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ASSOCOM-INDIA PVT. LTD.

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EXTRUSION PROCESSING

FOCUS ON INDIAN MARKET

July 14-15, 2008, Hotel Taj Residency, Vadodra, India
July 17-18, 2008, Hotel Taj Residency, Vijaywada, Andhra Pradesh

Organized by



In association with



Media Partners

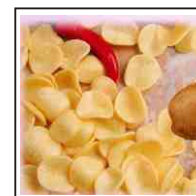


About the Course

This course is an extension to the previously conducted short courses on extrusion technology. The main focus of this short course is new product development and financial aspects of setting up an extrusion-based business. In order to bring first-time participants up to date with extrusion technology, introductory topics including extrusion and dryer hardware will be covered on the first day. Program for the first day will also provide a thorough review for participants who have attended previous short courses on extrusion, but registration for the same is optional for these participants. The remainder of the short course will cover in-depth a variety of extrusion products ranging from snacks and breakfast cereal to pet food and aquatic feed. Recipes for each kind of product will also be shared with participants. A substantial portion of this short course will also be devoted to capital costs, financing, government regulations, and food safety and sanitation issues. Participants will also be provided a 'hands-on' demonstration of the capabilities of extrusion technology in a modern, commercial-scale extrusion-based snack processing facility.

The agenda of the short course has been designed by experts from the Department of Grain Science and Industry at Kansas State University (U.S.A.), Wenger Manufacturing (U.S.A.), and other India-based industries and institutions.

Who can Attend : MD's, CEO's, Food Technologist, Quality Assurance Managers, Quality Controllers, Process Engineers, Packaging and Machinery Suppliers, Retailers, Food Regulators, Academics, Food Distributors, Food Ingredients, Manufacturer / suppliers.



AGENDA - FOOD

08:00 - 08:30 am : Breakfast and Registration.

08:30 - 11:00 am : Session 1 : Introduction to Extrusion Technology

- **Extrusion: World Market Trends (Wenger Mfg.)**
Extrusion technology has been widely used in North America and Europe over the past several decades and is an important method for production of various processed food and feed products. This lecture will provide an overview of the status of this technology world-wide and some exciting new applications.
- **Potential of Extrusion Processing in India (Dr. Suresh Itapu, Global Technical Director - Human Nutrition, ASA-International Marketing)**
As compared to North America and Europe, extrusion technology for food and feed products has started to gain wide-spread use in India only lately. This lecture will provide an overview on the present status of extrusion in India.
- **Ingredient Functionality (Sajid Alavi)**
Grain ingredients like corn, oat, wheat and soy flours and their derivatives are the basic components of most extruded products. This lecture will focus on the composition of different flours and role each plays in the extrudability of dough and quality aspects of final product like flavor, expansion, binding. Flour ingredients and product ideas specific to India will also be discussed.

11:00 - 11:15 am: Tea Break

11:15 12:30 pm : Session 2 : Hardware and Processing

- **Extrusion Hardware (Wenger Mfg.)**
This topic will cover the hardware aspects of the extrusion system with special focus on various screw designs. Most extruders are equipped with segmented screws which allow flexibility in the screw profile that can be adapted to different products. Raw material delivery systems, dies and knife types will also be discussed. This lecture will also include a discussion on various types of cooking and forming extruders including single screw, twin screw and conical twin screw extrusion systems.

12:30 1:30 pm: Luncheon

1:30 5:30 pm : Session 2 : Hardware and Processing (continued)

- **Preconditioning Technology (Wenger Mfg.)**
Most modern extrusion equipment for food products involve a preconditioner prior to the actual extruder. This lecture will describe the principles of preconditioning of the ingredient mix, advantages of utilizing this pre-processing step, and advances in preconditioning technology.
- **Drying Theory (Wenger Mfg.)**
Theory and principles behind drying which is an important post-processing step, and design of various types of continuous dryers for food applications
- **Extrusion Trouble-Shooting (Wenger Mfg.)**
Operation of an extrusion system is not an easy task and a lot of experience is required for handling different ingredients for making a variety of products. There are several common situations that arise from time-to-time that can lead to poor product quality or even necessitate the shutting down of the extruder, if corrective measures are not taken immediately. This topic will cover trouble-shooting those situations. Some real-life examples and solutions will be provided.

8:30 11 am : Session 1 : Extrusion Processing of Foods for the Indian Market

- **Extrusion Processing of Indian Food Products Overview (Sajid Alavi)**
A variety of traditional foods indigenous to the Indian sub-continent are or can be processed by extrusion processing. These include fry-and-expand snacks (third generation products), sev (chick-pea based fried savory snacks) and soy badi (soy-based texturized protein products). This lecture will provide an overview of the potential of extrusion in making traditional Indian foods.
- **Extrusion Processing of Soya Proteins (Wenger Mfg.)**
Textured proteins are widely used as meat extenders and meat analogs through out the world. This presentation will focus on the process required for texturizing proteins via extrusion and the wide variety of products that can be made including fibrous soy, high moisture meat analogs, chunk textured soy, structured meat analogs, and high protein snacks. Typical recipes for textured soy products will be shared. The extrusion of full fat soy as a food and feed ingredients will also be discussed.
- **Extrusion Processing of Expanded Snacks and Breakfast Cereal (Sajid Alavi)**
Many kinds of breakfast cereal and snacks are products cooked and expanded using extruders. This lecture will provide an understanding of how these important food products are processed by extrusion. Increasing consumer consciousness and advancements over the past few years have led to development of extruded food products which are more nutritious. This topic will also cover the challenges of delivering a highly nutritious product using extrusion, and will describe some products tailored for the Indian market including expanded snacks high in fruits and vegetable content. Typical recipes for breakfast cereal and snack products will be shared.

11 11:15 am: Tea Break

11:15 12:30 pm: Session 1 : Extrusion Processing of Foods for the Indian Market (continued)

- **Quick Cooking Pastas, Rice and Dal Analogs (Wenger Mfg.)**
Pre-cooked pasta and some other quick cooking products specific to the Indian market such as rice and dal analogs are made by a special low shear and high moisture extrusion forming process. This lecture will discuss the processing of these products and quality aspects of the finished product. Typical recipes for such quick cooking products will be discussed.

12:30 1:30 pm: Luncheon

1:30 5:30 pm : Session 2 : Hands-On Lab Session on Food Extrusion

- **Overview of Hands-On Lab Session**
Discussion and planning with participants for the lab session on extrusion processing.
- **Soy-Based Textured Vegetable Protein Products (Alavi/ Wenger Mfg.)**
Soy-based textured vegetable products will be produced on a single screw extruder. Effect of ingredients (need details) and process conditions (need details) will be studied. Participants will be encouraged to play an active role in the process.
- **Summary and Discussion of Hands-On Lab Sessions**

AGENDA - FEED

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01:30 05:30 pm : Session 2 : Hardware and Processing (continued)

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8:30 11:00 am : Session 1 : Extruded Petfood and Aquatic Feed for the Indian Market

- **Aquatic Feed in India (Dr. Vijay Anand, Technical Director Feed, ASA-International Marketing)**
Extrusion is widely used in many parts of the world for production of aquatic feed. These applications are increasing in India and have a huge potential for further growth. The lecture will provide information on the processing of aquatic feeds such as shrimp feed, and the growing Indian market for the same. It will also include information about the ingredients utilized, other considerations which are involved in these applications, and some real-life examples of aquatic farming in India.
- **Advances in Petfood and Aquatic Feed processing (Wenger Mfg.)**
Details needed
- **Specialty Pet Treats and Co-Extruded Products (Wenger Mfg.)**
Details needed
- **Replacement of Fish Meal and Oil in Aquatic Feed (Wenger Mfg.)**
Details needed

11:00 - 11:15 am: Tea Break

11:15 12:15 pm : Session 1 : Extruded Petfood and Aquatic Feed for the Indian Market (continued)

- **Starter/Specialty Aquatic Feed (Wenger Mfg.)**
Details needed

12:15 - 01:15 pm: Luncheon

01:15 - 03:00 Session 2 : Poultry and Livestock Feed

- **Animal Feed (Sajid Alavi)**
This topic will provide an overview of various technologies for producing animal feed including cattle feed, poultry feed and aquatic feed. Some of the technologies that will be covered include pellet mills, extruders and expanders.
- **Poultry Feed (Local Speaker)**
An overview of use of extrusion processing in the poultry feed industry; Poultry byproduct rendering with extruders.

01:30 - 06:00 pm : Session 2 : ASA-IMAquaculture feeding demonstration

Travel to aquaculture farms in the vicinity for feeding demonstration involving extruded floating feed (Vijay Anand)

Pictures & other information About Feed Course

REGISTRATION FORM

Yes, I would like to enroll in the following:

- Extrusion Processing for Food - Focus on the Indian Marketing**
July 14-15, 2008, in Vadodra, Gujarat, India.
- Extrusion Processing for Feed - Focus on the Indian Marketing**
July 17-18, 2008, in Vijaywada, Andhra Pradesh, India.

Name: Last (family) First Middle initial

e-mail

Job Title

Company

Company Mailing Address City

State/Province Zip/Postal Code Country

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Company Telephone Company Fax

Credit Card Payment

Visa Mastercard Amer. Ex. Discover

Security (CID) Code* Exp. Date

*Signature and the security code are required to protect against fraud. For most cards, the security code is a three-digit number listed after the account number on the back of the card (in the white signature panel area). However, American Express cards will have a four-digit security code on the front of the card directly above the account number

Signature* of Card Holder (Your payment cannot be processed without a signature)

Name of Card Holder (Please Print Clearly)

Billing Address of Card Holder

Name of the Bank

7%* Charges will be Extra if payment made by the credit card

To Register

Mail : ASSOCOM-INDIA, Flat No. 601, Plot No. 4, DDA Building, Laxmi Nagar District Centre, Delhi - 110 092

Phone : +91-11-22457226, 22457230 Fax : +91-11-22457264

Online : www.assocom-india.com

E-mail : email@assocom-india.com

REGISTRATION INFORMATION

Early Bird Registration before June 15, 2008

- Registration Fee for is Rs. 6000/- for Indian delegates.
- Registration fee is US\$ 150 (Foreign Delegates)

Registration Fee after June 15, 2008

- Registration Fee is Rs. 7000/- for Indian delegates.
- Registration fee is US\$ 200 (Foreign Delegates)

Note : Please add Service Tax 12.24 to registration fee

Registration fee should be sent through demand draft in favor of "**Assocom-India Pvt. Ltd.**" payable at New Delhi.

- Course fee must be paid before start of the program.**

VENUE : FOOD SHORT COURSE

Hotel The Taj Residency
Vadodra, Gujarat, INDIA

VENUE : FEED SHORT COURSE

Hotel The Taj Residency
Vijaywada, Andhra Pradesh, INDIA