

## **REFERENCES**

- Abbas, H.M., El-Sayed N. H., and Khorshid, M.A. (1993):  
Improving the quality of fresh white soft cheese made from ultrafiltrated milk. *Egypt. J. Food. Sci.*, 21, 3, 249.
- Abd-El-Hady, S.M., Dawood A.H., Abdou S.M., Younis M.F. and Abd-El Hady S.M. (1983)  
Effect of adding lactose enzyme on growth and activity of some dairy microorganisms. *Proceeding of the 6<sup>th</sup> International Congress of Food Sci. and Techn.*, 2, 40.
- Abd El-Hamid, L.B. (1967):  
A study on the effect of solids-not fat, glucose syrup and egg yolk on some properties of ice cream. M.Sc. Thesis, Ain Shams Univ. Cairo.
- Abd El-Aty, A.M. (1989):  
Production of Beta-galactosidase enzyme. M.Sc. Thesis. Faculty of Agric, Moshtohor, Zagazig University, Benha Branch.
- Abd El-Salam, M.H., El-Shibiny, S., Ahmed, N.S. and Ismail A.A. (1981):  
The use of ultrafiltration in manufacture of Domiati cheese from buffalo's milk. *Egyptian J. Dairy Sci.*, 9, 151-158.
- Abd El-Salam M.H., El-Shibiny, S.; El-Koussy, L.A. and Haggag, H. (1983):  
Domiati cheese made with ultrafiltered reconstituted milk and lipolysed recombined cream. *J. Dairy Research*, 50, 237-240.
- Abd El-Salam, M.H.; Asker, A.A.; Hamzawi, L.F.; El-Dien, H.F. and Farrag A. (1992):  
Compositional quality of Domiati cheese as affected by lactose content in milk. *Egyptian J. Dairy Sci.*, 20: 41-51.
-

Abdou, S.M.; Abd-El Hady, S.M.; Dawood, A.H. and Younis, M.F. (1984):

The use of milk with partially hydrolysed lactose in the manufacture of some dairy products. *Egyptian J. Dairy Sci.*, 12: 375-284.

Abd Rabo, F.H.; Partridge, J.A. and Furtado M.M. (1988):

Production of yoghurt utilizing ultrafiltration retentates of salted whey as a partial substitution for milk. *Egyptian J. Dairy Sci.*, 16: 319-329.

Abrahamsen, R.K. (1987):

Membrane filtration, an aid to dairy Techn.. *Meieripsten* 75 (13, *Meieriteknikk* 3) 18-26. *C.F. Dairy Sci, Abst.* 49 (3): 178.

American Public Health Association (1978):

Standard methods for the examination of dairy products. 14<sup>th</sup> Ed. Washington, Broadway, New York.

Anderson, A.K. (1953):

Essentials of Physiological Chemistry. John Wiley and Sons, p. 66-69, Fourth Edition.

Anema, P.J. (1964):

Purification and some properties of Beta-galactosidase of *Bacillus subtilis*. *Biochim. Biophys. Acta*, 89: 495-502.

Antila, P.; Lehto, M. and Antila, V. (1977):

The use of lactase-treated milk in the manufacture of yoghurt. 20th. International Congress, Paris, P. 498.

A.O.A.C., (1975):

Methods of Analysis Of Association of Official Analysis Chemists, 12<sup>nd</sup> Washington, D.C.

Arbuckle, W.S. (1977):

Ice cream, 3rd Ed. Published by the AVI Publishing Company, INC., West Port, Connecticut, U.S.A.

Arora, R. and Sinha, R.R. (1989):

Immobilization of Beta-galactosidase by covalent attachment to porous glass. *Indian J. of Dairy Sci.* 42(2): 159-164.

Arsov, A.E. (1988):

A study of the fermentation of enzymically-hydrolyzed milk inoculated with yoghurt culture. *Kmetiystovo (Zivunoreja)* No. 52, 189-201. (C.F. , D.S.A., 1990 Vol. 52, No 11 p. 930.

Askar, A.A.; Gaafer A.M.; Magdoub M.N.I. and Shehata, A.E. (1982):

Manufacture of Domiati cheese by direct acidification method, *Egyptian. J. Dairy Sci.*, 10, 73-80.

Axelsson, A. and Zacchi G. (1990):

Economic evaluation of the hydrolysis of lactose using immobilized Beta-galactosidase. *Applied Biochemistry and BioTechn.*, 24-25: 679-693. ( C.F. Dairy Sci., Abst. 53 : 691).

Bacques, G. and Simonpieri, V. (1987):

Lactose fermentation by *Kluyveromyces lactis* in semi-skin UHT milk. *Microbiologie-Aliments-Nutrition.* 5:3, 219-225. (C.F. Dairy Sci. Abstracts 1989).

Bailey, M.J. and Linko, M. (1990):

Production of Beta-galactosidase by *Aspergillus oryzae* in submerged bioreactor cultivation. *J. of Biotechn.* 16: 57-66.

Bakken, A.P.; Hill, C.G. and Amundson C.H. (1990).

Use of novel immobilized Beta-galactosidase reactor to hydrolyzed the lactose constituent of skim milk. *BioTechn. and Bioengineering* 36 (3) 292-309.

Bayoumi, S.E. and Reuter, H. (1986).

Manufacture of Domiati cheese using ultrafiltration. *Dentsche Molkerei-Zeitung*, 107. (22, 702-704)  
(C.F. Dairy Sci. Abst. 49, 3417).

Bernal, V. and Jelen P., (1985):

Lactose hydrolysis by *Kluyveromyces lactis* beta-D-galactosidase in skim milk, whey, permeate and model systems. *J. Can. Inst. Food Sci. and Techn.*, 18(1): 97-99.

Blankenship, L.C. and Wells, P.A. (1974):

Microbiol Beta-galactosidase: A survey for neutral pH optimum enzymes. *J. Milk Food Techn.*, 37 (4) 199-202.

Borglum, G.B. and Sternberg, M.Z. (1972):

Properties of fungal lactase. *J. of Food Sci.*, 37, 619.

British Standards Institution (1954):

Methods of chemical analysis of ice cream. Publ. No. 2472, London.

British Standards Institution (1969):

Gerber method for the determination of fat in milk and milk products. B.S. , 696, Part 2.

Broome, M.C., Roginski, H. and Hickey (1983): The enzymic Hydrolysis of lactose in skim milk yoghurt. *The Aust. J. of Dairy Techn.*,1, 35.

Brown, R.W. and Gibson, D.L. (1955):

The use of glucose in ice cream part I(a) and Part II(b). *Can. Dairy and Ice Cream J.*, 34 (9): 66 and 34 (10):38.

Burke, A.D. (1947):

Practical Ice Cream Making. The Olsen Publishing Co., Milwaukee, Wis., USA.

Cabrera, M. del. C.; Martinez, G.; Espinosa G.; Real E.; Ortege O; Ortega, A. and Del.C. Cabrera, M. (1991):

Production of low-lactose product enriched with vitamins and minerals. *Alimentaria* 226:37-39. (C.F. Dairy Sci. Abst. 54-03212).

- Castillo, F.J. and Moreno, B. (1983):  
Properties of lactase produced by *Candida pseudotropicalis*. J. Dairy Sci. 66: 1616-1621.
- Chang, B.S. and Mahoney, R.R. (1989):  
Purification and thermostability of Beta-galactosidase (lactase) from an autolytic strain of *Streptococcus salivarius* subsp *thermophilis*. J.Dairy Res. 56: 117-127.
- Chen, H.C. and Zall, R.R. (1983):  
Continuous lactose hydrolysis in fixed bed and expanded-bed reactors containing catalytic resins. J. of Food Sci. 48:1741-1744.
- Chen, J.Y. and Tsen, H.Y. (1991):  
Effect of milk and milk constituents on heat stability of lactase from *Saccharomyces lactis*. J. of the Chinese-Agric. Chemical Society 29 (4): 456-464. (C.F. Dairy Sci. Abst. 55.00552).
- Chibata, I. (1978):  
Immobilized Enzymes (Research and Development). John Wiley and Sons P. 79.
- Christiansen, P.S.; Edelsten, D; Kristiansen, J.R. and Siegaard, J. (1987):  
Production of low-lactose dulce de leche. Maelkeritidende 98 (16) 335-33. (C.F. Dairy Sci. Abst. 49 (7) : 482.
- Daniels, M.J. (1985):  
Low-cost process for lactose hydrolysis with immobilized lactase. Food Techn., 39:10, 68-70. (C.F. Dairy Sci, Abst. 1986, 48 : 723).
- Dawood, A.H.; Abdou S.M.; Abd-El Hady, S.M. and Younis, M.F. (1985):  
Factors affecting the hydrolysis of lactose in buffalo and cow milks by lactase. Egyptian J. Dairy Sci., 13: 209-216.
-

- Deeth, H.C. and Tamime, A.Y. (1981):  
Yoghurt. Nutritive and Therapeutic Aspects. J. Food Protection, 44, 78.
- Difco Manual (1953):  
Difco Laboratories Incorporated. Detroit, Michigan, U.S.A.
- Dnwulata, C.I. and Rao, D.R. (1986):  
Lactase activity and lactose levels in yoghurt, buttermilk, lactose-hydrolyzed milk and sweet acidophilus milk. J. of Dairy Sci. 69: suppl. 1. 89. (C. F. Dairy Sci. Abst. 48: 06707).
- Eastern, W.M. and Mason, G.J. (1951).  
Bacteriological studies of commembert cheese. Stors Agric. Exp. Station Bull. 83. 103.
- Edelsten, D. (1983):  
The removal of lactose from milk by *Saccaromyces fragilis* x I x International Dairy Congress IE 579.
- Egyptian Legal Standards (1993):  
Part I and 3, No. 1185.
- El-Abd, M.M.; Ibrahim, M.K.E.; Amer, S.N. and Moustafa S. (1975):  
Effect of whey concentration in the prickling media on the quality and composition of Domiati cheese. Egyptian J. Dairy Sci., 3:95.
- El-Safty, M.S., El-Zayat, A.I.; and Ismail A.A. (1985).  
The effect of partial lactose hydrolysis on the quality and ripening of Domiati cheese. Egyptian J. Dairy Sci., 13: 91-100.
- El-Sayed, W.M. (1993):  
Production and utilization of lactose in Dairy industry. M.Sc. Thesis, Faculty of Agric. Ain Shams Univesity , Cairo.

- El-Shabrawy , E.A. (1973):  
Studies on Cashkaval cheese made from buffaloe's milk. M.Sc. Thesis, Ein Shams Univ.
- El-Zayat, A.I. and Omar , M.M. (1987):  
Kareish cheese prepared from ultrafiltered milk. J. Dairy Res., 54 (4) 5450550.
- Ernstrom, C.A. and Anis S.K. (1985):  
Proc. IDF seminar New Dairy Products, Atlanta, USA, P. 21 (C.F. Application of ultrafiltration in the Dairy Industry, by Renner. E. and Abd El-Salam, Published by Elsevier Sci. Publishers LTD, p. 161-215, 1991.
- Farag, S.I.; Khader, A.E.; Mousa, A.J. and El-Batawy, A.M. (1993):  
Study on ice cream. 1- On the use of high fructose corn syrup as a sweetner. Egypt. J.Dairy Sci., 21: 97-107.
- F.A.O. (1977):  
Regional Dairy Development and Training Center for the Near East 1977. "Laboratory Manual" spring.
- Frandsen, J. H and Arbuckle, W.S. (1961):  
Ice Cream and Related Products. The AUI Publishing Co. Inc.
- Frost, G.M. and Gregory, K.W. (1986):  
Lactase-containing compositions and their preparation. European-Patent-Application 166: 601 (C.F. Dairy Sci. Abst. 49:00570.
- Furtado, M.M. and Partridge, J.A. (1988):  
Characterization of nitrogen fraction during ripening of soft cheese made from ultrafiltration retentates. J.Dairy Sci. 71:2877-2884.
- Geilman W.B.; Schmidt D., Herfurth, K.C. and Path, J. (1990):  
Production of frozen dairy desserts from milk retentate. J. of Dairy. Sci. 73: supplement 1, 94 (D076).
-

- Giacin, J.R.; Jakubowski, J. ; Leeder J.G.; Gilbert, S.G. and Kleyn D.H. (1974):  
Characterization of lactase immobilized on collagen: conversion of whey lactose by soluble and immobilized lactase. *J. of Food Sci.* 39: 751.
- Gomori, G. (1955):  
Preparation of bufferes for use in enzyme studies. *Methods in Enzymology*, 1: 138-146.
- Gonzalez-Siso, M.I. and Suarez-Doval, S (1994):  
*Kluyveromyces lactis* immobilization on corn grits for milk whey lactose hydrolysis. *Enzyme and Microbiol. Techn.* 16(4): 303-310.
- Gooda, E. ; Bednerski, W.; Chojnowski , W.; Kuncewicz, A.; Poznanski S. and Kowalewska J: (1984):  
Attempts to obtain yoghurt with a decreased lactose content. *Acta Alimentaria Polanica* 9: 1/4, 65-77. (C.F. Dairy Sci. Abst. 46. 06603.
- Gorner, F., Palo, V. and Sigerova, M. (1972):  
Change in content of volatile substances in yoghurt during rippening. *Milchwissenschaft* 23: 94. (C.F. Dairy Sci. Abst., 1970: 32:301).
- Greenberg, N.A. and Mahoney R.R. (1982):  
Production and characterization of Beta-galactosidase from *Streptococcus thermophilus*. *J. of Food Sci.* 47:1824.
- Gregory, K. (1985):  
Lactase in dairy processess. *Food-Techn. in New-Zealand.* 20 (6):32-33. (C.F. Dairy Sci. Abst. 48: 01287.
- Griffiths, M.W. and Muir, D.D. (1980):  
Hydrolysis of lactose by a thermostable Beta-galactosidase immobilized on DEAE0 cellulose. *Society of Chemical Industry* p. 397-4.
-

- Guarda, M.A., Mateluna, G.W.; Castro, M.E. (1988):  
Operational parameters of enzymic hydrolysis of lactose in whey with *Saccharomyces lactis*. Lactase E. Alimentos 13(4).
- Gulati, G. and Deodhar, A.D. (1985):  
Nutritional evaluation of proteins in heat treated low lactose milk. Indian J. Dairy Sci., 38 (3) : 185-190.
- Gunther, E. (1983):  
Process for producing yoghurt with a reduced lactose content. German-Federal Republic Patent Application DE 31: 46. 198 AI (C.F. Dairy Sci. Abst. 1984. 383).
- Guy, E. J. and Bingham E.W. (1978):  
Properties of Beta-galactosidase of *Saccharomyces lactis* in milk and milk products. J. Dairy Sci. 61: 147-151.
- Haldane, J.B.S. (1965):  
The Enzymes, M/T Press Chambridge, Mass, Areprinted Classic.
- Hansen, P.M.T. and Black P.H. (1972):  
Whipping properties of spray dried complexes from whey protein and C.M.C. J. Food Sci. 37, 452-6.
- Hansen, M.S. (1981):  
Technological and economic aspects of manufacture of cream from hyperfiltered skim-milk. Pasilas information No. I.S, Kborn Denmark.
- Harby, S.I. (1985):  
Study on fermented milk. M.Sc. Thesis Faculty of Agric, Cairo Univ.
- Hassan, H.N., Mehanna N.M., El-Deeb, S.E. and Mashaly R.I. (1983):  
Manufacture of white soft cheese from hydrolyzed lactose milk. Egypt. J. Dairy Sci., 11, 137.

- Heikonen, M. , Harju, M. and Tykkylainen P. (1985):  
Lactose hydrolysis. Scandinavian J. of Dairy Techn. and know-  
How. 2/85 (C.F. Dairy Sci. Abst. 1987 ,49:5546).
- Hemme, D., Narb, M and Jette D. (1980):  
Beta-galactosidase and phospho Beta-galatosidase Streptococcus  
thermophilus Le lait, 60-593-618.
- Hermanson ,G.T., Malia,A.K. and Smith P.K. (1992):  
Immobilized Affinity Ligand Techniques. Academic Press, United  
Kingdom Edition.
- Herning, A., Lorenzen P.C. and Lessleben K., (1989):  
Milk concentrate and process for the preparation thereof. European  
Patent Application 316:938.
- Hickey, M.W., Roginski, H. and Broom , M.S. (1983):  
Growth and acid production of group N streptococci in Australian.  
J. Dairy Techn., 12, 138-143.
- Hofi, M.A. (1988):  
Low lactose labneh and Zabady by Ultrafiltration. Scand. Dairy Ind.  
1,88:50.
- Hofi, M.A. (1989):  
The use of ultrafiltration in ice cream making. Egyptian J. Dairy  
Sci., 17: 27-34.
- Hofi, M., Fayed, Z.D. and Hofi, A. (1993):  
Substitution of Non fat milk solid in ice cream with ultrafiltration.  
Whey protein concentrate. Egypt J. Food Sci., 21,2.
- Hoier, E., Dent. (1984):  
Milchw, 35, 443. (C.F. Application of Ultrafiltration in the Dairy  
Industry, by Renner, E. and Abd El-Salam, M.H.). Published by El-  
Sevier Science Publisher, LTD p. 168, 1991.

Honda, Y. and Takafuji S.I. (1986):

Hydrolysis of lactose reconstituted skim milk using immobilized Beta-galactosidase (immobilized sumylact). I. Development of bio-reactor. Snow Brand Milk products No. 83, 55-65. Ltd., 6-1-1, Naebo-cho, Higashi-ku, Sapporo 065, Japan, (C.F. Dairy Sci, Abst. 49 (6): 444).

Honda, Y., Hashiba, H.; Ahiko, A; and Takahashi H. (1991):

Hydrolysis of lactose using a pilot scale horizontal rotary column reactor. J. of the Japanese Society for Food Sci. and Techn. 38 (7): 614-619. (C.F. Biological Abst. 92:9, 98912).

Horton, S.B. (1982):

Reverse Osmosis and Ultrafiltration Today. J. Dairy Record, 126-140.

Hourigan, J.A. (1984):

Nutritional implication of lactose. Aust. J. of Dairy Techn., 39:114-120.

Huh, K.T.; Park S.J.; Kim, H.W.; Choi, C.U.; Moon, J.W. and Yu, J.H. (1989):

The formation of oligosaccharides during hydrolysis of lactose by *Kluyveromyces fragilis* Beta-galactosidase (Lactozym). Korean, J. of Dairy Sci. 11(4): 279-288. (C.F. Dairy Sci. Abst. 53(5): 414.)

Hussein, L., Elsayed, S. and Foda, S. (1989):

Reduction of lactose in milk by purified lactase produced by *Kluyveromyces lactis*. J. of Food Perotec., 52:30-34.

Hustad, G.O.; Richardson, T. and Olson, N.F. (1973):

Immobilization of Beta-galactosidase on an insoluble carrier with a polyisocyanate polymer. I. Preparation and Properties. J. of Dairy Sci., 56, 9:111.

- Illanes, A.; Ruiz A.; Zuniga, M.E.; Aguirre, C.; O'reilly, S. and Curotto E. (1990):  
Immobilization of lactase for the continuous hydrolysis of whey permeate. *Bioprocess Engineering* 5(6): 257-262, (C.F. Biological Abstracts 91:4, 38178.
- Ismail, A. and El Nimr, A. (1980):  
Quantitative changes in carbohydrates and acidity during manufacture of low-lactose Zabadi. *J. Food Protec.*, 43; 566-567.
- Ismail, A.A.; Mashaly R.I., Abou Donia, S.A., El-Soda, M.A. and El-Deeb, S.A. (1982):  
A comparative study between salting methods of white soft cheese. *Indian J. Dairy Sci.* 44.
- Iversen K.E. and Aarhus, G. (1980):  
Use of hyperfiltered skim milk in ice-cream production. *Pasilac Informations No. 1.* Silkeborg, Denmark.
- Iwasaki, T. and Kawanishi, G. (1983):  
Commercialization of lactases and lactose-hydrolyzed milk in Japan. Basel Switzerland, S. Karger 72-76. (C.F. Dairy Sci, Abst. 46:76).
- Jamrichova, S. (1988):  
Techn. of low-lactose milk production for the retail market. *Primysl Potrovin* 39 (12): 638-640. (C.F. Dairy Sci. Abst. 52 (3): 168.
- Jensen, L.A., Tong P.S. and Harris L.H. (1989):  
Characateristics of frozen desserets containing retentate from U.F. of skim milk. I. Mix Composition and Freezing. *J.D. Sci.* 72 (supp. 1) : 129 (Abstract).
- Kandeel, A.A., Ibrahim S.A. and Emara H. (1993):  
Some chemical properties of reconstituted skim milk as affected by yoghurt culture and lactase. *Zagazig J. Agric. Res.* , 20. (6) 1807-1816.

- Kay G.; Lilly, M.D.; Sharp A.K. and Wilson R.J.H. (1968):  
Preparation and use of porous sheets with enzyme action. *Nature* 217:641.
- Khorshid, M.A.; Saada, M.Y.; Khalil, S.A.; Mahran, G.A. and Hofi M.A. (1992):  
Low lactose Zabadi. Proceedings of the IDF Seminar held in Munich-Germany from 25 to 28 August.
- Kinsella, J.E. (1982):  
Protein structure and functional properties: Emulsification and flavour binding effects in: *Food Protein Deterioration: Mechanisms and Functionality* (Ed Chery. J.P.) American Chemical Society Washington, D.C.
- Kohler, J.J., Erickson, A.B.; Meyr, J.L. (1994):  
Method and apparatus for producing reduced lactose milk. United States Patent US 5357, 852 (C.F. Food Sci. and Techn. Abst. FSTA 27, , 3 , 196).
- Kosikowski, F.V. (1979):  
Low lactose yoghurt and milk beverages by ultrafiltration. *J. Dairy Sci.*, Vol. 62, No. I.
- Kosikowski, F.V. and Wierzbicki, L.E. (1972):  
Lactose hydrolysis of raw and pasteurized milks by *Saccharomyces lactis* lactase. *J. Dairy Sci.* 56, 1, 146.
- Kotz, C.M.; Furne , J.K.; Savaiano, D.A. and Levitt, M.D. (1994):  
Factors affecting the ability of a high Beta-galactosidase yoghurt to enhance lactose absorption. *J. Dairy Sci.* 77:3538-3544.
- Kreuder, K. (1987):  
Low-energy yoghurt. *Deutsche-Mikhwirtschaft.* 38:41. 1503-1507. (C.F. Dairy Sci. Abs. 50: 04370.
-

- Lawrance, E.R. (1968):  
The determination of lactose in milk products. *Aust. J. Dairy Techn.*, 23: 103.
- Lawrence, R.C. (1987):  
IDFB - Doc. 1987, 136.
- Lee, S.Y. E.R. Vedamuthu, C.J. Washam, and Reinbold G.W.(1973):  
An Agar Medium for the Differential Enumeration of Yogurt Starter Bacteria. *J. Milk Food Technol.*, 37, 5 (1974).
- Lee, I.S., Kim,S.H., Kang, K.H., Hawer, W.D.(1989):  
Changes of some physico-chemical properteies of yoghurt made from Beta-galactosidase-treated skim milk. *Korean J. Dairy Sci.* , 11 (3) 158-164. (C.F. Dairy Sci, Abst. 51, 5 ,398).
- Lees, G.J. and Jago G.R. (1969):  
Method for the estimation of acetaldehyde in cultured dairy product. *Aust. J. Dairy Techn.*, 24, 181.
- Leliever, J. and Lawrence, R. (1988):  
Manufacture of cheese from milk concentrated by ultrafiltration. *J. Dairy Res.* 55: 465-478.
- Lin, C.K. and Tsen, H.Y. (1990):  
Use of the enzyme reactor made of fiber entrapped lactase for the hydrolysis of lactose. *J. of the Chinese Agricultural Chemical Society* 28 (1): 69-76. (C.F. Biological Abst., 90:6 . 61668.
- Lindamood, J.B.; Groosms, D.J. and Hansen P.T.M.(1989):  
Effect of hydrolysis of lactose and sucrose on firmness of ice cream. *Food Hydrocolloids* 3 (5) 379.
- Ling, E.R. (1963):  
A text book of Dairy Chelmistry. Volume II Practical 3<sup>rd</sup> ed. Chapman and Hall Ltd., London.

Lawrance, E.R. (1968):

The determination of lactose in milk products. Aust. J. Dairy Techn., 23: 103.

Lawrence, R.C. (1987):

IDFB - Doc. 1987, 136.

Lee, S.Y. E.R. Vedamuthu, C.J. Washam, and Reinbold G.W.(1973):

An Agar Medium for the Differential Enumeration of Yogurt Starter Bacteria. J. Milk Food Technol., 37, 5 (1974).

Lee, I.S., Kim,S.H., Kang, K.H., Hawer, W.D.(1989):

Changes of some physico-chemical properteies of yoghurt made from Beta-galactosidase-treated skim milk. Korean J. Dairy Sci. , 11 (3) 158-164. (C.F. Dairy Sci, Abst. 51, 5 ,398).

Lees, G.J. and Jago G.R. (1969):

Method for the estimation of acetaldehyde in culture dairy product. Aust. J. Dairy Techn., 24, 181.

Leliever, J. and Lawrence, R. (1988):

Manufacture of cheese from milk concentrated by ultrafiltration. J. Dairy Res. 55: 465-478.

Lin, C.K. and Tsen, H.Y. (1990):

Use of the enzyme reactor made of fiber entrapped lactase for the hydrolysis of lactose. J. of the Chinese Agricultural Chemical Society 28 (1): 69-76. (C.F. Biological Abst., 90:6 . 61668.

Lindamood, J.B.; Groosms, D.J. and Hansen P.T.M.(1989):

Effect of hydrolysis of lactose and sucrose on firmness of ice cream. Food Hydrocolloids 3 (5) 379.

Ling, E.R. (1963):

A text book of Dairy Chelmistry. Volume II Practical 3<sup>rd</sup> ed. Chapman and Hall Ltd., London.

- Mahoney, R.R.; Nickerson, T.A. and Whitaker, J.R. (1975):  
Selection of strain, growth conditions, and extraction procedures for optimum production of lactase from *K. fragilis*. J. Dairy Sci., 58, 11, 1620.
- Mahoney, R.R. and Whitaker, R.J. (1978):  
Purification and physiochemical properties of Beta-galactosidase from *K. fragilis*. J. Food Sci., 43: 584.
- Mahoney, R.R. and Wilder, T. (1988):  
Thermostability of yeast lactase *K. marxianus* in milk. J. Dairy Res. 55. 423.
- Mann, S. and Thompkinson, D.K. (1988):  
Immobilized Beta-galactosidase for lactose hydrolysis. Aust. J. of Dairy Techn., 43: 47-49.
- Martinez, S. and Speckman, R.A. (1988):  
Beta-galactosidase treatment of frozen dairy product mixes containing whey. J. Dairy Sci. 71 : 893.
- Masters, A.R. and Kosikowski, F.V. (1986):  
Effect of protein and solids content on low lactose ice cream from ultrafiltered milk. J. of Dairy Sci. 69 suppl. 1, 78. (C.F. Dairy Sci. Abs. 48: 06294.
- Maubois, J.L., Mocquot, G. and Vassal, L. (1969):  
A method for processing milk and dairy products Fr. Pat. 2, 052, 121 (C.F. Mistry, V.V. and Kosikowski, F.V.; 1985. Activity of lactic starters in milk retentants; J.Dairy Sci., 66, 61-79).
- Maubois, J.L. and Mocquot, G. (1975):  
Application of membrane ultrafiltration to preparation of various types of cheese. J. Dairy Sci., 58, 7, 1001-1007.
-

- McFeters, G.A.; Sandine, W.E. and Elliker, P.R. (1967):  
Purification and properties of *Streptococcus lactis* Beta-galactosidase. J. Bact., 93 (3) 914-919.
- Mehanna, N.M.; El-Dien, H.F. and Mahfouz, M.B. (1988):  
Composition and properties of yoghurt from ultrafiltered milk. Egypt. J. Dairy Sci. , 16, 223.
- Mistry, V.V., Kosikowsk, F.V. (1986):  
(C.F. Application of ultrafiltration in the dairy industry, by Renner.E. and Abd El-Salam, Published by Elsevier Science Publisher. Ltd. P. 161 - 215, 1991.
- Mistry, V.V. and Hassan, H.N. (1991):  
Delactosed, High milk protein powder. 1. Manufacture and compositon. J.Dairy Sci., 74: 1163-1169.
- Morisi, F.; Pastore, M. and Viglia A. (1972):  
Reduction of lactose content of milk by Entrapped Beta-galactosidase. 1. Characteristics of Beta-galactosidase from yeast and *Escherichi coli* J. D. Sci. ,56 , 9 , 1123.
- Nakanishi, K.; Matsuno, R.; Torii, K; Yamamoto, K. and Kamikubo, I. (1983):  
Properties of immobilized Beta-galactosidase from *Bacillus circulans*. Enzyme and Microbial Techn. 5(2):115.
- Nakhapetyan, L.A.; Samoshina, N.M.; Sviridenko, Y.Y.; Borovkiva, Y.A. and Smurygin, V.Y. (1991):  
Galactosil a biocatalyst for hydrolysis of whey lactose. International Dairy Congress, Monthreal, October 8-12, 11. (C.F. Dairy Sci, Abst., 53 (8): 632).
- Nielsen, J.W. and Gilliland, S.E. (1992):  
The lactose hydrolyzing enzyme from lactobacillus acidophilus. Cultured Dairy Products J.. 27 (1), 20-23, 24, 26, 28. (C.F. Dairy Sci, Abst., 54, 6, 464).

- Nou, s.; Nagata, S.; Ohashi, T.; Yamauchi, K.; Harada, H. and Eto, N. (1994):  
Physical properties of refrigerated fresh cheese manufactured from ultrafiltered milk. *Japanese J. of Dairy and Food Sci.* 43-(4) A-81-A-85 (C.F. Dairy Sci, Abst. 1995 Vol. 57, No. 3, P. 230).
- Nutra Sweet Co., Deerfield. IL. USA. (1991):  
Breakthrough in bulking, *Dairy Foods* 92 (4): 96.
- Okos, M.R.; Grulke, E.A. and Syverson, A. (1978):  
Hydrolysis of lactose in acid whey using Beta-galactosidase adsorbed to a phenol formaldehyde resin. *J. Food Sci.*, Vol. 43:566.
- O'Leary, V.S. and Woychik, J.H. (1976):  
A comparison of some chemical properties of yoghurt made from control and lactase treated milk. *J. Food Sci.*, 41, 791.
- Omar, M.M. (1984):  
Proteolysis and quality of Ras cheese as affected by added Beta-galactosidase. *Egyptian J. Dairy Sci.* 13:285.
- Omar, M.M. and El-Shibiny, S. (1985):  
Composition and microstructure of Domiati cheese as affected by lactase (Beta-D-galactosidase. *Egyptian J. Dairy Sci.*, 13:33-39).
- Omar, M.M., Choynowski, W. and Smietana, Z. (1986):  
Quality and microstructure of Solan cheese produced by ultrafiltration. *Egyptian J. Dairy Sci.*, 14 (1), 43-54.
- Omar, M.M. (1987):  
Microstructure and composition of soft brine cheese from recombined milk by ultrafiltration. *Egyptian J. Dairy Sci.*, 15, 123-133.
- Omer, R.H. (1983):  
Studies on the manufacture of frozen yoghurt. M.Sc. Thesis, Fac. Agric., Ain Shams Univ. Cairo, Egypt.

- Ortega-Lopez, J.; Morales-Ramos, L.H.; Montes, M.C. and Magana-Plaza, I. (1993):  
Lactose hydrolysis by immobilized beta-galactosidase on nylon-6: novel spin-basket reactor. *BioTechn. techniques* 7 (11): 775-760.
- Ostojic, M.; Prijic, M.; Tintor, M. and Cagaric, A. (1984):  
Ultrafiltration of whole milk. *Mljekarstvo*. 34 (2), 41-46. (C.F. Dairy. Sci. Abst. 46 : 08021).
- Park, Y.K.; Dessant, M.S.S. and Pastore, G.M. (1979):  
Production and characterization of Beta-galactosidase from *Aspergillus oryzae*. *J. Food Sci.*, 44 (1), 100-103.
- Pastore, M.; Morisi, F. and Viglia, A. (1972):  
Reduction of lactose of milk by entrapped Beta-galactosidase. II. Conditions for an Industrial Continuous Process. *J. of Dairy Sci.*, Vol. 57, No. 3 : 269.
- Paul, S.C. and Mathur, B.N. (1989):  
Standardization of processing parameters for enzymic hydrolysis of lactose on pilot scale. *Indian J. of Dairy Sci.* 42 (3), 643-644.
- Peterson, R.S. (1987):  
Lactose hydrolysis by immobilized Beta-galactosidase in a capillary bed reactor. *International, B. Sci.s and Engineering*, 48 (6): 1756; 241.
- Pitz, D.E. (1987):  
Lactose-free synthetic ice cream. United States Patent, US (4) 643:906. (C.F. Dairy Sci. Abst. 49: 04964.
- Pivarnik, L.F. and Rand, A.G. (1992):  
Assay conditions effect on Beta-galactosidase activity from *K. lactis*. *J. Food Sci.* 57: 1020-1021.
-

- Pizzichini, M.; Pilloton, R. and Zeddit, G. (1988):  
Study of an enzymatic membrane reactor for lactose hydrolysis in cheese whey. *Acqua and Aria* 35:10, 1263-1271.
- Pizzichini, M.; Pilloton R; Mignogna, G. and Zambrini, A.V. (1991):  
Hollow fiber membrane for lactose hydrolysis. Dairy Congress Montreal, October, 11,(C.F. D.S.A. 53 (8): 632).
- Rasic, J.L. and Kurmann, J.A. (1978):  
Yoghurt Scientific Grounds, Techn., Manufacture and preparation , Vol. I.
- Real Del Sol E., Cardoso Castanda, F. Cabrera Santos, M.C. and Ortega Fleitas O. (1993):  
Use of ultrafiltration in the production of white cheese. *Alimentaria*, 30, 245: 77-79.
- Reichenbach, L.H. and Harper, W.J. (1982):  
Beta-galactosidase retention by hollow fiber membranes. *J. Dairy Sci.* 65: 887-898.
- Reid, W.H.E. and Painter, W.E. (1933):  
The freezing properties, stability and physical quality of chocolate ice cream. *Missouri, Agr. Exp. Sta. Bull.* 185.
- Reimerdes, E.H. (1982):  
Chocolate milk- a possible application of lactose hydrolysis. *Bulletin Internatinal Dairy Federation*, 147: 37-40, (C.F. Dairy Sci, Abst. 47:06739.
- Renner, E. and Oneroglu, S (1981):  
*Milchw*, 36, 334 (C.F. Application of Ultrafiltration in the Dairy Industry, by Renner E. and Abd El-Salam, Published by Elsevier Sci. Publishers LTD, P. 151-215, 1991.
- Richardson, T. (1978):  
The hypocholesteremic effect of milk. *J. Food Protection*, 41, 226.

Rothwell, J. (1960):

Recent ice cream research. Dairy Sci. Abst. 22 (10) p. 484.

Rothwell, J. (1976):

Ice cream, its present day manufacture and some problems. J. Soc. Dairy Technol. 22, (3): 161.

Rothwell, J. (1984):

Uses of dairy ingredients in ice cream and other frozen desserts. J. Soc. Dair Technol. 37: 119.

Salama, F.A.; Ismail, A.M.; Youssef A. and Abou El-Enein, S.M. (1982):

Changes in colloidal state and stability of milk during cold storage. I-Effect of pasteurization. Egyptian J. Dairy Sci. 10.

Salminen, S., Salminen, K. and Gorbach, S.L.(1991):

Lactobacillus GG (Gefilac TM) Fermented whey drink and yoghurt-new clinically tested dairy products to promote health. Scandinavian Dairy Information 5 (3) 66-67.

Sanchez, J. and Hardisson, C. (1979):

Induction of Beta-galactosidase in *Streptomyces violences*. Can. J. Microbiol. 25: 833.

Schneider, R.E.; Corona, E.; Rosales, F; Schneider, F.E.; Rodriguez, O and Pineda, O. (1990):

Effect of temperature on the lactose hydrolytic capacity of lactase derived from *K. lactis*. American J. of Clinical Nutrition 51(2): 197-201.

Shazer, W.J. (1992):

Reduced calorie dairy mix. International Patent Application 92 102143.(C.F. Dairy Sci. Abst. 54, 03966.

Silman, I.H. and Katchalski, E. (1966):

Water-insoluble derivatives of enzymes antigens and antibodies. Ann. Rev. Biochem. 35: 873.

Sinha, P.R. and Dutta, S.M. (1985):

Hydrolysis of lactose in aqueous solution and in milk by Beta-galactosidase immobilized on porous glass beads. *Asian J. of Dairy Research* 4(3) 177-179. (C.F. D.S.A. 49 (3): 210.

Smart, J.B.; Crow, V.L. and Thomas, T.D. (1985):

Lactose hydrolysis in milk and whey using Beta-galactosidase from *Streptococcus thermophilus*. *New Zealand J. Dairy Sci. and Techn.* 20 : 43-56.

Sommer, H.H. (1951):

The theory and practice of ice cream making. 6th ed. Published by the author Madison Wisconsin, USA.

Sorensen, K.L.; Meersohn, M.V.; Sonne, J.; Larsen, L; Edelsten, D. and Gudmand, E.H.(1983):

A new type of low-lactose milk. Tolerance by lactose malabsorbers and evaluation of protein nutritional value. *Scandinavian J. of Gastroenterology*. 18 (8): 1063-1068. (C.F. Dair Sci. Abs. 46: 04614).

Sridhar, N. and Dutta,S.M. (1991):

Immobilization of beta-galactosidase of *Streptococcus cremoris(H)*. *Indian J. Dairy Sci.* ,44 (8), 514.

Tamime, A.Y. (1977):

The behaviour of different starters cultures during the manufacture of yoghurt from hydrolysed milk. *Dairy Industries International*, 12: 7-11. (C.F. Dairy Sci. Abst., 40:61).

Tamime, A.Y. (1978):

The manufacture of yoghurt from hydrolysed milk XX International Dairy Congress, Paris, p. 832.

Tamura, K.; Akntaya, M.; Honda, Y. and Ahiko, K. (1991):

Preparation of low sweetness lactose-hydrolysis milk and its effects when fed to constipated or lactose intolerant individuals. *Brand Milk Products Co.*, 95: 61-69. (C.F. Dairy Sci. Abst., 54:03454).

- Thakar, P.H.; Vyas, S.H.; Prajapati, P.I. Miyani, R.V. and Upaolhyay, K.G. (1992):  
Lactose prehydrolysis of buffalo milk with Beta-D-galactosidase in order to accelerate ripening of Cheddar cheese 11. Ripening of Cheddar cheese. *Cultured Dairy Products J.*, 27 (3): 6-9.
- Thompson, D.K. (1987):  
Immobilization of Beta-galactosidase from *K. fragilis* on ion exchange resin. *Aust. J. Dairy. Technol.* , 42:62.
- Toba, T.; Tomita, Y.; Itoh, T. and Adachi, S. (1981):  
Beta-galactosidase of lactic acid bacteria: characterization by oligosaccharides formed during hydrolysis of lactose. *J. Dairy Sci.* 64: 185.
- Toba, T.; Arihera, K. and Adachi, S. (1986):  
Quantitative changes in oligosaccharides during fermentation and storage of yoghurt inoculated simultaneously with starter culture and Beta-galactosidase preparation. *J. Dairy Sci.* 69:5, 1241-1245.
- Tracy, P.H. and Tuckey, S.L. (1938):  
A comparison of gelation and sodium alginate as stabilizers in ice cream. *Food Research*, 4, 4.
- Tratnik, L. and Krsev, L. (1993):  
Production of milk from ultrafiltered reconstituted whole milk. *Mljekarstvo* 43 (4) 291-300. (C.F. Dairy Sci. Abst. 57, 3, 162-173.
- Trzeciecki, J. (1983):  
Lactose reduced ice cream and process for the production thereof. United States Patent US 4:374 B 61, (C.F. Dairy Sci. Abst. 46-00366.
- Vakaleris, D.G. and Price, W.V. (1959):  
A rapid spectrophotometric method for measuring cheese ripening. *J. Dairy Sci.*, 42:264-276.

- Veinoglou, B.C. and Boyazoglu, E.S. (1982):  
Improvement in the quality of Teleme cheese produced from ultrafiltered cow's milk. *J. Society of Dairy Techn.*, 35, 2, 54-56.
- Virkkala, T. (1988):  
Hydrolysis of milk with valio hydrolysis process. *Scandinavian Dairy Industry*, 3:43, (C.F. Dairy Sci. Abst., 51 : 00134).
- Vyas, S.H.; Pandya, A.I.; Patel, J.N. and Desai, H.K. (1980):  
*Indian Dairyman*, 32, 511.
- Wallenfels, K. and Well, R. (1972):  
Beta-galactosidase. In *The Enzymes*. Ed. Boyer, P.D. 7:617, Academic Press, N.Y.
- Weichselbaum, T., Clin A. J. (1946):  
*Pathology*, 16 : 40, Biuret kits for protein content from ALCAN Company, Inc.
- Wendorff, W.L.; Amundson, C.H. and Olson, N.F. (1971):  
Use of yeast Beta-galactosidase in milk and milk products. *J. Milk Food Technol*, 34 : 294.
- Winton, A.L. (1958):  
*Analysis of foods*. (3rd Ed). John Wiley and Sons Inc. New York.
- Yang, S.T. and Okos, M.R. (1989):  
Effects of temperature on lactose hydrolysis by immobilized beta-galactosidase in plug-flow reactor. *BioTechn. and Bioengineering* 33 (7): 873-885. (C.F. Dairy Sci. Abst., 51:02393).
- Yang, Z., Pahkala, E. and Tupasela, T. (1993):  
Lactose hydrolysis by free and fiber-entrapped beta-galactosidase from *Streptococcus thermophilus*. *Agricultural Sci. in Finland*. 2(5): 395-401.
- Younis (1983):  
Effect of Adding Beta-galactosidase to milk on some dairy products. M.Sc. Faculty of Agric., Moshtohor, Zagazig Univ.
-