

# Vegetable protein in food and feed

The World Congress on Vegetable Protein Utilization in Human Food and Animal Feedstuffs will be held Oct. 2-7, 1988, at the Westin Stamford/Plaza Hotel in Singapore.

The congress will begin with an opening mixer Sunday evening, Oct. 2, 1988, from 5:30 to 7 p.m., at the Westin Stamford/Plaza Hotel. Registration for the congress will be 2 to 6 p.m. Sunday.

On Monday, Oct. 3, 1988, the opening session will begin at 9 a.m. The exhibit accompanying the congress will open at 9:45 a.m. A keynote session is scheduled from 10:30 a.m. to 12:35 p.m. Monday, and will resume at 2:35 p.m.

Plenary sessions will run Tuesday morning, Oct. 4, through Friday afternoon, Oct. 7 (see accompanying Program at a Glance).

## Social events

In addition to the opening mixer Sunday evening, all registrants are invited to take part in a social night Monday evening, Oct. 3. Details about this event will be given in the meeting program.

Thursday evening will feature an optional event, a full-course Chinese dinner with beverages included. The dinner will be held at the Westin Stamford/Plaza Hotel from 7:30 to 11 p.m.

The conference will conclude on Friday, Oct. 7, with a Western-style luncheon, held at the Westin Stamford/Plaza Hotel, and a final session during the early afternoon.

## Spouses'/guests' program

There will be a program for accompanying persons. Participants in the spouses'/guests' program also are invited to attend the opening mixer Sunday evening and the social evening Monday without an additional charge.

## Exhibitors

The following companies have signed up to be part of an exhibition in conjunction with the congress:

- **Amandus Kahl Nachf. GmbH & Co.**, Dieselstrabe 5-9, PO Box 1246, Reinbek 2057, West Ger-

many (booth 8). Amandus Kahl Nachf. will exhibit pictures and diagrams of machines and facilities for treating soybeans for animal feeding, as well as of expanders and pelleting presses used in oil mills.

- **Central Soya Co. Inc.**, PO Box 1400, Fort Wayne, Indiana 46801, USA (booth 7). Central Soya is a world leader in food-grade soy proteins, lecithin ingredients and animal and poultry feeds, concentrates and premixes. The Chemurgy Division produces soy protein flours and concentrates, CENTROL fluid and CENTROLEX deoiled lecithins. The International Feed Division produces scientifically formulated feeds for all species.

- **Heinz Schumacher**, Schmuckshöhe 8a, 2000 Hamburg 63, West Germany (booth 4). This booth will

serve as a meeting point for those interested in the latest developments in processes for toasted full-fat soy and toasted soymeal, with differentiated qualities regarding analysis, particularly of water-soluble protein.

- **Tintometer GmbH**, Westfalendamm 73, D-4600 Dortmund 1, West Germany (booth 1). Instruments for automatic color measurement and color grading according to AOCS, Lovibond and other international specifications will be displayed.

- **Yeo Hiap Seng Ltd.**, 950 Dunearn Rd., Singapore 2158, Singapore (booth 9). Yeo Hiap Seng Ltd. will display products it manufactures, including soybean drink, tofu (soybean curd), tofa (sweetened soybean curd dessert) and other canned foods, sauces and beverages.



The World Congress on Vegetable Protein Utilization in Human Foods and Animal Feedstuffs will be held Oct. 2-7, 1988, at the Westin Stamford/Plaza Hotel (shown above) in Singapore, the world's tallest hotel.

## World Congress

### Organizing Committee

The following have served on the committee that developed the program for the world congress: Dean Akiyama, American Soybean Association; Kenneth E. Beery, Central Soya Co. Inc.; Bryce Bell, The Australian Oilseed Crushers Association; Don Bushman, American Soybean Association; Cristino Colado, American Soybean Association; Nadir Godrej, Godrej Soaps Pvt. Ltd.; M.Y. Huang, American Soybean Association; Edmund W. Lusas, Food Protein Research & Development Center, Texas A&M University; James Lyon, American Oil Chemists' Society; Susani Karta, American Soybean Association; Kooi Eng Teong, Dindings Soya & Multifeeds Sdn. Bhd.; Neoh Soon Bin, Soon Soon Oilmills Sdn. Bhd.; David Sessa, U.S. Department of Agriculture's Northern Regional Research Center; Soo Hong-

Ming, Ralston Purina International Co.; Tan Ton Kiat, Agri Nutrition Asia Pte. Ltd.; Teh Wee Chye, Dindings Soya & Multifeeds Sdn. Bhd.; Peter Wan, Kraft Inc.; and Lars Wiedermann, American Soybean Association.

### Participating Organizations

Organizations participating in organizing the world congress include the following:

Acidchem (Malaysia) Sdn. Bhd.  
Agrivision  
American Oil Chemists' Society  
American Soybean Association  
American Soybean Association of India  
Association pour la Promotion Industrie Agriculture (l'APRIA)  
Australian Oilseeds Federation  
C.E.P.E.  
China International Conference Center for Science and Technology

Chinese Cereals and Oils Association

FEDIOL

FOSFA International

Grain Marketing Bureau,

Department of Agriculture, Canada

Groupe d'Etude des Proteines Vegetales

Incorporated Society of Planters

Indonesian Feedmillers Association

International Association of

Seed Crushers

Japan Oil Chemists' Society (JOCS)

Japan Oilseed Processors

Association

Japanese Society of Scientific Fisheries

Oils and Fats Industries

Experimental Station

Palm Oil Research Institute

of Malaysia (PORIM)

Singapore Institute of Food

Science & Technology

VERNOF

## *Do you know the latest technologie?*

- In** TOASTED-FULL-FAT-SOYA with high content of water-soluble protein,
- or** Extracted soybean meal with high content of water-soluble protein,
- or** Steam consumption of less than 300 pounds per short ton of beans processed (less than 150 kg steam per metric ton) for a complete extraction-plant including preperation, desolventising, meal treatment, destillation and lecithin.

If you are interested to get to know about the latest technology in production, then please meet me at:

My booth at Congress of DGF in Trier in September 88

My booth at Congress of JOCS/ISF in Tokio in September 88

My booth at Congress of AOCS in Singapore in Oktober 88

**Heinz Schumacher V.D.I**

Office:

Schmuckshöhe 8a, D 2000 Hamburg 63

Phone: 040/630 66 66

Teletex: 403 380 ingschu, Telefax: 040/63 22 666

Privat + Post:

Höperfeld 26

D 2050 Hamburg 80

Phone: 040/721 90 89

## Program at a Glance

All activities in conjunction with the world congress will take place at the Westin Stamford/Plaza Hotel, Singapore, unless noted otherwise.

### Sunday, October 2, 1988

2:00— 6:00 p.m.	Registration
5:30— 7:00 p.m.	Exhibit Open
5:30— 7:00 p.m.	All-Congress Opening Mixer

### Monday, October 3, 1988

8:00 a.m.— 5:00 p.m.	Registration
8:30 a.m.	Seating of Delegates
9:00—10:00 a.m.	Opening Session
9:45 a.m.— 5:30 p.m.	Exhibit Open
10:30 a.m.—12:35 p.m.	Keynote Session
12:35— 1:00 p.m.	Discussion/Questions
1:00— 2:30 p.m.	Lunch
2:35 p.m.	Keynote Session (continued)
4:00 p.m.	Discussion/Questions
6:00 p.m.	Social Event

### Tuesday, October 4, 1988

8:00 a.m.— 5:00 p.m.	Registration
8:00— 9:45 a.m.	Plenary Session: Oilseeds Extraction—Foods/Feeds
9:45—10:00 a.m.	Discussion/Questions
9:45 a.m.— 5:30 p.m.	Exhibit Open
10:30 a.m.— 1:00 p.m.	Food Session—Preparation of Vegetable Food Protein Ingredients
10:30 a.m.— 1:00 p.m.	Feed Session—Processing for Feedstuffs I
1:00— 2:30 p.m.	Lunch
2:30— 5:00 p.m.	Food Session—Preparation and Uses of Non-Oilseed Vegetable Food Proteins
2:30— 4:35 p.m.	Feed Session—Processing for Feedstuffs II
5:00 p.m.	Discussion/Questions
Evening	Volunteer Papers

### Wednesday, October 5, 1988

8:00 a.m.— 5:00 p.m.	Registration
8:00 a.m.	Plenary Session—Vegetable Protein Utilization—Foods/Feeds
9:45 a.m.— 5:30 p.m.	Exhibit Open
10:30 a.m.— 1:00 p.m.	Food Session—Vegetable Proteins Nutrition and Regulations

10:30 a.m.— 1:00 p.m.	Feed Session—Nutritional/Antinutritional Considerations for Diverse Species I
1:00— 2:30 p.m.	Lunch
2:30— 5:00 p.m.	Food Session—Vegetable Proteins Nutrition and Regulations (continued)
2:30— 4:35 p.m.	Feed Session—Nutritional/Antinutritional Considerations for Diverse Species II
5:05 p.m.	Discussions/Questions

### Thursday, October 6, 1988

8:00 a.m.— 5:00 p.m.	Registration
8:00—10:05 a.m.	Feed Session—Nutrition/Antinutritional Factors of Specific Protein Sources I
9:45 a.m.— 3:00 p.m.	Exhibit Open
10:30 a.m.—12:35 p.m.	Feed Session—Nutrition/Antinutritional Factors of Specific Protein Sources II
8:00 a.m.— 1:00 p.m.	Food Session—Vegetable Protein Processing for Foods I and II
1:00— 2:30 p.m.	Lunch
2:30— 5:00 p.m.	Feed Session—Nutritional/Antinutritional Factors for Specific Protein Sources III
5:00 p.m.	Discussion/Questions
2:30— 5:00 p.m.	Food Session—Utilization of Vegetable Protein Ingredients in Foods
5:00 p.m.	Discussion/Questions
7:30—11:00 p.m.	Optional Event: Chinese Dinner

### Friday, October 7, 1988

8:00 a.m.— 2:00 p.m.	Registration
8:00 a.m.— Noon	Plenary Session: Biotechnology Applications in Plant and Animal Systems
12:05— 1:35 p.m.	Closing Lunch
1:35— 3:15 p.m.	Plenary Session (continued)
3:15 p.m.	Closing Remarks

# Scheduled Technical Program

Monday, October 3

## Opening Session and Welcoming Comments

Conference cochairpersons Lars Wiedermann of the American Soybean Association offices in Tokyo, Japan, and Kenneth E. Beery of Central Soya Co. Inc. in Fort Wayne, Indiana, USA; and other dignitaries

## Keynote Session

### Chairpersons:

Bryce Bell of the Australian Oilseed Crushers Association in Sydney, Australia, and Kenneth E. Beery

### World Vegetable Protein Supply/Demand

Thomas Mielke, Oil World, Hamburg, West Germany

### World Vegetable Protein Economic Patterns

Peter Perkins, chief commodity analyst, Australian Bureau of Agricultural and Resource Economics, Canberra, Australia

### Government-Imposed Restrictions on International Trade in Proteins

Donald E. deKieffer, Pillsbury, Madison and Sutro, Washington, D.C., USA

### World Vegetable Protein Marketing Perspectives

David Swanson, president, Central Soya Co. Inc., Fort Wayne, Indiana, USA

### World Vegetable Protein Quality Concerns

T. Takebe, Mitsubishi, Tokyo, Japan

Tuesday, October 4

## Plenary Session: Oilseeds Extraction—Foods/Feeds

### Chairpersons:

E.W. Lusas, director of the Food Protein Research and Development Center at Texas A&M University, College Station, Texas, USA, and Heinz Schumacher, consulting engineer, of Hamburg, West Germany

## Handling, Shipping and Storage of Oilseeds and Meals To Meet World Market Quality Requirements

Lowell Hill, University of Illinois, Urbana, Illinois, USA

## Preparation of Oilseeds for Extraction

Heinz Schumacher, Hamburg, West Germany

## Extrusion of Oilseeds to Enhance Extraction

Leslie R. Watkins, Food Protein Research and Development Center, Texas A&M University, College Station, Texas, USA

## Oilseed Extraction and Meal Processing

George Anderson, vice president for engineering, Crown Iron Works, Minneapolis, Minnesota, USA

## Preparation of Vegetable Food Protein Ingredients

### Chairpersons:

Dale W. Johnson, president, Food Ingredients (Minnesota) Inc., Golden Valley, Minnesota, USA, and Kinji Uchida, senior scientist for the Kikkoman Corp., Noda City, Japan

## Preparation and Characteristics of Full-Fat Soy Flours

Jens Heiser, president of Lucas Meyer Co., Hamburg, West Germany

## Production and Properties of Defatted Soy Flours and Their Products

Richard W. Fulmer, vice president for research, Cargill Inc., Minnetonka, Minnesota, USA

## Preparation and Characteristics of Soy Protein Concentrates

Kenneth E. Beery, Central Soya Co. Inc., Fort Wayne, Indiana, USA

## Preparation of Soy Protein Isolates

Dale W. Johnson, Food Ingredients Inc., Golden Valley, Minnesota; and Saburo Kikuchi, The System New Life Inc., Tokyo, Japan

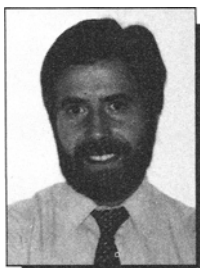
## Preparation and Uses of Fermented and Acid-Hydrolyzed Soy Sauces

Kinji Uchida, Kikkoman Corp., Noda City, Japan

## Status and Uses of Vegetable Food Proteins from Other Oilseeds

E.W. Lusas, Texas A&M University, College Station, Texas, USA

(Program continued on page 1399)



Aguilera



Bushman



A. Chen



S. Chen



Fischer



Fulmer

## World Congress

(Continued from page 1394)

### Processing for Feedstuffs I

#### Chairpersons:

Don Bushman, country director for the American Soybean Association, People's Republic of China, and Choo Suhoon, Sin Heng Chan Co., Singapore

#### Preparation of Controlled-Solubility Full-Fat Soya and Meal

Heinz Schumacher, consulting engineer, Hamburg, West Germany

#### Low-Cost Dry Extrusion of Feeds

Leroy Hanson, president of Triple F Inc., Des Moines, Iowa, USA

#### Improvement in the Protein Content of Palm Kernel Meal by Solid State Fermentation

Suan-Choo Cheah, Palm Oil Research Institute of Malaysia, Kuala Lumpur, Malaysia

#### Extrusion of Rice Bran

Maurice Williams, Anderson International Corp., Cleveland, Ohio, USA

### Preparation and Uses of Non-Oilseed Vegetable Food Proteins

#### Chairpersons:

Mark Uebersax, Department of Food Science and Human Nutrition, Michigan State University, East Lansing, Michigan, USA, and Geoffrey Grace, technical manager for Manildra Starches Pty. Ltd., Auburn, Australia

#### Preparation of Vital Wheat Gluten

Geoffrey Grace, Manildra Starches Pty. Ltd., Auburn, Australia

#### World Food Uses of Vital Wheat Gluten

J.M. Hesser, executive director for the International Wheat Gluten Association, Prairie Village, Kansas, USA

#### Utilization of Dry Field Beans, Peas and Lentils

Mark Uebersax, Michigan State University, East Lansing, Michigan, USA

#### Development of Cowpeas and Chickpeas for Modern Uses

Ivan Buddenhagen, Department of Agronomy and Range Science, University of California-Davis, Davis, California, USA

#### Development of Processes and Uses of Lupins for Food

Jose Miguel Aguilera, professor of chemical and food engineering, Catholic University of Chile, Santiago, Chile

#### Progress in Development of Leaf Protein for Food Use

Paolo Fantozzi and A. Sensidoni (speaker), Istituto Industrie Agrarie Universite, Pisa, Italy

### Processing for Feedstuffs II

#### Chairpersons:

Leroy Hanson, president of Triple F Inc., Des Moines, Iowa, USA, and Colin Kirkegaard, Triple F. Inc.

#### Extrusion of High Moisture Fish and Shrimp Feeds

Joseph P. Kearns, food technology engineer, Wenger International Inc., Kansas City, Missouri, USA

#### Pelleting for Aquaculture Feeds

Ronnie K.H. Tan, aquaculture product manager, Gold Coin (Malaysia) Bhd., Bahru, Malaysia

#### Production of Extruded Pet Foods

Maurice Williams, Anderson International Corp., Cleveland, Ohio, USA

#### Detoxification and Deallergination of Feed Meals

Khee Choon Rhee, Texas A&M University, College Station, Texas, USA

#### Volunteer papers

Volunteer papers relating to vegetable protein will be presented during an evening session.

## Wednesday, October 5

### Plenary Session: Vegetable Protein Utilization—Foods/Feeds

#### Chairpersons:

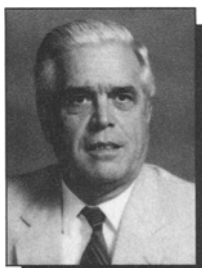
Daniel E. Shaughnessy, president of the Export Processing Industry Coalition, Arlington, Virginia, USA, and Nadir Godrej of Godrej Soaps Pvt. Ltd., Bombay, India.

#### Allergy and Antinutritional Factors

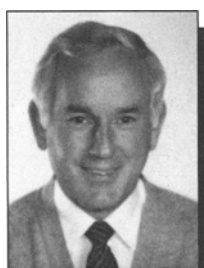
Hans Pedersen, Aarhus Co., Aarhus, Denmark

#### Protein Sources Made Available by New Industries

Daniel E. Shaughnessy, Export Processing Industry Coalition, Arlington, Virginia, USA



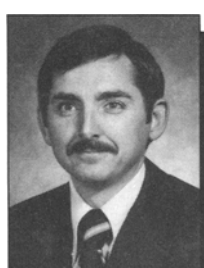
Galal



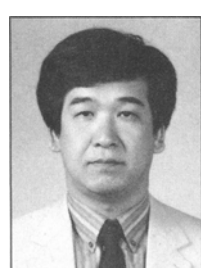
Grace



Heiser



Hesser



Kim



Lusas

**Food Nutrition and Regulations****Vegetable Proteins in Child Nutrition Planning**

Osman M. Galal, chairman of the board of directors for the Nutrition Institute, Cairo, Egypt

**Appropriate Technologies for Vegetable Protein Uses**

Glenn Patterson, farm equipment specialist—Appropriate Technology, Washington, D.C., USA

**Low-Cost Extrusion Soy Foods**

David Sheng, Brady International, Torrance, California, USA

**Digestibility of Dry Legumes**

Maurice Bennik, Food Science and Human Nutrition Department, Michigan State University, East Lansing, Michigan, USA

**Development of Glandless Cottonseed and Nutritional Experiences in Ivory Coast**

J. Bourley, Institut de Recherches du Coton et des Textiles Exotiques, Montpellier, France

**Evaluation of Nutritive Value of Local and Soy-Beef Hamburgers**

Abdul Salam Babji and Selva Kumari, Department of Food Science and Nutrition, Universiti Kebangsaan Malaysia, Selangor, Malaysia

**Feed Nutritional/Antinutritional Considerations for Diverse Species I****Chairpersons:**

Dean Akiyama, American Soybean Association, Singapore

**Limiting Amino Acids in Poultry Diets**

Mike Blair, Central Soya Co. Inc., USA

**Plant Protein Utilization by Coldwater Fish**

Tim O'Keefe, Rangen Inc., Buhl, Idaho, USA

**Plant Protein Utilization by Warm Water Fish**

Chhorn Lim, Oceanic Institute, Waimanalo, Hawaii, USA

**Plant Protein Utilization by Marine Shrimp**

Dean Akiyama, American Soybean Association, Singapore

**Feed Nutritional/Antinutritional Considerations for Diverse Species II****Chairpersons:**

M.Y. Huang, director for international development, Farmers Hybrid, Des Moines, Iowa, USA,

and Tan Tong Kiat, Agriculture Nutrition Asia Pte. Ltd., Singapore

**Antinutritional Factors in Vegetable Proteins for Poultry**

A.J. Mudd, technical director for animal products, Cynamid International, Wayne, New Jersey, USA

**Nutritional and Antinutritional Considerations of Soybean Processing for Swine**

Colin Kirkegaard, Triple F. Inc., Des Moines, Iowa, USA

**Utilization of Full-Fat Soybeans for Dairy Cattle**

Karl H.G. Sera, associate country director for animal nutrition, American Soybean Association, Tokyo, Japan

**Thursday, October 6****Nutritional/Antinutritional Factors in Feed Uses I****Chairpersons:**

Neoh Soon Bin, Soon Soon Oil Mills Sdn Bhd., Butterworth, Malaysia, and John K. Rayton, Central Soya (S.E. Asia), Wanchai, Hong Kong

**Overview papers:****Low-Moisture Technology for Pet Feed Protein**

Doug Thompson, manager, Uncle Ben's of Australia, Wodonga, Australia

**Mycotoxins in Oilseeds and Risk in Animal Production**

Gunter Gaus, manager of technical service, BASF, Ludwigshafen, West Germany

**Nutritional/Antinutritional Factors in Feed Uses II****Chairpersons:**

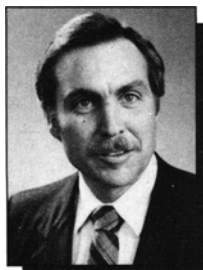
David Thompson, regional director, American Soybean Association, Singapore

**Lupins as a Source of Energy-Rich Protein for Feed and Food**

Rory Coffey, marketing manager, Grain Pool of Western Australia, Perth, Australia

**Utilization of Vegetable Oilseed Cakes and Meals for Livestock Production in the People's Republic of China**

Shen Zai-Chun, Beijing Agriculture Engineering University, Beijing, People's Republic of China



Meisinger



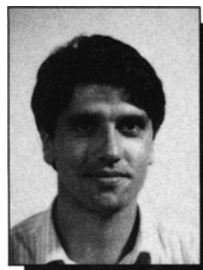
Nielsen



Rhee



Schumacher



Sensidoni



Sera

**The Use and Outlook of Full-Fat Soybean and Soybean Meal in Japanese Commercial Feeds**

Karl Sera, American Soybean Association, Tokyo, Japan

**Nutritional Limitation of Particular Vegetable Protein Sources in Livestock and Poultry**

Rudy Hutagalung, senior nutritionist, Pt. Metro Intisejah Tera, Medan, Indonesia

**Vegetable Protein Processing for Foods I****Chairpersons:**

R.W. Fischer, president, Soypro International Inc., Cedar Falls, Iowa, USA, and Steve Chen, country director, American Soybean Association, China, Taipei

**Determining and Modifying Protein Functionality**

Khee Choon Rhee, Texas A&M University, College Station, Texas, USA

**Commercial Modified Soy Proteins and Their Uses**

Walter Yachel, manager of applications research and development, A.E. Staley Co., Decatur, Illinois, USA

**Preparation and Uses of Dietary Fiber Food Ingredients**

Thomas Smouse, Archer Daniels Midland Co., Decatur, Illinois, USA

**Preparation of Fluid Soy Milks**

Steve Chen, country director, American Soybean Association, China, Taipei

**Vegetable Protein Processing for Foods II****Chairpersons:**

Anthony H. Chen, chairman of the board, 3-I Corp., Plano, Texas, USA, and F.G. Winarno, Food Technology Development Center, Bogor Agricultural University, Bogor, Indonesia

**Preparation and Uses of Dry Soy Products and Nutritional Beverages**

Glen Blix, School of Public Health, Loma Linda University, Loma Linda, California, USA

**Production and Utilization of Tempeh and Indonesian Foods**

F.G. Winarno, Bogor Agricultural University, Bogor, Indonesia

**Modern Day Preparation and Uses of Tofu in America**

Stephen E. Snyder, Vitasoy (U.S.A.) Inc., Brisbane, California, USA

**Preparation and Uses of Miso and Hot and Sweet Pastes**

Toshio Hanaoka, executive director, Hanamaruki Inc., Tokyo, Japan

**Extrusion of Processing of Texturized Proteins**

Joseph P. Kearns, Wenger International Co., Kansas City, Missouri, USA

**Chinese Traditional Soybean Foods**

Xiao Jie-Jie, Scientific Research Institute of Food and Fermentation Industry, Ministry of Light Industry, Beijing, People's Republic of China

**Nutritional/Antinutritional Factors in Feed Uses III****Cochairpersons:**

Tan Tong Kiat, Agriculture Nutrition Asia Pte. Ltd., Singapore, and John K. Rayton, Central Soya (S.E. Asia), Wanchai, Hong Kong

**Palm Kernel Cake as Ruminant Feed**

D.M. Jaafar, Livestock Research Division, Malaysian Agricultural Research and Development Institute, Kuala Lumpur, Malaysia

**Soybean Meal as Only Supplementary Protein Source for Animal Feeds in the People's Republic of China**

Don H. Bushman, country director, American Soybean Association, Beijing, People's Republic of China

**Amino Acid Composition of Feed Grade Rice****By-Products from Different Countries**

David C. Cresswell, technical product manager, Monsanto Singapore Co. Pte. Ltd., Singapore

**Canola Meal**

Nagin Patel, Alberta Terminals, Canola Crushers Ltd., Sexsmith, Alberta, Canada

**Utilization of Vegetable Protein Ingredients in Foods****Chairpersons:**

Tai-Wan Kwon, president, Korea Food Research Institute, Seoul, Korea, and Thomas H. Smouse, Archer Daniels Midland Co., Decatur, Illinois, USA

**Uses of Soy Proteins in Bakery and Cereal Grains Products**

Richard W. Fulmer, vice president for research, Cargill Inc., Minnetonka, Minnesota, USA

**Practical Aspects of Soy Protein Utilization in Meat Products from Hot Dogs**

Smouse



Swanson



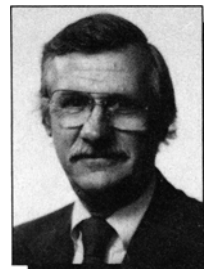
Uchida



Uebersax



Watkins



Wiedermann

## World Congress

Al Bonkowski, Archer Daniels Midland Co.,  
Decatur, Illinois, USA

### Uses of Vegetable Proteins in Surimi and Restructured Seafood Products

Soo Hoo-Ming, Ralston Purina International Co.,  
China, Taipei

### Various Vegetable Protein Foods in Korea

Seung Ho Kim and Tai-Wan Kwon, Korean  
Advanced Institute of Science and Technology,  
Seoul, Korea

### Assessment and Development of Trends of the Chinese Food Industry

Zho Quing-Zheng, vice president of research and  
development, San Jing Food Co., People's  
Republic of China

### Novel Traditional and Manufactured Soy Foods in Japan

Hitoshi Taniguchi, Fuji Oil Co. Ltd., Osaka, Japan

Friday, Oct. 7

### Plenary Session: Biotechnology Applications in Plant and Animal Systems

#### Chairpersons:

Neils Nielsen, Purdue University, West Lafayette,  
Indiana, USA, and Frank Orthofer, Riceland Foods  
Inc., Stuttgart, Arkansas, USA

#### General Introduction, Gene Expression, Cereals

Illimar Altosaar, Department of Biochemistry,  
University of Ottawa, Ottawa, Ontario, Canada

#### Genome Organization and Gene Expression, Monocots

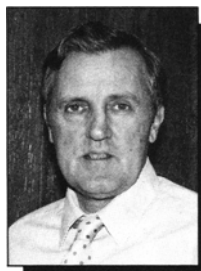
Robert B. Goldberg, Department of Biology, Uni-  
versity of California, Los Angeles, California, USA

#### Protein Structure Prediction, Applications

Pat Argos, European Molecular Biology  
Laboratory, Heidelberg, West Germany

#### Seed Proteins: Storage Proteins

Neils Nielsen, Purdue University, West Lafayette,  
Indiana, USA



Williams



Winaro



Zai-Chuin

#### Seed Proteins: Lipoxygenase

Rod Casey, John Innes Institute, Colney Lane,  
Norwich, England

#### Biotechnology Advances with Sunflower

Glenn Lilley, experimental scientist, Division of  
Biotechnology, Commonwealth Scientific and In-  
dustrial Research Organization, Parkville,  
Australia

#### Seed Proteins: Protease Inhibitors

Willy de Geef, Plant Genetic Systems, Ghent, Bel-  
gium

#### New Oilseed Opportunities from Biotechnology

William Scowcroft, Biotechnical Canada Inc.,  
Calgary, Canada

#### Enzyme Use in the Food Industry with Potential Applications to Vegetable Protein Utilization in Human Foods

Svend Eriksen, Novo Industri A/G, Bagsvaard,  
Denmark

#### Soy Globulin Fractionation and Enzymatic Modification

Walter Yachel, A.E. Staley Mfg. Co., Decatur,  
Illinois, USA

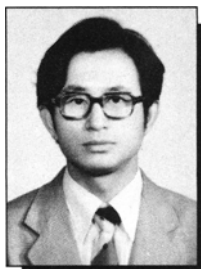
#### Biotechnology in Livestock Systems with Emphasis on Porcine Somatotropin

David Meisinger, Pittman-Moore Inc., Terre Haute,  
Indiana, USA

#### Conference Closing

## Volunteer Papers

A number of volunteer papers will be presented Tuesday evening, Oct. 4, at the world congress. Among the paper presenters will be Yang Ming-Duo of the People's Republic of China, W. Fetzer of Switzerland, Akinori Noguchi of Japan, Liu Fu-Kuang of the People's Republic of China and Frank Sosulski of Canada.



Yang Ming-Duo



W. Fetzer



Akinori Noguchi



Liu Fu-Kuang



F. Sosulski