gopalan, C. (1966). Simple practical procedure for the removal of toxic factors in L. sativus. Indian J. Med. Res., 54 : 410-414.
- Molnar-Ferl, I. and Szakacs, M. (1981). Gas liquid chromatographic separation and determination of the components of Mellitol syrup. J. Chromatogr., 216 : 223.
- Monod, J. (1947). The phenomenon of enzymatic adaptation. Growth. 11 : 223-229.
- Monod, J., Cohen, Bazire, G. and Cohn, M. (1951). Sur la biosynthese de la B-galactosidase (lactase) chez Escherichia coli. La specificite de l'induction. Biochim. Biophys. Acta., 7 : 585-599.
- Montgomery, R.D. (1969). Cyanogens. In "Toxic constituents of plant food-stuffs", pp. 143-158. Ed. Liener, I.E. Academic Press, New York.
- Mooli, F.R., De Graff, F.K. and Van Embden, J.D.A. (1979). Cloning, mapping and expression of the genetic ~~data~~ determinant that encodes for the K88 antigen. Nucleic acids Research. 6 : 849.

- Moreno, F., Ochoa, A.G., Gascon, S. and Villanueva, J.R. (1975). Molecular forms of yeast invertase. *Eur. J. Biochem.*, 50 : 571-579.
- Morgan, R.G.H., Crass, R.A. and Cates, P.S. (1986). Dose effects of raw soybean flour on pancreatic growth. In: "Nutritional and Toxicological significance of enzyme inhibitors in Foods" (Ed. M. Friedman), p. 81, Plenum Press, New York.
- Morino, Y. and Snell, E.E. (1967). A kinetic study of the reaction mechanism of tryptophanase-catalyzed reactions. *J. Biol. Chem.*, 242 : 2793-2799.
- Mosley, G.A., Card, G.L. and Koestra, W.L. (1976). Effect of calcium and anaerobiosis on the thermostability of Bacillus stearothermophilus. *Can. J. Microbiol.*, 22 : 468-474.
- Mukherjee, S.K., Albury, M.N., Pederson, C.S., Van Veen, A.G. and Steinkraus, K.H. (1965). Role of Leuconostoc mesenteroides in leavening the batter of idli, a fermented food of India. *Applied Microbiology*. 13 : 227-231.
- Murata, K., Ikehata, H. and Miyamoti, T. (1967). Studies on the nutritional value of tempeh. *Journal of Food Science*. 32 : 580-586.
- Murata, K., Ikehata, H. and Miyamoti, T. and Taguchi, F. (1968). Biosynthesis of B vitamins with Rhizopus oligosporus. *Journal of Vitaminology*. 14 : 191-197.
- Murata, K., Miyamoto, T., Kokufu, E. and Sanke, Y. (1970). Studies on the nutritional value of tempeh. III. Changes in biotin and folic acid contents during tempeh fermentation. *Journal of Vitaminology*. 16 : 281-284.
- Murti, V.V.S. and Seshadri, T.R. (1964). Toxic amino acids of plants. *Curr. Sci.*, 33 : 323-329.
- Murti, V.V.S., Seshadri, T.R. and Venkatasubramanian, T.A. (1964). Neurotoxic compounds of the seeds of L. sativus. *Phytochemistry*. 3 : 73-78.
- Mushawar, I.K. and Koeppe, R.E. (1973). Rat liver L-Diaminopropionate ammonia lyase. *J. Biol. Chem.*, 248 : 7407-7411.
- Myrback, K. (1960). In: P.D. Boyer, Lardy, H. and Myrback (Eds.) *The enzymes*, 2nd Edn., Vol.4, Academic Press, New York, pp. 379-396.
- Nagarajan, V., Mohan, V.S. and Gopalan, C. (1965). Toxic factors in Lathyrus sativus. *Indian J. Med. Res.*, 53 : 269.

- Nagarajan, V., Mohan, V.S. and Gopalan, C. (1966). Further studies on the toxic factors in Lathyrus sativus potentiation of toxic fraction from the seed by some amino acids. Indian J. Biochem., 3 : 130-131.
- Nagarajan, V. and Gopalan, C. (1968). Variation in the β neurotoxin β -(N)-oxalylamine content in Lathyrus sativus samples from Madhya Pradesh. Indian J. Med. Res., 56 : 95-99.
- Nakamura, H. and Tamura, Z. (1970). Gas chromatographic analysis of Disaccharides : I Analysis of disaccharides as TMS and TFA derivatives of corresponding alditols. Chem. Pharm. Bull. (Tokyo), 18 : 2314.
- Nath, H., Bakri, V.H., Sarles, W.B. and Elvehjem, C.A. (1948). Microorganisms in the cecal contents of rat fed various carbohydrates and fats. J. Bact. 48 : 783-793.
- Negoro, S., Shinagawa, H., Nakata, A., Kinoshita, A., Hatozaki, T. and Okada, H. (1980). Plasmid control of 6-amino-hexanoic acid cyclic dimer degradation enzymes of Flavobacterium sp. K.172. J. Bact., 143 : 238-245.
- Nelson, T.S., Shieh, T.R., Wodzinski, R.J. and Ware, J.H. (1968). The availability of phytate phosphorus in soyabean meal before and after treatment with a mold phytase. Poult. Sci., 47 : 1842-1848.
- Neve, H., Geis, A. and Teuber, M. (1984). Conjugal transfer and characterization of bacteriocin plasmids in Group N (lactic acid) Streptococci. J. Bacteriol. 157 : 833-838.
- Neuberg, C. and Mandl, I. (1950). In: (J.B. Sumner, Ed.). "The enzymes". Vol. I, Part-I, Academic Press, New York, p. 527-550.
- Neumann, W.P. (1967). Purification and properties of yeast invertase. Biochemistry. 6 : 468-475.
- Neuman, N.P. and Lampen, J.O. (1969). The Glycoprotein structure of yeast invertase. Biochemistry, 8 : 3552-3556.
- Newton, W.A., Morino, Y. and Snell, E.E. (1965). Properties of crystalline Tryptophanase. J. Biol. Chem. 240 (3) : 1211-1218.
- Nigam, S.N. and Ressler, C. (1964). Biosynthesis in Vicia sativa (common vetch) of γ -glutamyl-B-cyanoalanine from ($-^{14}\text{C}$) serine and its relation to cyanide metabolism. Biochem. Biophys. Acta., 93 : 339-345.
- Nigam, S.N. and Ressler, C. (1966). Biosynthesis of 2,4-diaminobutyric acid from L-(^3H)-Homoserine and DL-($1-^{14}\text{C}$) aspartic acid in Lathyrus sylvestri. Biochemistry. 5 : 3426-3431.

- Nigam, V.N. and Giri, K.V. (1961). Sugar in Pulses. *Can. J. Biochem. Physiol.*, 39 : 1847-1853.
- Nikaido, H. and Hassid, W.Z. (1971). Biosynthesis of saccharides from Glycopyranosyl esters of Nucleoside pyrophosphates (Sugar nucleotides). *Adv. Carbohydr. Chem. Biochem.*, 26 : 351-483.
- Nisizawa, K. and Hashimoto, Y. (1970). In "The Carbohydrates : chemistry and Biochemistry". Vol. II A (W. Pigman and D. Horton, Eds.), Academic Press, New York, pp. 241-300.
- Nishizawa, M. and Maruyama, Y. (1979). Developmental regulation of invertase isozymes in Fusarium oxysporum. *J. Bacteriol.* 139 : 657-660.
- Nistan, Z. and Liener, I.E. (1976a). Studies of the digestibility and retention of nitrogen and amino acids in rats fed raw or heated soy flour. *J. Nutr.*, 106 : 292-299.
- Nistan, Z. and Liener, I.E. (1976b). Enzymic activities in the pancreas, digestive tract and feces of rats fed raw or heated soy flour. *J. Nutr.*, 106 : 300-305.
- Norris, J.R. and Ribbons, D.W. (1971). *Methods in Microbiology*. Vols. 5 and 6, Academic Press, London.
- Novick, R.P. (1969). Extra chromosomal inheritance in bacteria. *Bacteriological Reviews*. 33 : 210.
- Novick, R., Grass, A. and Edelman, I. (1980). Plasmid curing during the formation and regeneration of protoplasts in Staphylococcus aureus. In: "Plasmids and Transposons"-Environmental effects and Maintenance Mechanisms" (Eds. Strutterd, C. and Rozec, K.R.), Academic Press, New York, pp. 303.
- Novick, R.P., Clowes, R.C., Cohen, S.N., Curtiss, R., Datta, N. and Falkow, S. (1976). Uniform nomenclature for bacterial plasmids : a proposal. *Bact. Rev.*, 40 : 168-189.
- Nyako, K.O. (1977). Kenkey - a fermented staple in Ghana. Symposium on indigenous fermented foods. Bangkok, Thailand, November, 21-27.
- Oakenfull, D.G. (1981). Saponins in Foods - A review. *Food Chem.* 6 : 19.
- Oakenfull, D.G., Fenwick, D.F., Hood, R.L., Topping, D.L., Illman, R.F. and Storer, G.B. (1979). Effects of saponins on bile acids and plasma lipids in rat. *Brit. J. Nutr.*, 42 : 209.
- Oates, P.S. and Morgan, R.G.H. (1982). Pancreatic growth and cell turnover in the rat fed soya flour. *Am. J. Pathol.*, 108 : 217-224.

- Odunfa, S.A. (1981a). Microbiology and amine acid composition of 'ogiri' - a food condiment from fermented melon seeds. *Die Nahrung*, 25 : 811-816.
- Odunfa, S.A. (1981b). Microorganisms associated with fermentation of African locust bean during 'iru' preparation. *J. Plant Foods*, 2 : 245-250.
- Odunfa, S.A. (1982a). Biochemical changes during melon fermentation for 'Ogiri' production. *J. Plant Foods*, 4 : 111-116.
- Odunfa, S.A. (1982b). Carbohydrate changes in fermenting locust bean during 'iru' preparation. *J. Plant Foods*, 4 : 105-110.
- Odunfa, S.A. and Oyeyiola (1985). Microbiological study of the fermentation of 'Ugba', a Nigerian indigenous fermented food flavour. *J. Plant Foods*, 6 : 155-163.
- Ohtakara, A., Mitsutomi, M. and Uchida, Y. (1984). Purification and enzymatic properties of α -galactosidase from *Pycnoperus cinnabarinus*. *Agri. Biol. Chem.* 48 (5) : 1319-1327.
- Oishi, K. and Aida, K. (1972). Blood group substance degrading enzymes obtained from *Streptomyces* sp. Part-II. Purification and kinetic properties of α -galactosidase from *Streptomyces* 917. *Agri. Biol. Chem.* 36 : 578.
- Oishi, K. and Aida, K. (1976a). Some kinetic properties of α -D-galactosidase from *Streptomyces* 9917S₂. *Agri. Biol. Chem.* 40 (1) : 57-65.
- Oishi, K. and Aida, K. (1976b). Conversion of human blood group B and AB red blood cells to group O and A cells by *Streptomyces* enzyme. *Agri. Biol. Chem.* 40 (1) : 67-71.
- Okada, T., Ueyama, K., Niiya, S., Kanazawa, H., Futai, M. and Tsuchiya, T. (1981). Role of inducer exclusion in preferential utilisation of glucose over melibiose in Diauxic growth of *Escherichia coli*. *J. Bacteriol.*, 146 : 1030-1037.
- Okafor, N. (1975). Microbiology of Nigerian Palm wine with particular reference to bacteria. *J. Appl. Bacteriol.*, 38 : 81-88.
- Okafor, N. (1977). Microorganisms associated with cassava fermentation for gari production. *J. Appl. Bacteriol.*, 42 : 279-284.
- Old, J.M., Ward, R.H.T., Petrov, M., Karagozlu, F., Modell, B. and Weatherall, D.J. (1982). First trimester diagnosis for haemoglobinopathies : A report of 3 cases. *Lancet*, 2 : 1413-16.

- Old, R.W. and Primrose, S.B. (1986). Principles of Gene Manipulation - an introduction to genetic engineering. 3rd Edition. (Carr, N.G., Ingraham, J.L. and Rittenberg, S.C. Eds.), Blackwell Scientific Publications, New York.
- Olney, J.W. (1980). Excitotoxic mechanisms of neurotoxicity. In: Experimental and clinical neurotoxicology. (Spencer, P.S. and Schaumburg, H.H., Eds.), pp. 272-294. Williams & Wilkins, Baltimore.
- Olney, J.W., Ho, O.L. and Rhee, V. (1971). Cytotoxic effects of acidic and sulphur containing amino acids on the infant mouse CNS. *Exp. Brain Res.*, 14 : 61-76.
- Olney, J.W., Rhee, V. and Ho, O.L. (1974). Kainic acid - a powerful neurotoxic analogue of glutamate. *Brain Res.*, 77 : 507-512.
- Olney, J.W., Misra, C.H. and Vesa, R. (1976). Brain and retinal damage from lathyrus excitotoxin, β -N-oxalyl-L- α , β -diaminopropionic acid. *Nature*, 264 : 659.
- Ologhobo, A.D. and Fetuga, B.L. (1983). Trypsin inhibitor activity in some Lima beans (*Phaseolus lunatus*) varieties as affected by different processing methods. *Nutr. Reports International*. 27 (1) : 28.
- Ologhobo, A.D. and Fetuga, B.L. (1984). The effect of processing on trypsin inhibitor, hemagglutinin, tannic acid and phytic acid contents of seeds of ten cow pea varieties. *J. Food Process. Preserv.* 8 (1) : 31-39.
- Ologhobo, A.D. and Fetuga, B.L. (1986). Changes in carbohydrate contents of germinating cowpea seeds. *Food Chem.* 20 : 117-125.
- Olson, A.C., Beckner, R., Miers, J.C., Gumbmann, M.R. and Wagner, J.R. (1975). Problems in digestibility of dry beans. In: "Protein Nutritional Quality of Foods and Feeds". Part-2, M. Friedman (Ed.), Marcel Dekker, New York, pp.551.
- Olson, A.C., Gray, G.M., Gumbmann, M.R., Sell, C.R. and Wagner, J.R. (1981). Flatus causing factors in legumes. In: "Antinutritients and Natural Toxicants in Foods". (R.L. Ory, Ed.), Food and Nutrition Press, Inc., Westport, CT. Chapter 15, pp. 275-294.
- Olson, A.C., Gray, G.M., Gumbmann, M.R. and Wagner, J.R. (1982). Nutrient composition of acid digestive response to whole and extracted dry beans. *J. Agri. Food Chem.* 30 (1) : 26-32.
- Oomen, H.A.P.C. (1961). The Nutrition situation in Western New Guinea. *Trop. Geograph. Med.* 13 : 321. cf: Ferro-luzzi, A., Norgaard, N.G., Durnin, J.W.G.A., Food intake, its relationship to body weight and age, and its apparent nutritional adequacy in New Guinean children. *Am. J. Clin. Nutr.*, 28 : 1443-1453.

- Oomen, H.A.P.C. (1970). Inter-relationship of the human intestinal flora and protein utilization. *Proc. Soc. Nutr.*, 29 : 197-205.
- Oomen, H.A.P.C. (1972). Possible significance of the human intestinal flora in protein nutrition. In: "Perspectives in Nutrition". pp. 42-47, (Ed. Rajalakshmi, R.), M.S. University of Baroda, Baroda, India.
- Onodera, K. and Maruyama, Y. (1979) *J. Gen. Appl. Microbiol.*, 25 : 335-337.
- Orberg, P.K. and Sandine, W.E. (1984). Common occurrence of plasmid DNA and vancomycin resistance in Leuconostoc spp. *Appl. Environ. Microbiol.* 48 : 1129-1133.
- Orillo, C.A., Sizon, A.C., Luis, M. and Pederson, C.S. (1969). Fermentation of Philippine vegetable blends. *Appl. Microbiol.*, 17 : 10-13.
- Orskov, I. and Orskov, F. (1975). Plasmid determined H₂S character in Escherichia coli and its relation to plasmid carried raffinose fermentation and tetracycline resistance characters. *J. Gen. Microbiol.*, 77 : 487-499.
- Osborne, T.B. and Mendel, L.B. (1917). The use of soybeans as food. *J. Biol. Chem.* 32 : 369-387.
- O'Sullivan and Daly (1982). *J. Food Sci. and Technol.*, 6 : 206.
- Ouchterlony, O. (1967). Immunodiffusion and immunoelectrophoresis. In: "Handbook of Experimental Immunology", pp. 655-706. (Ed. D.M. Weir), Oxford Blackwell Scientific Publications.
- Ovodov, Yu, S. and Evtushenko, E.V. (1967). *J. Chromatogr.*, 31 : 527.
- Ovodov, Yu, S., Evtushenko, E.V., Vaskovsky, V.M., Ovodova, R.G. and Solov'eva, T.F. (1967). Thin layer chromatography of ~~the~~ carbohydrates. *J. Chromatogra.* 26 : 111-115.
- Padhye, V.W. and Salunkhe, D.K. (1978). Biochemical studies on black gram (Phaseolus mungo L.). III. Fermentation of the black gram and rice blend and its influence on the in vitro digestibility of the proteins. *J. Food Biochem.*, 2 : 327.
- Padmanaban, G. (1980). Lathrogens. In "Toxic constituents of plant foodstuffs". Second Edition. (Liener, I.E. Ed.), pp. 239-263. Academic Press, New York.
- Palmer, R., McIntosh, A. and Puztai, A. (1973) The nutritional evaluation of kidney beans (P. vulgaris). The effect on nutritional value of seed germination and changes in ~~try~~ trypsin inhibitor content. *J. Sci. Food Agr.*, 24 : 937-944.

- Panda, N.C., Mitra, A. and Kedary, S. (1972). Experimental lathyrism in chicks. *Indian J. Anim. Sci.*, 42 : 949-951.
- Parker, A.J., Mehta, T., Zarghami, N.S., Cusick, P.K. and Haskell, B.E. (1979). Acute neurotoxicity of the Lathyrus sativus neurotoxin, L-3-oxalylamino-2-aminopropionic acid in the squirrel monkey. *Toxicol. Appl. Pharmacol.*, 47 : 135-144.
- Passios, C.S. and Demopoulos, T. (1962). Human lathyrism, a clinical and skeletal study. *Clin. Orthopel.*, 23 : 236.
- Patwardhan, V.N. (1952). Nutrition in India, 1st Edition. Published by Indian Journal of Medical Science, Bombay-IV, India.
- Patwardhan, V.N. (1961). In: "Nutrition in India", IIInd edition, Published by Indian Journal of Medical Science, Bombay-IV, pp. 429,
- Pazur, J.H., Sadaksharaswamy, M. and Meidell, G.E. (1962). The metabolism of oligosaccharides in germinating soybeans - Glycine max. *Arch. Biochem. Biophys.* 99 : 78-85.
- Pearson, S. and Nunn, N.B. (1981). The neurolathrogen, B-N-Oxalyl-L-alpha, beta-diaminopropionic acid, is a potent agonist at "glutamate preferring" receptors in the frog spinal cord. *Brain Res.*, 206 : 178-182.
- Pederson, C.S. and Albury, M.N. (1950). Effect of temperature upon bacteriological and chemical changes in fermenting cucumbers. N.Y. State Agr. Expt. Sta. Geneva, N.Y., Bull. 744.
- Pederson, C.S. and Alburry, M.N. (1954). The influence of salt and temperature on the microflora of sauerkraut fermentation. *Food Technol.* 8 : 1.
- Pederson, C.S. and Albury, M.N. (1956). Variation in the bacterial flora of low salt cucumber brine. *Appl. Microbiol.*, 4 : 259-263.
- Pederson, C.S. and Albury, M.N. (1969). The sauerkraut fermentation. N.Y.S. Agri. Exp. Sta. Bull. 824, 84 pages. Geneva, N.Y.
- Pederson, D.M. and Goodman, R.E. (1980). Isoenzymes of α -galactosidase from Bacillus stearothermophilus. *Can. J. Micro.* 26 : 978-984.
- Peers, F.G. (1953). Phytase of wheat. *Biochem. J.*, 23 : 102-110.
- Pennica, D., Holmes, W.E., Kohr, W.J., Horkins, R.N., Vehar, G.A., Ward, C.A., Bennett, W.F., Yelvertch, E., Seeburg, P.H., Heyneker, H.L. and Goeddel, D.V. (1983). Cloning and expression of human tissue-type plasminogen activator DNA in E. coli. *Nature, London.* 301 : 214-221.

- Perl, I.M. and Szakacs-Pinter, M.P. (1981). Gas liquid chromatographic separation of the components of maltitol syrups. *J. Chromatog.* 216 : 219-228.
- Perl, M., Pinter-Szakacs, M., Kovago, A. and Petroczy, J. (1984). Gas-liquid chromatographic determination of the raffinose family of oligosaccharides and their metabolites present in soybeans. *J. Chrom.* 295 : 433-444.
- Petek, F. and Dong, T. (1961). Separation et etude de deux α -galactosidases des graines du cafe. *Enzymologia.* 23 : 133.
- Petek, F., Villarroja, H. and Courtois, J.E. (1969). Purification and properties of α -galactosidase in germinated Vicia sativa seeds. *Eur. J. Biochem.*, 8 : 395-402.
- Peterson, W.H. and Peterson, M.S. (1945). Relation of bacteria to vitamins and other growth factors. *Bacteriol. Rev.*, 9 : 49-109.
- Phansalkar, S.V., Ramachandran, V. and Patwardhan, V.N. (1957). Nutritive value of vegetable proteins. PER of cereals and pulses and the supplementary effect of addition of a vegetable. *Ind. J. Med. Res.*, 45 : 611-621.
- Platt, B.S. (1964). Biological ennobliment : improvement of the nutritive value of foods and dietary regimes by biological agencies. *Food Technol.*, 18 : 68.
- Powar, V.K. and Jagannathan, V. (1967). Phytase from Bacillus subtilis. *Ind. J. Biochem.*, 4 : 184-185.
- Pratap, D.R. (1973). The dietary habits and nutritional status of chenchus. Tribal cultural research and Training Institute, Tribal Welfare Department, Government of Andhra Pradesh, Hyderabad, India.
- Prentice, N. and Robbins, G.S. (1976). Composition of invertases from germinated barley. *Cereal Chem.* 53 : 874-880.
- Pressey, R. (1967). Invertase inhibitor from potato : Purification, characterisation and reactivity with plant invertase. *Plant Physiol.*, 42 : 1780-1786.
- Pressey, R. and Avants, J.A. (1980). Invertases in oat seedlings: separation, properties and changes in activities in seedling segments. *Plant Physiol.*, 65 : 136-140.
- Prestidge, L.S. and Pardee, A.B. (1965). A second permease for methyl-thio- α -D-galactoside in Escherichia coli. *Biochim. Biophys. Acta.*, 100 : 591-593.
- Pridham, J.B. and Dey, P.M. (1974). In: "Plant Carbohydrate Biochemistry", (J.B. Pridham, Ed.), Academic Press, New York, 83-89.
- Primrose, S.B. (1977). Genetic engineering. *Sci. Prog.* 64 : 293.

- Puig, J.S. and De Vinals, R.R. (1943). Aportacion a la pathologia del letirismo. Rev. Clin. Exp., 8 : 107.
- Pusztai, A. (1967). Trypsin inhibitors of plant origin, their chemistry and potential role in animal nutrition. Nutr. Abst. Rev., 37 : 1.
- Pusztai, A., Clarke, E.M.W., Grant, G. and King, T.P. (1981). The toxicity of Phaseolus vulgaris lectins, Nitrogen balance and immunological studies. J. Sci. Food Agric., 32 : 1037-1046.
- Quereshi, M.Y., Pileam, D.J., Evans, C.S. and Bell, E.A. (1977). The neurolathrogen, α -amino- β -oxalylaminopropionic acid in legume seeds. Phytochemistry. 16 : 477-479.
- Quinn, M.R., Beuchat, L.R., Miller, J., Young, C.T. and Worthington, R.E. (1975). Fungal fermentation of peanut flour: Effects on chemical composition and nutritive value. Journal of Food Sci., 40 : 470-474.
- Quiroga, E.N., De Maxud, T.R., Vottuone, M.A., Prado, F.E. and Sampietro, A.R. (1977). Sugar cane glycosidases : A general view of glycosidases from stalk. Plant Sci. Lett., 8 : 135-140.
- Rackis, J.J. (1965). Physiological properties of soybean trypsin inhibitors and their relationship to pancreatic hypertrophy and growth inhibition of rats. Fed. Proc., 24 : 1488-1493.
- Rackis, J.J. (1974). Biological and physiological factors in soybeans. J. Am. Oil Chem. Soc., 51 : 161A-174A.
- Rackis, J.J. (1975). Oligosaccharides of food legumes : alpha-galactosidase action.
- Rackis, J.J. (1981). Significance of soya trypsin inhibitors in nutrition. J. Am. Oil Chem. Chem., 58 (3) : 495-501.
- Rackis, J.J. and Gumbmann, M.R. (1981). Protease inhibition : Physiological properties and nutritional significance. In : "Antinutrients and natural toxicants in foods". (Ed. R.L. Cry), Food and Nutr. Press, Westport, CT. 1981.
- Rackis, J.J., Honig, H.D., Sessa, D.J. and Steggerd, F.R. (1970). Flavor and flatulence factors in soybean protein products. J. Agr. Food Chem. 18 : 977-982.
- Radhakrishna Rao, M.V. (1961). Some observations on fermented foods. Proc. Meeting protein needs of infants and pre-school children. Internatl. Conf. Washington, Natl. Acad. Sci. Nat. Res. Coun. Publ. No. 843, p. 291-293.

- Radloff, R., Bauer, W. and Vinograd, J. (1967). A dye-buoyant-density method for the detection and isolation of closed circular duplex DNA in HeLa cells. *Proc. Nat. Acad. Sci., U.S.A.*, 27 : 1514-1521.
- Raghunath, M. and Belavady, B. (1979). Riboflavin and total vitamin-B₆ content of Indian pulses. *J. Plant Foods.*, 3 : 205-210.
- Rajagopal Rao, D., Vijayalakshmi, K.R. and Hariharan, K. (1970). Metabolism of α,β -diaminopropionate in a *Pseudomonas* sp. *Biochemical J.*, 119 : 113-118.
- Rajalakshmi, R. (1970). Formulation of low cost meals for postweaning children in the age group of 2-5 years and their chemical and biological evaluation. AM PL-480 Research Project FG-In-402. Biochemistry Department, M.S. University of Baroda, Baroda, India.
- Rajalakshmi, R. (1976). Pattern and prevalence of malnutrition. *Baroda J. Nutr.*, 3 : 1-39.
- Rajalakshmi, R. and Ramakrishnan, C.V. (1969). Dietary and Nutrient allowances for Indians. *Pl. Fds. Hum. Nutr.*, 1 : 163-192.
- Rajalakshmi, R. and Ramakrishnan, C.V. (1977). Formulation and evaluation of meals based on locally available foods for young children. *World Rev. Nutr. Diet.*, 27 : 34-104.
- Rajalakshmi, R. and Vanaja, K. (1967). Chemical and Biological evaluation of effect of fermentation on the nutritive value of foods prepared from rice and grams. *Brit. J. Nutr.* 21 : 467-473.
- Rajalakshmi, R., Nanavaty, K. and Gumastha, A. (1964). Effect of cooking procedures on the free and total niacin content of certain foodstuffs. *Ind. J. Nutr. Diet.*, 1 : 276-280.
- Rajalakshmi, R., Sail, S.S., Shah, D.G. and Ambady, S.K. (1973). The effects of supplements varying in carotene and calcium content on the physical, biochemical and skeletal status of pre-school children. *Brit. J. Nutr.*, 30 : 77.
- Rajamohan, K. and Ramachandran, L.K. (1972). Isolation of a new toxin from the seeds of *Lathyrus sativus*. *Proc. Soc., Biol. Chem. India.*, 31 : 9.
- Ramchand, C.N. (1984). Studies on neurotoxin from *Lathyrus sativus*. Ph.D. Thesis, M.S. University of Baroda, Baroda, India.
- Ramchand, C.N., Parekh, L.J. and Ramakrishnan, C.V. (1983). Synthesis of (C¹⁴) labelled β -N-Oxalyl(L) α,β -diaminopropionic acid at the oxalyl carbon atoms. *Bulletin of Pure and Applied Sciences.* 2C : 29-30.

- Ramachandran, K. (1968). Formulation and evaluation of low cost balanced meals based on locally available foods for children in post weanling period. Ph.D. Thesis submitted to M.S. University of Baroda, Baroda, India.
- Ramachandran, M. and Phansalkar, S.V. (1956). Essential amino acid composition of certain vegetable foodstuffs. *Ind. J. Med. Res.* 44 : 501-509.
- Ramakrishnan, C.V. (1976). 4th Annual Report AM PL 480 Research Project No. PG-In-491 - Study of Indian Fermented foods from legumes and production of similar fermented foods from U.S. soybean. Biochemistry Department, M.S. University, Baroda, India.
- Ramakrishnan, C.V. (1977). The use of fermented foods in India. Symposium on Indigenous Fermented Foods (SIFF). Bangkok, Thailand, Nov. 21-27.
- Ramakrishnan, C.V. (1979). Studies on Indian Fermented Foods. *Baroda J. Nutr.* 6 : 1-54.
- Ramakrishnan, C.V. and Rao, G.S. (1977). Isolation, identification and characterisation of a micro-organism *L. mesenteroids* HA in fermented soyidli batter capable of hydrolysing soybean hemagglutinins. *Baroda Journal of Nutrition.* 4 : 9-21.
- Ramakrishnan, C.V., Parekh, L.J., Akolkar, F.N., Rao, G.S. and Bhandari, S.D. (1976). Studies on soyidli fermentation. *Plant Foods for man.* 2 : 15-34.
- Ramakrishnan, C.V., Parekh, L.J., Varsha Shah, Ramchand, C.N. and Parmar, K. (1983). Role of micro-organisms in improving nutritional status of the poor. *Baroda J. of Nutr.*, 10 : 19-29.
- Ranhotra, G.S., Lee, C. and Golroth, J.A. (1978). Bioavailability of zinc in soy-fortified wheat bread. *Nutr. Rep. Int.* 18 : 487-494.
- Rao, M.V.R. (1961). Some observations on fermented foods. In: "Progress in Meeting protein needs of infants and pre-school children". Publ. No. 843, National Academy of Science, National Research Council, Washington, D.C. 291.
- Rao, S.L.N. (1967). Studies on the unusual amino acids of *Lathyrus sativus*. Thesis submitted for the Ph.D. degree of the Indian Institute of Science, India.
- Rao, S.L.N. (1975a). Metabolism of BCAA, the *Lathyrus sativus* neurotoxin. *Proc. Nutr. Soc. of India.* 19 : 31-33.
- Rao, S.L.N. (1975b). Chemical synthesis of N- β -oxalyl-L-alpha-beta-diaminopropionic acid and optical specificity in its neurotoxic action. *Biochemistry.* 14 : 5218-5221.

- Rao, S.L.N. (1978a). Entry of β -N-oxalyl- α , β -diaminopropionic acid (BOAA) in the CNS of Rhesus monkey and day old chick. *J. Neurochem.* 30 : 1467-1472.
- Rao, S.L.N. (1978b). A sensitive and specific colorimetric methods for the determination of α , β -diaminopropionic acid and the *L. sativus* neurotoxin. *Anal. Biochem.*, 86 : 386-398.
- Rao, G.S. (1978). Studies on fermented food with reference to hemagglutinin hydrolysing bacteria isolated from rice-soyidli batter. Ph.D. Thesis submitted to M.S. University, Baroda, India.
- Rao, P.U. and Belavady, B. (1978). Oligosaccharides in pulses : varietal differences and effects of cooking and germination. *J. Agric. Food Chem.*, 26 : 316.
- Rao, K.S. and Fieringer, R.A. (1970). Presence of an α -galactosidase in brain and its role in the degradation of galactosyl diglycerides of brain. *J. Neurochem.* 17 : 483-488.
- Rao, S.L.N. and Sarma, P.S. (1967). Neurotoxic action of β -N-oxalyl-L, -diaminopropionic acid. *Biochem. Pharmacol.*, 16 : 218-220.
- Rao, S.L.N., Adiga, P.R. and Sarma, P.S. (1964). The isolation and characterization of β -N-oxalyl-L- α , β -diaminopropionic acid : A neurotoxin from the seeds of *Lathyrus sativus*. *Biochemistry*. 3 : 432-436.
- Rao, S.L.N., Sarma, P.S., Mani, K.S., Rao, R. and Srinivasachari, S. (1967). Experimental neurolathyrism in monkeys. *Nature (London)*, 214 : 610-611.
- Rao, S.L.N., Malathi, N.K. and Sarma, P.S. (1969). Lathyrism. *World Rev. Nutr. Diet.*, 10 : 214-235.
- Reddy, N.R. (1981). Effects of cooking and germination of blackgram (*Phaseolus mungo* L.) and Fermentation of black gram and rice (*Oryza sativa* L.) Blend on phytate, α -amylase inhibitors, phytohemagglutinins, and Flatulence producing factors, Ph.D. Dissertation, Utah State University, Logan.
- Reddy, N.R. and Salunkhe, D.K. (1980a). Effect of fermentation on phytate phosphorus and mineral content in black gram, rice and black gram rice blends. *J. Food Sci.*, 45, 1708.
- Reddy, N.R. and Salunkhe, D.K. (1980b). Changes in oligosaccharides during germination and cooking of black gram (*Phaseolus mungo*) and fermentation of black gram with rice (*Oryza sativa* L.) blend. *Cereal Chem.*, 57 : 356-360.
- Reddy, N.R., Salunkhe, D.K. and Sharma, R.P. (1980). Flatulence in rats following ingestion of cooked and germinated blackgram, a fermented product of black gram and rice blend. *J. Food Sci.*, 45 : 1161.

- Reddy, N.R., Sathe, S.K. and Salunkhe, D.K. (1982).
Phytates in legumes and cereals. *Adv. Food Res.*, 28 : 1.
- Reddy, N.R., Pierson, M.D., Sathe, S.K. and Salunkhe, D.K.
(1984). Legume-based fermented foods : their preparation
and nutritional quality. In: "CRC Critical Reviews in
Food Science and Nutrition". Vol. 17 (4) : 335.
- Reddy, N.R., Pierson, M.D., Sathe, S.K. and Salunkhe, D.K.
(1985). Dry bean tannins : a review of nutritional
implications. *J. Am. Oil Chem. Soc.* 62 : 541.
- Reineke, W. and Kneckmuss, H.J. (1979) Construction of halocar-
matics utilizing bacteria. *Nature*. 227 : 385-386.
- Reinhold, J.G. (1975). Phytate destruction by yeast fermentation
in whole wheat meals. *J. Am. Diet. Associ.* 66 : 38-41.
- Reinhold, J.G., Hedayati, H., Lahingarzadeh, A. and Nazir, K.
(1973). Zinc, calcium, phosphorus and nitrogen balances
of Iranian villagers following a change from phytate rich
to phytate poor diets. *Ecology Ed. Nutr.*, 2 : 157-162.
- Reinhold, J.G., Abadei, P., Faraji, B., Ismail-Beigi, F. and
Russel, R.M. (1980). Depletion of calcium, magnesium,
zinc and phosphorus with consumption by humans of whole
meal wheat bread rich in fiber and phytate. *Baroda J.*
Nutr., 7 : 55.
- Reinwald, J.G., Chakrabarty, A.M. and Gonsalus, I.C. (1973).
A transmissible plasmid controlling camphor oxidation in
Pseudomonas putida. *PNAS*, 70 : 885.
- Reynolds, J.H. (1974) An immobilized α -galactosidase continuou
reactor. *Biotech. Bioengg.* 16 : 135-147.
- Ressler, C. (1962). Isolation and identification from common
vetch of the neurotoxin β -cyano-L-alanine, a possible
factor in neurolathyrism. *J. Biol. Chem.*, 237 (3), 733.
- Ressler, C., Redstone, P.A. and Erenberg, R.H. (1961).
Science, 134, 188. cf. Roy, D.N. (1981). Toxic amino acids
and proteins α from *Lathyrus* plants and other leguminous
species - a literature review. *Nutr. Abstr. Rev. Series A.*
51 (1), 690.
- Ressler, C., Nelson, J. and Pfeiffer, M. (1964). A pyridoxal
 β -cyanoalanine relation in the rat. *Nature (London)*,
203 : 1286-1287.
- Ressler, C., Nigam, S.N. and Giza, Y.H. (1969). Toxic principle
in vetch. Isolation and identification of γ -L-glutamyl-
-L- β -cyanoalanine from common vetch seeds. Distribution
in some legumes. *J. of Am. Chem. Soc.* 91 : 2753.

- Richards, E.A., Steggerda, F.R. and Murata, A. (1968). Relationship of bean substitutes and certain intestinal bacteria to gas production in the dog. *Gastroenterology*. 55 : 502-509.
- Robert Macrae and Ahmad Zand Moghaddam (1978). The determination of components of oligosaccharides of Lupin seeds by HPLC. *J. Sci. Ed. Agric.* 29 : 1083-1086.
- Roberts, I., Holmes, W.M. and Hylemon, P.B. (1986). Modified plasmid isolation method for Clostridium perfringens and Clostridium obsoletum. *Appl. Environ. Microbiol.*, 51 : 197.
- Robinson, R.J. and Kao, C. (1977). Tempeh and miso from chick pea, horse bean and soybean. *Cereal Chem.* 54 : 1192.
- Rockland, L.B., Gardiner, B.L. and Pieczarka, D. (1969). Stimulation of gas production and growth of Clostridium perfringens type A by legumes. *J. Food Sci.*, 34 : 411-414.
- Roe, J.H. (1934). Colorimetric method for determination of sucrose. *J. Biochem.* 107 : 15.
- Roebuck, B.D. (1987). Trypsin inhibitors : potential concern for Humans? *J. Nutr.*, 117 : 398-400.
- Roelofsen, P.A. and Thalen, A. (1964). Changes in some B-vitamins during molding of soybean by Rhizopus arryzae, in the production of tempeh kedele. *J. Food Sci.*, 29 : 224-226.
- Roy, D.N. (1969). Biosynthesis of B-(N)-oxalyl amino alanine : evidence that serine is not the precursor. *Indian J. Biochem.* 6 : 147-149.
- Roy, D.N. (1972a). Further purification, fractionation and properties of Trypsin inhibitor isolated from Lathyrus sativus. *J. Agri. Food Chem.* 20 : 778.
- Roy, D.N. (1972b). Biological effects of the trypsin inhibitor isolated from Lathyrus sativus seeds. *Curr. Sci.(India)*, 41, 180.
- Roy, D.N. (1973). Effect of oral administration of beta-(N) - oxalyl amino-L-alanine (BOAA) with or without Lathyrus sativus trypsin inhibitor (LS-TI) in chicks. *Environ. Physiol. Biochem.* 2 : 192-195.
- Roy, D.N. (1981). Toxic amino acids and proteins from Lathyrus plants and other leguminous species. A literature Review. In: "Nutrition Abstracts and Reviews - Series A". 51 (10) : 691-704.
- Roy, D.N. and Rao, S.L.N. (1968). Distribution of the alpha and beta isomers in some Indian varieties of Lathyrus. *Curr. Sci.* 37 : 395-396.

- Roy, D.N. and Rao, S.P. (1971). Evidence, isolation, purification and some properties of a trypsin inhibitor in Lathyrus sativus. J. Agric. Food Chem., 19 : 257.
- Roy, D.N., Nagarajan, V. and Gopalan, C. (1963). Production of neurolathyrism in chicks by the injection of Lathyrus sativus concentrates. Curr. Sci., 32 : 116-118.
- Rostas, K., Dobritsa, S.V., Dobristsa, A.P., Koncz, C. and Alfodi, L. (1980). Megacinogenic plasmid from Bacillus megaterium-216. Molecular Gen. Genetics, 180 : 323-329.
- Ross, S.M., Roy, D.N. and Spencer, P.S. (1985). β -N-oxalylamino-L-alanine : Action on high affinity transport of neurotransmitters in rat brain and spinal cord synaptosomes. J. of Neurochem. 44 (3) : 886-892.
- Rossi, M.A., Filho, J.M. and Lajdo, F.M. (1984). Jejunal ultra-structural changes induced by kidney bean (Phaseolus vulgaris) lectins in rats. Br. J. Exp. Pathol., 65 : 117-123.
- R.R.D. (1987). 'India 1986' - a reference manual compiled by 'Research and Reference Division' (RRD), Ministry of Education and Broadcasting, Govt. of India Publications, New Delhi, India.
- Rudolph, F.B. (1971). Purification and properties of aspartase from Escherichia coli. Federation Proc., 30 : 1297.
- Rudra, M.H., Choudhary, C.M. and Sinha, S.P. (1952). A preliminary report on the treatment of lathyrism with parental methionine. Ind. Med. Ca. 87 : 89-92.
- Rukmini, C. (1968). Isolation and purification of neurotoxic factors from Lathyrus sativus. Ind. J. Biochem., 5 : 182-185.
- Russel, W.C., Taylor, M.W., Mehrof, T.G. and Hirsch, R.R. (1946). The nutritive value of the protein of varieties of legumes and the effect of methionine supplementation. J. Nutr. 32, 313.
- Rutter, J. and Percy, S. (1984). The pulse that maims. New Scientist, 23rd August, 1984, pp. 22-23.
- Ruttloff, H., Taeufel, A., Krause, W., Haenel, H. and Taeufel, K. (1967). Die intestinal-enzymatische spaltung von galacto-oligosacchariden in darm von tier and mensch mit besonderer berucksichtigung von lactobacillus bifidus II. Zun Intestinalen Verhalten der lactulos. Nahrung. 11 : 39-46.
- Sachdev, S., Sachdev, J.C., Puri, D. and Devider, P. (1969). Morphological study in a case of lathyrism. J. Ind. Med. Assoc., 52 : 320.

- Sacks, L.E. and Olson, A.C. (1979). Growth of Clostridium perfringens strains on α -galactosides. J. Food Sci.
- Saio, K. (1980). Nutritional losses in storage and processing of legumes. In: "Nutrition and Food Science - present knowledge and utilization". Vol.2, (Eds. Santos, W., Lopes, N., Barbosa, J.J., Chaves, D., Carlos, Valente, J.), Plenum Press, New York and London, pp. 421-449.
- Sakaguchi, Y. (1979). Vegetable proteins in fermented foods and other products. J. Am. Oil Chem. Soc., 56, 356.
- Salinas, C. and Herrera, T. (1974). Aislamiento de Aerobacter aerogenes del puzol del estado de campeche. Rev. lat-amer. Microbiol. 16 : 95-98.
- Salisbury, V., Hedges, R.W. and Datta, N. (1972). Two modes of curing transmissible bacterial plasmids. J. of General Microbiology. 70 : 443-452.
- Salyers, A.A., Palmer, J.K. and Wilkins, T.D. (1978). Degradation of polysaccharides by intestinal bacterial enzymes. Am. J. Clin. Nutr., 31 : 5128-5130.
- Salyers, A.A., Vercellotti, J.R., West, S.E.H. and Wilkins, T.D. (1977). Fermentation of mucin and plant polysaccharides by strains of Bacteroides from human colon. Appl. Environ. Microbiol., 33 : 319-322.
- Samuel, K. and Joseph, W.R. (1977). Partial separation and characterisation of α -galactosidase from Phaseolus vulgaris. Chem. Abstr. 87 : 80231.
- Sanchez-Noroquin, A. (1953). The Biochemical activity of some microorganisms of pulque. Memb. Congr. Cient. Mex. IV. Centenario Univ. Mex., 2 : 471-484.
- Sanchez-Morroquin, A. (1970). Investigaciones realizadas en la facultad de quimica de la universidad Nacional Autonoma de Mexico, tendientes a la industrializacion del agave. Rev. Soc. Quim. Mex. 14 : 184-188.
- Sano, T. (1961). Feeding studies with fermented soy products (natto and miso) in meeting the protein needs of infants and children, Publ. No. 843, National Academy of Sciences, National Research Council, Washington, D.C. 1384.
- Santarius, K.A. and Heber, U. (1967). Hill reaction and phosphorylation of isolated chloroplasts in relation to water content. III, removal of water by CaCl_2 . Planta, 73 : 109-137.
- Santarius, K.A. and Milde, H. (1977). Sugar compartmentation in frost-hardy and partially dehardened cabbage leaf cells. Planta. 136 : 163.

- Saeno, S., Brotonegoro, S., Basuki, T., Sastraamodja, D.D., Jutono, Badjee, I.G.P., and Gandjar, I. (1977). Tempe Symposium on Indigenous fermented foods (SIFF). Bangkok, Thailand. Nov. 21-27.
- Sasaki, T., Tadokoro, K. and Suzuki, S. (1971). Multiple forms of invertase of potato tuber stored at low temperature. *xx Phytochemistry*. 10 : 2047-2050.
- Sastri, B.N. (1962). Lathyrus - In: "Wealth of India", Council of Scientific and Industrial Research, New Delhi, 6 : 36-47.
- Sathe, S.K., Deshpande, S.S., Reddy, N.R., Goll, D.E. and Salunkhe, D.K. (1983). Effects of germination on proteins, raffinose oligosaccharides, and antinutritional factors in Great Northern Beans (*Phaseolus vulgaris* L.). *J. Food Sci.*, 48 : 1796-1800.
- Sarma, P.S. and Padmanaban, G. (1969). In: (Liener, I.E., Ed.), Toxic constituents of plant food-stuffs", New York, Academic Press, p. 267.
- Sayler, G.S., Kong, H.L. and Shields, M.S. (1984). In "Genetic Control of Environmental Pollutants", (G.S. Omenn and A. Hollaender, Eds.), pp. 117-135, Plenum Press, New York.
- Schwartz, D. and Beckwith, J. (1970). Mutants missing a factor necessary for the expression of catabolite-sensitive operons in *E. coli*. In "Lactose operon", Eds. Beckwith, J.R. and Zipser, D., Coldspring Harbour Laboratory, Coldspring Harbour, New York, pp. 417-422.
- Schilling, E.D. and Strong, F.M. (1954). Isolation, structure and synthesis of a lathyrus factor from *L. odoratus*. *J. Am. Chem. Society*, 76, 2848.
- Schmid, K., Ritschewala, S. and Schmitt, R. (1979). Relationships among raffinose plasmids determined by the immunochemical cross-reaction of their α -galactosidases. *J. Gen. Microbiol.* 114 : 477-481.
- Schmalreck, A.F., Losher, H. and Teuber, M. (1975). Uptake and inducible degradation of methyl α -D-glucopyranoside and maltose by *Bacillus subtilis*. *Biochem. Trans.* 2 : 1004-1006.
- Schmitt, R. (1968). Analysis of melibiose mutants deficient in alpha galactosidase and thiomethyl galactoside permease-II in *E. coli* K12. *J. Bact.*, 96 : 462-471.
- Schmitt, R. and Rotman, B. (1966). α -Galactosidase activity in cell free extracts of *E. coli*. *Biochem. Biophys. Res. Commun.*, 22 : 473-479.
- Schmid, K. and Schmitt, R. (1976). Raffinose metabolism in *Escherichia coli* K12 - Purification and properties of a new α -galactosidase specified by a transmissible plasmid. *Eur. J. Biochem.*, 67 : 95-104.

- Schmitt, R., Schachinger, K. and Schmid, K. (1977). Genetische Struktur der Raffinoseregion des plasmids D1021 von Escherichia coli. Hoppe Seyler's Zeitschrift für Physiologische Chemie. 358 : 302.
- Senger, M. and Kandler, O. (1967). Vorkommen and Verbreitung von Galactinol in Blättern Hoperer Pflanzen. Phytochemistry. 6 : 1533-1540.
- Seyle, H. (1957). Lathyrism. Rev. Can. Biol., 16 : 3.
- Sharma, C.B. (1971). Selective inhibition of α -galactosidases by myoinositol. Biochem. Biophys. Res. Commun., 43 : 572-579.
- Shallenberger, R.S., Hand, D.H. and Steinkraus, K.H. (1967). Changes in sucrose, raffinose and stachyose during tempeh fermentation. Report of 8th Bean Research Conference, Nellair, MI, Aug. 1966, ARS 74-41, USDA, p. 68.
- Shampietro, A.R., Vattuone, M.A. and Prado, F.E. (1980). A regulatory invertase from α sugar cane leaf sheaths. Phytochemistry. 19, 1637-1642.
- Shannon, L.M., Hankins, C.N. and Strosberg, A.D. (1981). In: "Lectins : Biology, Biochemistry, Clinical Biochemistry", Vol.1, (T.C. Bog-Hansen, Ed.), Walter de Gruyter, Berlin, 81-91.
- Shapira, J. (1969). Identification of sugars as their Tri fluoro-acetyl polyol derivatives. Nature. 222 : 792.
- Shapiro, J.A., Owen, D.J., Kok, M. and Eggin, K.G. (1984). In: "Genetic Control of Environmental Pollutants" (G.S. Owen and A. Hollaender, Eds.), pp. 229-238, Plenum Press, New York.
- Shapiro, A.L., Vinuela, E. and Maizel, J.V. (1967). Molecular weight estimation of polypeptide chains by electrophoresis in SDS-Polyacrylamide gels. Biochem. Biophys. Res. Commun., 28 : 815-820.
- Sharp, P.A., Sugden, B. and Sambrook, J. (1973). Detection of two restriction endonuclease activities in Haemophilus parainfluenzae using analytical agarose. Biochemistry. 12 : 3055.
- Sharpe, M.E., Frayer, T.F. and Smith, D.G. (1966). Identification methods for microbiologists. (Gibbs, B.M. and Skinner, F.A. Eds.), Academic Press, New York.
- Shastri, M.V., Dhamankar, S.V. and Akarte, N.R. (1975). Biosynthesis of some water soluble vitamins during germination of Dolichos lablab. Ind. J. Nutr. Diet., 12 : 238-242.

- Sheih, T.R. and Ware, J.H. (1968). Survey of micro-organisms for the production of extracellular phytase. *Appl. Microbiol.*, 16 : 1348-1351.
- Sheimin, R. and Crocker, B.F. (1961). The induced concurrent formation of α -galactosidase and β -galactosidase in *E. coli* B. *Can. J. Biochem. Physiol.*, 39 : 63-72.
- Shepard, D., Donovan, M., Raghupathi, E., Young, K.K., Owen, A.J. and Bain, J.A. (1983). Effect of immobilization on the stability and substrate specificity of α -galactosidase isolated from the invertebrate *Turbo cornutus*. *Carbohydr. Res.*, 118 : 239.
- Shine, J., Fettes, I., Ian, M.C.Y., Roberts, J.L. and Baxter, J.D. (1980). Expression of cloned β -endorphin gene sequences by *Escherichia coli*. *Nature, London.* 285 : 456-461.
- Shipley, P.L., Gyles, C.L. and Falkow, S. (1978). Characterization antigen. *Infection and Immunity*, 20 : 559-566.
- Shiv Prakash, Misra, B.K., Adsule, R.N. and Barat, G.K. (1977). Distribution of β -N-oxalyl-L- α , β -diaminopropionic acid in different tissues of aging *Lathyrus sativus* plant. *Biochim. Physiol. Pflanz.*, 171 : 369-374.
- Shurtleff, W. and Aoyagi, A. (1980). *Tempeh Production, Vol.2* (Soy Foods Center, Lafayette, Calif., U.S.A.).
- Silva, H.C. and Braga, G.L. (1982). Effect of soaking and cooking on the oligosaccharide content of dry beans (*Phaseolus vulgaris*). *J. Food Sci.*, 47 : 924-925.
- Sinsheimer, R.L. (1977). Recombinant DNA. *A Rev. Biochem.* 46 : 415-438.
- Skerman, V.B.D. (1967). A guide to the identification of the genera of bacteria. Williams & Wilkins Co., Baltimore.
- Smiley, K.L., Hensley, D.E. and Gasdorf, H.J. (1976). Alpha-galactosidase production and use in a hollow fiber reactor. *Appl. Environ. Microbiol.*, 31 (4) : 615-617.
- Smith, R.L. and Cremland, R.S. (1983). Anaerobic oxalate degradation : wide spread natural occurrence in aquatic sediments. *Appl. Environ. Microbiol.*, 46 : 106-113.
- Smith, H.W. and Parsell, Z. (1975). Transmissible substrate-utilizing ability in Enterobacteria. *J. Gen. Microbiol.* 87 : 129-140.
- Smith, A.K., Rackis, J.J., Hesseltine, C.W., Smith, M., Robbins, D.J. and Booth, A.N. (1964). Tempeh : Nutritive value in relation to processing. *Cereal Chem.*, 41 : 173-181.
- Snell, E.E. (1974). Tryptophanase structure, catalytic activities and mechanism of action. In: "Advances in Enzymology, Vol.42, Interscience, New York, pp. 287-333.

- Society of American Bacteriologists (1957). Manual of Microbiological methods. McGraw Hill Book, Co., New York.
- Sohnie, K. and Bhandarkar, A.P. (1955). The trypsin inhibitor in Indian foodstuffs. II. Inhibitor in pulses. J. Sci. Ind. Res. 14C : 100-104.
- Solomans, N.W., Jacob, R.A., Pineda, O. and Viteri, F.E. (1979). Studies on the bioavailability of zinc in man. Effects of the Guatemalan rural diet and of the iron fortifying agent, NaFe EDTA. J. Nutr. 109 : 1519-1528.
- Somayajulu, P.L.N., Barat, G.K., Shiv Prakash, Misra, B.K. and Srivastava, Y.C. (1975). Breeding of low toxin containing varieties of Lathyrus sativus. Proc. Nutr. Soc. (India), 19 : 35-39.
- Somogyi, M. (1952). Notes on sugar determination. J. Biol. Chem., 195 : 19-23.
- Spackman, D.H., Stein, W.H. and Moore, S. (1958). Automatic recording apparatus for use in the chromatography of amino acids. Anal. Chem., 30 : 1190-1206.
- Spencer, P.S. and Schaumburg, H.H. (1983). Lathyrism : a neurotoxic disease. Neurobehav. Toxicol. Teratol. 2 : 625-629.
- Stanier, R.Y. (1951). Enzymatic adaptation in bacteria. Ann. Rev. Microbiol., 5 : 35-56.
- Stanier, R.Y., Adelberg, E.A., Ingraham, J.L. (1984). General Microbiology. 4th Edn. The MacMillan Press, Ltd., London.
- Steele, J.L. and McKay, L.L. (1986). Partial characterization of the genetic basis for sucrose metabolism and nisin production in Streptococcus lactis. Appl. and Environ. Microbiol., 51 (1) : 57-64.
- Stefanis de, V.A. and Ponte, J.G. (1968). Separation of sugars by thin layer chromatography. J. of Chromatogr., 34 : 116-120.
- Steggerda, F.R. (1962). In: "Annual Dry Beans Res., Conf. 5th Dec 5-7, 1961. Denver, Colorado, pp. 14-15, Agr. Res. Service, U.S. Dept. of Agri. Albany, California.
- Steggerda, F.R. (1965). In: "Res Conf. Dry Beans, 7th held Dec. 2-4, 1964, Ithaca, Geneva, New York, pp. 56-57, Agr. Res. Service, U.S. Dept. of Agr. Albany, California (ARS 74-32).
- Steggerda, F.R. (1967). Physiological effects of soybean fractions. Proc. Int. Conf. "Soybean Protein Foods". 1966, ARS-71-35, pp. 94-99.

- Steggerda, F.R. (1968). Gastrointestinal gas following food consumption. *Ann. N.Y. Acad. Sci.*, 150 : 57-66.
- Steggerda, F.R., Richards, E.A. and Rackis, J.J. (1966). Effects of various soybean products on flatulence in the adult man. *Proc. Soc. Exp. Biol. Med.* 121 : 1235-1239.
- Steinkraus, K.H. (1976). Studies on oriental and Indian fermented foods. Sp. Report Series No.19, N.Y. Agr. Exp. Station, Geneva, New York.
- Steinkraus, K.H. (1982). Fermented foods and beverages : the role of mixed cultures. In: "Microbial Interactions and communities", Vol.1 (Eds. A.T.Bull and J.H. Slater), Academic Press, p. 407-442.
- Steinkraus, K.H. (1983a). Ed. Handbook of Indigenous Fermented Foods (Marcel Dekker, New York).
- Steinkraus, K.H. (1983b). Traditional food fermentations as industrial resources. *Acta. Biotechnol.*, 3 : 1-12.
- Steinkraus, K.H. (1985). Indigenous fermented food technologies for small-scale industries. *Food and Nutrition Bulletin*, 7 (2) : 21-27.
- Steinkraus, K.H. (1987). Fermented Foods: tradition and current practice. In: "Microbial technology in the developing world", (Ed. De Silva, E.J., Dommergues, Y.R., Nyns, E.J. and Ratledge, C.), Oxford Sci. Publications, Oxford Univ. Press, Oxford.
- Steinkraus, K.H., Lee, C.Y. and Buck, P.A. (1956). Soybean fermentation by the ootjom mold 'Neurospora'. *Food Technology*, 10 : 119-120.
- Steinkraus, K.H., Hwa, Y.B., Van Buren, J.P., Provvidenti, M.I. and Hand, D.B. (1960). Studies on Tempeh - an Indonesian fermented soybean food. *Food Research*. 25 : 777-778.
- Steinkraus, K.H., Hand, D.B., Van Buren, J.P. and Hackler, L.R. (1961). Pilot Plant studies on tempeh. In: "Proceedings of conference on soybean products for protein in Human Foods", pp. 75-84, U.S.Department of Agriculture, Peoria, Illinois.
- Steinkraus, K.H., Van Buren, J.P., Hackler, L.R. and Hand, D.B. (1965). A pilot plant process for the production of dehydrated Tempeh. *Food Tech.* 19 : 63-68.
- Steinkraus, K.H., Van Veen, A.G. and Thiebeau, D.B. (1967). Studies on idli - an Indian fermented blackgram-rice food. *Food Technol.* 21 : 110-113.

- Steinkraus, K.H. and Van Veen, A.G. (1971). Biochemical, nutritional and organoleptic changes occurring during production of traditional fermented foods. In: "Global Impacts of Applied Microbiology, (Freitas, Y.M., Fernandez, F. Eds.), IBP-UNESCO, University of Bombay, Bombay, India, pp, 444.
- Steinman, A. and Stryer, L. (1973). Accessibility of carbohydrate moiety. *Biochemistry*, 12, 1499-1502.
- Stewart, A.G., Richards, H., Roberts, S., Warwick, J., Edwards, K., Bell, L., Smith, J. and Derbyshire, R. (1983). Cloning and expression of a porcine prorelaxin gene in *E. coli*. *Nucleic Acids. Res.*, 11, 6597-6609.
- Stockman, R. (1929). Lathyrism. *J. Pharmacol.*, 37 : 43-53.
cf: Rao, S.L.N., Malathi, K. and Sarma, P.S. (1969) : lathyrism. *World Review of Nutrition and Dietetics*. 10 : 214, Karger, Basel, New York.
- Streifler, M., Cohn, D.F., Hirano, A. and Schujam, E. (1977). The central nervous system in neurolathyrism. *Neurology*. 27 : 1176.
- Streifler, M. and Cohn, D.F. (1981). Chronic central nervous system toxicity of the chickling pea (*Lathyrus sativus*). *Clinical Toxicology*, 18 (12) : 1513-1517.
- Strobel, G.A. (1974) Phytotoxins produced by plant parasites. *Ann. Rev. Plant Physiol.*, 25 : 541-566.
- Subbalakshmi, G., Ganeshkumar, K. and Venkatraman, L.V. (1976). Effects of germination on the carbohydrates, proteins, trypsin inhibitor, amylase inhibitor and hemagglutinin in horse gram and moth beans. *Nutr. Rept. Intl.* 13 : 19-31.
- Subba Rao, K. and Pieringer, R.A. (1970). Metabolism of glyceride glycolipids IV. Enzymic hydrolysis of monogalactosyl and digalactosyl diglycerides in rat brain. *J. Neurochem.* 17 : 483.
- Sudarmadji, S. and Markakis, P. (1977). The phytate and phytase of soybean tempeh. *J. Sci. Food Agric.*, 28 : 381.
- Sugihara, T.F., Kline, L. and Miller, M.W. (1971). Microorganisms of the San Francisco Sour dough bread process. I. Yeasts responsible for leavening action. *Appl. Microbiol.*, 21 : 456-458.
- Sugimoti, H. and Van Buren, J.P. (1970). Removal of oligosaccharides from soymilk by an enzyme from *Aspergillus gaitoi*. *J. Food Sci.*, 35 : 655-660.
- Summers, A.O. and Silver, S. (1976). Microbial transformations of metals. *Ann. Rev. Microbiol.* 32 : 637.

- Sutcliffe, J.G. (1978). pBR 322 restriction map derived from the DNA sequence : accurate DNA size markers upto 4361 nucleotide pairs long. *Nucleic Acids Res.*, 5 : 2721-2728.
- Sutcliffe, J.G. (1979). Complete nucleotide sequence of the *Escherichia coli* plasmid pBR-322. Cold Spring Harb. Symp. Quant. Biol., 43 (1) : 77-90.
- Suzuki, H., Li, Su-Chen, and Li Yu-Teh (1970). α -galactosidase from *Mortierella vinacea*. Crystallization and properties. *J. Biol. Chem.* 245 : 781-786.
- Suzuki, H., Ozawa, Y. and Tanabe, O. (1966). Studies on the decomposition of raffinose by α -galactosidase of actinomycetes. *Agr. Biol. Chem. (Tokyo)* : 30 : 1039-1046.
- Suzuki, H., Ozawa, Y., Oota, H. and Oshida, H. (1969). Decomposition of raffinose by α -galactosidase of mold I. α -Galactosidase formation and hydrolysis of raffinose by the enzyme preparation. *Agric. Biol. Chem.*, 33 : 506-513.
- Swaminathan, M.S. (1969). Role of mutation breeding in a changing agriculture. IAEA SM-121/61, In: "Induced mutations in plants." Vienna : IAEA, 719-734.
- Swaminathan, M. (1967). Availability of plant proteins. In: Newer methods of nutritional biochemistry. (Ed. Albanese, A.A.), Vol. III, 197-241, Academic Press, New York.
- Swaminathan, M. (1974). In: "Essentials of Food and Nutrition"; Ganesh & Co., Madras, Vol.1, pp. 158-276.
- Sweely, C.C., Bentley, R., Makita, M. and Wells, W.S. (1963). Gas liquid chromatography of trimethylsilyl derivatives of sugars and related substances. *J. Amer. Chem. Soc.*, 85 : 2497-2507.
- Sy, J. and Ritcher, D. (1972). Separation of a cyclic 3',5'-adenosine monophosphate binding protein from yeast. *Biochemistry*. 11 : 2784-2787.
- Tadeusz, S. (1978). Some properties of partially purified phytase from *Aspergillus niger*. *Chem. Abstr.*, 88 : 148008.
- Taeufel, K., Steinbach, K.J. and Vogel, E. (1960). Mono- and oligosaccharides einiger Leguminosensamen sowie ihr Verhalten bei Lagerung und Keimung. *Z. Lebensm. Unters. Forsch.*, 112 : 31-40.
- Taeufel, K., Ruttloff, H., Krause, W., Taeufel, A. and Vetter, K. (1965). Zum intestinalen Verhalten von Galakto-oligosacchariden beim Menschen. *Klin. Wochenschr.* 43 : 268-272.

- Taeufel, K., Krause, W., Ruttloff, H. and Maune, R. (1967).
Zur intestinalen Splatung von oligosacchariden.
Z. Gesamte. Exp. Med. Einschl. exp. Chir, 144 : 54-66.
- Talsky, G. and Klunker, G. (1967). Z. Physiol. Chem. 348, 1372.
cf. Reithel, F.J. (1971). In: "The Enzymes" (Eds. Boyer, P.),
3rd Edition, Academic Press, New York, and London.
- Takatoshi, I., Shimura, S. and Adachi, S. (1979). Alpha galacto-
sidase from alfalfa seeds, (Medicago sativa L.).
Agri. Biol. Chem., 43 : 1499-1504.
- Tanaka, M., Thananunkul, D., Lee, T.C. and Chichester, C.O. (1975).
A simplified method for the quantitative determination of
sucrose, raffinose and stachyose in legume seeds.
J. Food Sci., 40 : 1087-1088.
- Tanaka, T. and Koshikawa, T. (1977). Isolation and characteri-
zation of four types of plasmids from Bacillus subtilus
(natto). J. Bacteriol., 131 : 699-701.
- Tanasupawat, S. and Daengsubha, W. (1983). Pediococcus species
and related bacteria found in fermented foods and related
materials in Thailand. J. Gen. Microbiol., 29 : 487-507.
- Taniguchi, T., Matsui, H., Fujita, T., Takaoka, C., Kashima, N.,
Yoshimoto, R. and Hamuro, J. (1983). Structure and expression
of a cloned DNA for human interleukin-2. Nature, London.
302, 305-310.
- Tanner, W. (1969). Ann. N.Y. Acad. Sci. 165, 726. cf. "Phytate :
Its chemistry, occurrence, food interactions, nutritional
significance, and methods of analysis. J. Agri. Food Chem.,
20 : 1.
- Taylor, D.E. and Levine, J.G. (1980). Characterization of an H₂
group plasmid mutant defective in maintenance and transfer
and eliminating by novobiocin. In: "Plasmids and Trans-
posons Environmental effect and maintenance mechanisms"
(Eds. Struttard, C and Rozee, K.). In: ~~Plasmids and~~
Academic Press, New York.
- Taylor, T.C. and Coleman, J.W. (1979). Comparative study of the
absorption of calcium and the availability of phytate
phosphorus in the golden hamster (Mesocricetus auratus)
and the laboratory rat. Br. J. Nutr., 42 : 113-119.
- Thananunkul, D., Tanaka, M., Chichester, C. and Lee, T. (1976).
Degradation of raffinose and stachyose in soybean milk by
alpha-galactosidase from Mortierella vinacea. Entrapment
of alpha-galactosidase within polyacrylamide gel.
J. Food Sci., 41 : 173-175.
- Thomas, B. and Webb, J.A. (1977). Multiple forms of α -galacto-
sidase in mature leaves of Cucurbita pepo.
Phytochemistry, 16 : 203-206.

- Thomas, B. and Webb, J.A. (1979). Distribution of α -galactosidase in Cucurbita pepo. Can. J. Botany. 57 : 1904-1911.
- Tobin, G. and Carpenter, K.J. (1978). The nutritional value of the dry bean (Phaseolus vulgaris). : A literature review. Nutr. Abstr. Rev. 48 : 919-936.
- Toda, K. and Shoda, M. (1978). Sucrose hydrolysis by immobilized yeast cells in a complete mixing reactor. Biotech. Bioeng. Vol. XVII, 481-497.
- Tolosa, E.A. and Goryachenkova, E.V. (1966). Biokhimiya (USSR), 31 : 98-107. cf. Braunstein, A.E. and Goryachenkova, E.V. (1984). The β -replacement specific pyridoxal-p-dependent lyases. Adv. Enzymol., 56 : 1.
- Tolosa, E.A., Kozlov, L.V., Rabinkov, A.G. and Goryachenkova, E.V. (1978). Bioorganich Khimiya (USSR), 4 : 1334-1340. cf: Braunstein, A.E. and Goryachenkova, E.V. (1984) The β -replacement-specific pyridoxal p-dependent lyases. Adv. Enzymol., 56 : 1.
- Tolosa, E.A., Willhardt, I.H., Kozlov, L.V., and Goryachenkova, E.V. (1979). Biokhimiya (USSR), 44 : 453-459. cf: Braunstein, A.E. and Goryachenkova, E.V. (1984), The β -replacement-specific pyridoxal-p-dependent lyases. Adv. Enzymol., 56 : 1.
- Tomoeda, M., Inuzuka, M., Kubo, N. and Nakamura, S. (1968). Effective elimination of drug resistance and sex factors in E. coli by sodium dodecyl sulfate. J. Bacteriol., 95 : 1078-1089.
- Tonaka, T. and Koshikawa, T. (1977). Isolation and characterization of four types of plasmids from Bacillus subtilis (natto). J. Bacteriol., 131 : 699-701.
- Toraya, T., Nihira, T. and Fukui, S. (1976). Eur. J. Biochem., 69 : 411-419.
- Trimble, R.B. and Maley, F. (1977). Subunit structure of external invertase from Saccharomyces. J. Biol. Chem., 252 : 4409-4412.
- Trip, P., Krotkov, G. and Nelson, C.D. (1963). Biosynthesis of mannitol C¹⁴ from C¹⁴ CO₂ by detached leaves of white ash and lilac. Can. J. Bot., 41 : 1005-1010.
- Troll, W., Frenkel, K. and Wiesner, R. (1984). Protease inhibitors as anticarcinogens. J. Natl. Cancer. Inst., 73 : 1245-1250.
- Tsou, K.C. and Su, H.C. (1964). A study of yeast α -Galactosidase with Naphthyl α -D-galactopyranosides as chromogenic substrates. Anal. Biochem., 8 : 415-423.

- Ulezlo, I.V. and Zaprometova, O.M. (1982). Microbial alpha-galactosidase (a review). Appl. Biochem. Microbiol., 18 : 1-12. 587
- Untermohlon, W.P. and Georgi, R.C. (1940). A comparison of cobalt and nickel salts with other organic agents for the detection of hydrogen sulfide in bacterial cultures. J. Bact., 40 : 449-459.
- Uozumi, T., Ozaki, A., Beppu, T. and Arima, K. (1980). New cryptic plasmid of *Bacillus subtilis* and restriction analysis of other plasmids found by general screening. J. Bacteriol., 142 : 315-318.
- Vaishnava, H. and Rizvi, S.N.A. (1971). Nutritional osteomalacia in Immunografts in urban community. Lancet. 11 : 1147.
- Van Etten, C.H. (1969). Goitrogens. In: (I.E. Liener, Ed.) Toxic constituents of plant foodstuffs. Academic Press, New York, p. 103.
- Vander Plat, J.B. (1974). Cyclic 3',5'-adenosine monophosphate stimulates trehalose degradation in baker's yeast. Biochem. Biophys. Res. Commun., 56 : 580-587.
- Van Veen, A.G. (1957). Fermented protein rich foods. FAO Reports No. FAO/57/3/1966.
- Van Veen, A.G., Graham, D.C.W. and Steinkraus, K.H. (1968a). Fermented rice, a food from Ecuador. Archivos Latino-americanos de Nutricion. 18, 363-373.
- Van Veen, A.G., Graham, D.C.W. and Steinkraus, K.H. (1968b). Fermented pea nut press cake. Cereal Sci. Today., 13 : 96-99.
- Van Veen, A.G., Graham, D.C.W. and Steinkraus, K.H. (1969). Fermented milk wheat combinations. Trop. Geogr. Med., 21 : 47-52.
- Van Veen, A.G., Hackler, I.R., Steinkraus, K.H. and Mukherjee, S.K. (1967). Nutritive quality of idli, a fermented food of India. J. Food Science. 32 : 339-341.
- Van Veen, A.G. and Steinkraus, K.H. (1970). Nutritive value and wholesomeness of fermented foods. J. Agric. Food Chem., 18 : 576-578.
- Van Wyk, J.J., Arnold, M.B., Wynn, J. and Pepper, F. (1959). The effects of a soybean product on thyroid function in humans. Pediatrics. 24 : 752.
- Veen, A.G., Van and Hyman, A.J. (1933). Geneeskundig Tijdschrift voor Nederlandsch-Indie. 73, 991.
- Vijayalakshmi, K.R., Rajagopal Rao, D. and Raghavendra Rao, M.R. (1975). Studies on a 2,3-diaminopropionate-ammonia lyase from a *Pseudomonas* Hoppe-Seyler's Z. Physiol Chem. Bd. 336 : 193-201.

- Vishalakshi, I., Salunkhe, D.K., Sathu, S.K. and Reckland, L.B. (1980). Quick cooking beans (*Phaseolus vulgaris* L.) phytates, oligosaccharides and antinutrients. *Qual. Plant Fds. Hum. Nutr.*, 30 : 45.
- Wagenknecht, A.C., Mattick, L.R., Lewin, L.M., Hand, D.B. and Steinkraus, K.H. (1961). Changes in soybean lipids during temperd fermentation. *Journal of Food Science.*, 26 : 373-376.
- Walker, A.F. (1982). Physiological effects of legumes in the human diet : A Review. *J. Plant Foods.* 4 : 5-13.
- Walker, A.R.P., Fox, F.W. and Irving, J.T. (1948). Studies on human mineral metabolism. 1. The effect of bread rich in phytate-P on the metabolism of certain mineral salts with special reference to calcium. *Biochem. J.*, 42 : 452-462.
- Walker, H.G. Jr., Lei, B., Rockwell, W.C. and Kohler, G.O. (1970). Preparation and evaluation of popped grains for feed use. *Cereal Chem.*, 47 : 513-521.
- Wang, H.L. and Hesselstine, C.W. (1970). Sufu and lao-chao. *Journal of Agric. and Food Chemistry.* 18 : 572-575.
- Wang, H.L. and Hesselstine, C.W. (1979). Mold modified feeds. In: *Microbial Technology*, Vol. 2, pp. 95-129, (Foppler, N.H. and Perlman, D. Eds.), Academic Press, New York.
- Wang, H.L., Swain, E.W. and Hesselstine, C.W. (1980). Phytase of molds used in oriental fermentation. *J. Food Sci.*, 45 : 1262.
- Wang, H.L., Vespa, J.B. and Hesselstine, C.W. (1972). Release of bound trypsin inhibitor in soybean by *Rhizopus oligosporus*. *J. Nutr.* 102 : 1495-1500.
- Wankhede, D.B. and Tharanathan, R.N. (1976). Sesame (*Sesamum indicum*) carbohydrates. *J. Agr. Food Chem.*, 24 : 655-659.
- Wanner, H. (1958). In: "Encyclopedia of plant physiology" (W. Ruhland, Ed.), Vol. VI, 834-871, Springer-Verlag, Berlin and New York.
- Waring, M.J. (1981). DNA modification and cancer. *Ann. Rev. Biochem.*, 50 : 59-92.
- Watanabe, T. and Snell, E.E. (1972). Reversibility of the tryptophanase reaction : synthesis of tryptophan from indole, pyruvate and ammonia. *Proc. Natl. Acad. Sci., U.S.A.* 69 (5) : 1086-1090.
- Watkins, J.C., Curtis, D.R. and Biscoe, T.J. (1966). Central effects of β -N-oxalyl-L- α , β -diaminopropionic acid and other Lathyrus factors. *Nature*, 211 : 637.

- Watkins, W.M. and Morgan, W.T.J. (1955). Inhibition by simple sugars of enzymes which decompose the blood group substances. *Nature*, **172** : 676.
- Weatherall, D.J. and Clegg, J.B. (1982). Thalassaemia revisited. *Cell*, **29** : 7-9.
- Weber, K., Pringle, J.R. and Osborn, M. (1972). Measurement of molecular weights electrophoresis on SDS gel. In: "Methods of Enzymology", Vol. XXVI, pp. 3-27.
- Wood, H.G., Mc Gandy, R.B. and Kennedy, A.R. (1985). Protection against dimethylhydrazine-induced adenomatous tumors of the mouse colon by the dietary addition of an extract of soybeans containing the Bowman-Birk protease inhibitor. *Carcinogenesis*, **6** : 1239-1241.
- Weightman, A.J., Den, R.H., Lehrbach, P.P. and Timmis, K.N. (1984). In: "Genetic Control of Environmental Pollutants" (G.S. Oden and A. Hollander, eds.), pp. 47-80. Plenum Press, New York.
- Weston, G.D. and Chin, C.K. (1975). Effect of sucrose on the synthesis of invertase isoenzymes in encased roots of tomato. *Plant Sci. Lett.*, **4** : 31-34.
- Wickham, L.J. (1958). Evidence of the production of extracellular invertase by certain strains of yeasts. *Arch. Biochem. Biophys.*, **76** : 439-448.
- Williamson, R., Esdaile, J., Coleman, D.V., Miani, M., Loeffler, F.E. and Modell, B. (1981). Direct gene analysis of chorionic villi : a possible technique for first trimester diagnosis of haemoglobinopathies. *Lancet*, **2** : 1127.
- William, V.R. and Lartigue, D.J. (1967). Quaternary structure and certain allosteric properties of aspartase. *J. Biol. Chem.*, **242** : 2973-2978.
- Williams, V.R. and Lartigue, D.J. (1969). In: "Methods in Enzymology", Vol. 11, p. 394.
- Williams, J., Villarroys, H. and Patek, F. (1977). Purification and properties of an α -galactoside galactohydrolase from the seeds of *Trifolium repens* (White clover). *Biochem. J.*, **161** : 509-515.
- Williams, J., Villarroys, H. and Patek, F. (1978). α -galactosidase II, III and IV from seeds of *Trifolium repens*. Purification, physicochemical properties and mode of Galactomannan hydrolysis *in vitro*. *Biochem. J.*, **172** : 1069-1077.
- Williams, M.J. and Wiseman, A. (1974). Ease of invertase solubilization in disruption of brewers yeast by vibramill. *Biochem. Soc. Trans.*, **1** : 1299-1301.

- Wise, A. (1983). Dietary factors determining the biological activity of phytate. *Nutr. Abstr. Rev.*, **53** : 791.
- Wise, A. and Gilbert, D.J. (1982). Phytate hydrolysis by germ free and conventional rats. *Appl. Environ. Microbiol.*, **43** : 753-756.
- Wong, H.C., Hu, C.A., Yeh, H.L., Su, W., Lu, H.C. and Lin, C.F. (1986). Production, purification and characterization of α -galactosidase from *Mucor* sp. *Appl. Environ. Microbiol.*, **52** (5) : 1147-1152.
- Wood, B.J.B. (1977). *Lactobacillus*/yeast interactions : their contribution to fermented foodstuffs, especially traditional bread. Symposium on indigenous fermented foods, Bangkok, Thailand.
- Wood, B.J.B., Cardenas, O.S., Young, F.M. and McNally, D.W. (1975). *Lactobacilli* in production of soy sauce, sour dough bread and parisiem barn. In: "Lactic acid bacteria in Beverages and Foods", pp. 325-335. (J.G. Carr, Cutting, C.B. and G.C. Whiting, Eds.), Academic Press, London & New York.
- Worthington, R.E. and Beuchat, L.R. (1974). α -Galactosidase activity of fungi on intestinal gas forming peanut oligosaccharides. *J. Agri. Food Chem.*, **22** : 1063-1066.
- Yamagata, H. and Uchida, H. (1969). Effect of caridine orange on sex factor multiplication in *E. coli*. *J. Mol. Biol.*, **46** : 7384.
- Wu, G., Bowles, S.B., Kim, K.S. and Hagwell, B.E. (1976). L-2-oxalylamine-3-amino-propionic acid, an isomer of the *Lathyrus sativus* neurotoxin. *Phytochemistry*, **15** : 1237-1239.
- Yamamoto, Y., Yangida, F. and Suminoe, K. (1972). Changes of enzyme activities during preparation of the koji for raw soy sauce. *Nippon Seikuhin Kagyo Gakkaishi*, **19**, 29-30.
- Yellin, T.O. and Wriston, J.C. (1966). Purification and properties of guinea pig serum asparaginase. *Biochemistry*, **5**, 1605.
- Yokotsuka, T. (1977). Japanese shoyu. Symposium on indigenous fermented foods, (SIFT). Bangkok, Thailand, Nov. 21-27.
- Yang, F.M. and Wood, B.J.B. (1977). Biochemical changes in experimental soy sauce koji. *Journal of Food Technology*, **12** : 163-173.
- Yasuhisa, A., Fujishiro, K., Tani, Y. and Yamada, H. (1982). Aliphatic nitrile hydratase from *Arthrobacter* sp. J-1 purification and characterization. *Agri. Biol. Chem.*, **44** : 2251-2252.

- Yasui, H., Shio-Miya, S., Shimamoto, T., Kanazawa, H., Futai, M., and Tsuchiya, T. (1984). Nucleotide sequence of the mel B gene and characteristics of deduced amino acid sequence of the melibiose carrier in *Escherichia coli*. *J. Biol. Chem.*, **259** : 4320-4326.
- Zacharias, R.M., Zell, T.E., Harrison, J.H. and Woodcock, J.T. (1969). Glycoprotein staining following electrophoresis on acrylamide gels. *Anal. Biochem.*, **30** : 148-152.
- Zanora, A. and Fields, M.L. (1979a). Nutritive quality of fermented cow peas (*Vigna sinensis*) and chickpeas (*Cicer arietinum*). *J. Food Sci.*, **44** (1) : 234.
- Zanora, A.F. and Fields, M.L. (1979b). Microbiological and toxicological evaluation of fermented cowpeas (*Vigna sinensis*) and chickpeas (*Cicer arietinum*). *J. Food Sci.*, **44** : 928-92
- Zanora, R.G. and Vonn, T.L. (1979). The nutritive value of dehulled soybeans fermented with *A. oryzae* or *B. oligosporus* as evaluated by rats. *J. Nutr.*, **109** : 1335-1339.
- Zarnit, M.L. and Kabat, E.A. (1960). Immunological studies on blood groups. XII. The action of coffee bean α -galactosidase on blood group B and BP I substances. *J. Amer. Chem. Soc.*, **82** : 3953.
- Ziegler, H. (1973). In: "Encyclopedia of Plant Physiology", New Series, (H.H. Zimmermann and J.H. Milburn, eds.), Vol.1, pp. 63-68. Springer-Verlag, Berlin and New York.
- Zounghi, M., Klein-Bude, D. and Rollin, P. (1979). Phytochrome-regulated transfer of fructosidase from cytoplasm to cell wall in *Raphanus sativus* hypocotyls. *Planta*, **147** : 7-14.