

M. K. Gupta (Consultant / Chem. E.)

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Introduction

Monoj K Gupta is the president of MG Edible Oil Consulting International.

After working for thirty-two years in the private sector, Mr. Gupta started his private consulting company to assist the Fats & Oils Processing and the Snack Food industry. A specialist in edible oil processing and technology, Mr. Gupta offers a wealth of knowledge in the field.

He holds a Master's degree in Chemical Engineering from the University of Florida, Gainesville, Florida.

Mr. Gupta began his career at Procter & Gamble CO. in 1965. His direct responsibilities included product development, manufacturing and quality assurance. He joined the Anderson Clayton Company IN 1981, where he worked in engineering and productivity improvement in both the domestic and international divisions. He had direct responsibility for designing and rebuilding oil-processing plants at numerous locations.

His final corporate assignment was at the Frito Lay Company as a section manager and technical advisor in oil applications in research and development work and frying application worldwide. He was directly

responsible for the reduction of product rancidity by utilizing an innovative "Oil Quality Management System", which significantly improved the shelf life of the fried snack foods. The term, "Oil Quality Management" has been the buzz word-expression in the frying industry. He also guided the company in procurement strategies on palm oil for Frito Lay's worldwide operations. Mr. Gupta has worked closely within the past years and continues to have regular contact with the National Sunflower Association, the United Soybean Board and the National Cottonseed Products Association, in the area of genetic and non-GMO modification of oil seeds, their applications and commercialization. Mr. Gupta is credited as being one of the proponents of the Mid-Oleic sunflower (NuSun oil) and assisted the National Sunflower Association to begin its commercialization. He also has close ties with the Malaysian Palm Oil Industry.

AREAS OF EXPERTISE

Vegetable Oil Processing, Quality Control and Manufacturing

Mr. Gupta is vastly experienced in the areas of vegetable oil processing, oil selection for snack foods, frying technology and quality management as outlined below.

He possesses extensive theoretical and hands on experience in oil refining, acidulation of soap-stocks, bleaching, hydrogenation, deodorization, Votation and packaging of shortening including solid and pourable shortening, product development & formulation, product application, operator's training, process optimization, trouble shooting, process improvement, productivity improvement, operators' training and process engineering.

Industrial and Restaurant Frying

Mr. Gupta, with his eleven years of experience at Frito Lay Inc. and nearly another eleven years as an independent consultant, possesses high degree of proficiency in snack food operation.

1. He has assisted industrial snack food manufactures in the U.S, Canada, Mexico, Israel, Central and South America and Korea producing:
 - Chips in continuous frying process
 - Chips in kettle process
 - Low-oil chips via partial de-oiling process
2. He helped setting ***operating procedures and quality criteria*** for the snack food manufacturers.
Besides moisture pick-up the fried and baked snack food shelf life is dictated primarily by the oil quality in the packaged product.

3. He has advised the snack food industry on their operations to make and deliver the desired product quality.
4. He helped setting quality assurance program for client industry producing vegetable oil as well *as finished products using vegetable oils.*
5. Advised clients for proper oil selection for the products. This includes companies making salty snack foods, par-fried foods and sea-food products.
6. Provided training to the operators and management on hands-on practices for managing oil and product quality as well as process.
7. He has demonstrated that his proven techniques can more than double the snack food shelf life.

Restaurant Frying Safety

Mr. Gupta is experienced in diagnosing the causes for fires in restaurants and industrial frying operations; resulting from grease or oil. Handling of grease in the fryer is a key factor in most restaurant fires. Some of these hazards are applicable to the industrial frying processes also.

Safety of the frying equipment design is of prime importance. Improper or inadequate equipment design, maintenance and use can cause fire that can amount to high property damage, personnel injury and legal expenses. Housekeeping in a restaurant or frying plant can also contribute to the fire hazards.

This can mean a substantial capital loss and more importantly in human injuries.

Mr. Gupta offers training to restaurant personnel on oil handling to prevent accidents and fires.

Language Proficiency

Mr. Gupta is fluent in Spanish. He is also fluent in Bengali and Hindi, two prominent languages spoken in the Indian subcontinent.

Published Work

His book on Frying Technology and Practices was published by the American Oil Chemists' Society in USA in 2004. His second book, "Practical Guide on Vegetable Oil Processing" was published by the same publisher in 2008.

He has published chapters in technical books on topics related to oil processing and applications, published in USA and internationally.

He has presented numerous technical papers at the American Oil Chemists Society's (AOCS) Technical- Symposia in the United States. He has also presented technical

papers at the International Technical Symposia in Budapest, Turkey, The Netherlands, Indonesia, India, Mexico, Central America, the Caribbean Islands and Brazil.

Mr. Gupta has organized several symposia on Frying Technology in USA.

He holds several U.S. and foreign patents on shortening, dry cereal products and Vegetable oil substitute Olean (Olestra).

Teaching Career

He has taught short courses at the Texas A&M University. He has also taught short courses organized by the American Oil Chemists' Society, Institute of Food Technology, American Association of Cereal Chemists, Mexican Institute of Protein & Oils, and at the Meeting of The Oil Industry, in Brazil and the University of California, Davis.

Professional Society Affiliation

He has been active in the American Oil Chemists' Society. He has served as the Chairman of the Lipid Oxidation & Quality Division (LOQ). He served as the chairperson for the Nominating Committee for the LOQ Division. He served as the chairperson of the Publication Committee. He is the past president of the South Central Section of the American Oil Chemists' Society and a member of the Governing Board of the American Oil Chemists Society. He was elected as a Fellow to the American Oil Chemists Society in 2008. He is an Emeritus member of the Institute of Food Technology (IFT).

Consulting Experience

He has provided process designs to various overseas and domestic clients on a continuous packed bed deodorizer, improved reaction hydrogenation converter, continuous acidulation reactor for soap-stock, as well as complete oil-refining process.

In Korea and Indonesia he has provided recommendations to improve palm oil and palmolein processing for the improvement of oil quality.

Most recent consulting experience has been in USA, Canada, Egypt, Bulgaria, Israel, Mexico, Jamaica, Dominican Republic, and Guatemala, Bolivia, and Ecuador.

He has consulted for the snack food industry in USA and overseas to set up the complete process and quality management programs.

Mr. Gupta has served as an expert witness in a number of restaurant and domestic fires resulting from oil. He has also served as an expert witness in

an industrial accident where the victim suffered a permanent loss of ability to work due to faulty plant design. He has also been served as an expert witness in cases of patent infringement.

He is currently residing in Richardson, Texas, with his wife. In his spare time he likes to play Bridge and travel.

USDA – NCAUR, Advisory Committee, Peoria, IL

Served on the Steering Committee for Long-Range-research planning, in January 1999.

Services Offered

Mr. Gupta can provide complete consulting services in the area of oil processing, from oil refining to finished product packaging. More specifically, he offers the following process related services:

A. Frying Process

- Development of Fried Snack Food
- Oil Quality Management
- Quality Management
- Improvement of Product Shelf Life
- Engineering Design for Better Frying Performance
- Selection of oil for specific product

B. Vegetable Oil Processing

- Product formulation, development and application
- Project development
- Process design
- Plant Commissioning
- Evaluation of plant's performance
- Process trouble shooting
- Productivity improvement
- Set up quality control program
- Cost reduction techniques
- Guide the plant engineers to develop the optimum design for the process

C. Baking Process

- Selection of shortening
- Selection of emulsifier
- Baking parameters
- Trouble shooting

D. Product Formulation & Development

Mr. Gupta has extensive experience in formulation of various fats and oils products and can provide technical support to develop new products or improve performance and reduce costs of the existing products.

E. Technical Training

Mr. Gupta also provides the following services:

- Hands on, as well as class room training to the operators and supervisors on process, operation and control
- Critical process maintenance program
- Process start-ups
- Trouble shooting

F. Expert Witness

As an expert witness, provide assistance to lawyers and corporations in litigations related to:

- *Accidents*
- *Fires & explosions*
- Patent applications
- Patent infringements



Monoj K Gupta
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