2022 AOCS Annual Meeting & Expo

Processing Program

As of March 1, 2022. Subject to change.

Contents

Biofuels I

PROCESSING
Joint session with the Industrial Oil Products Division
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Bruce Patsey, Oil-Dri Corp of America, USA; and Robert O. Dunn, Jr., USDA ARS NCAUR, USA
Monday, May 2, 2022 | 9:55 a.m.–Noon EDT (Atlanta, USA; UTC-4)

The first Biofuels session includes these topics: the pretreatment of HVO feedstocks; developments in processing of enzymatic biodiesel; novel process to enhance biodiesel production from PFAD; innovations in soybean oil pretreatment; and new HCU pretreatment units.

Scale up biodiesel production from palm fatty acid distillate at palm oil refining plant. Teerasak Punvichai*[1,2], [1]*Faculty of Innovative Agriculture and Fisheries Establishment Project/Integrated High-Value Oleochemical Research Center, Prince of Songkla University, Thailand;* [2]*Faculty of Science and Industrial Technology, Prince of Songkla University, Thailand*

Renewable diesel pretreatment: Focus on soybean oil. Patrick Harrington*, *Crown Iron Works Co, United States*

New developments in enzymatic biodiesel. Rasmus B. Hansen*, Per M. Nielsen, *Oils & Fats R&D, Novozymes AS, Denmark*

Requirements and solutions for the pretreatment of HVO feedstocks. Wim de Greyt*, *Desmet Ballestra, Belgium*

Updates on hydrothermal cleanup (HCU) pretreat. Jocelyn Goodwin*, *Better Fuels Group, Applied Research Associates, United States*

How Processing Affects Emerging Economies

PROCESSING
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Juan Andrade, University of Florida, USA; and Annette Donnelly, Soybean Innovation Lab, USA
Monday, May 2, 2022 | 1:25–3:30 p.m. EDT (Atlanta, USA; UTC-4)

This session includes talks related to plant protein processing; mechanically expelled soy cake; a project to produce animal and human food from soy in Madagascar; USAID's perspective on oilseed production; and AOCS' program to connect agro-processors in Africa with volunteers in the processing industry.

Oilseeds, innovation and the 4th agricultural revolution: USAID's perspective. Michael Michener*, *Bureau for Resilience and Food Security, U.S. Agency for International Development, United States*

Improving and developing sustainable methods for plant protein processing. Keshun Liu*, *Agricultural Research Service, US Dept. of Agriculture, United States* ***(Alton E. Bailey Award Winner)***

Evaluation of an alternative low-resource soy protein production method. Ece Gulkirpik*[1], Juan E. Andrade Laborde[2], Kephas Nowakunda[3], *[1]University of Illinois at Urbana–Champaign, United States; [2]Food Science and Human Nutrition, University of Florida, United States; [3]National Agricultural Research Laboratories, United States*

Supporting argo-processing in Africa. Marjatta Eilitta*[1], Michael Boyer[2], *[1]Cultivating New Frontiers in Agriculture, United States; [2]AWT Management Services, Inc., United States*

Opportunity to assist in the expansion of high-quality soybean feed and edible oil production in Madagascar. Bob Andriamifidy*, *Agrival/Agrifarm, Agrival, Madagascar*

Processing Basics—Palm Oil

PROCESSING
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Alan Paine, ARP Lipids Consulting, UK; Leon Pablo Espinosa, Desmet Ballestra North America Inc., USA; and Syed Mohd Hadi Syed Hilmi, Sime Darby Plantation Research Sdn. Bhd., Malaysia
Monday, May 2, 2022 | 3:55–6 p.m. EDT (Atlanta, USA; UTC-4)

The Processing Basics—Palm Oil session includes: fractionation; high oleic palm oil; sustainability; basic steps of processing; the industry in Ecuador and Latin America; and deodorization.

Sustainability and oil palm practices. Syed Mohd Hadi Syed Hilmi*[1], Nurul Hayati Ibrahim[2], *[1]Processing Technology, Sime Darby Plantation Research Sdn. Bhd., Malaysia; [2]Sustainability Compliance, Sime Darby Plantation Sdn Bhd, Malaysia*

The palm oil crop in Ecuador and its extraction. Sebastian Alzamora*, *Extractora la Joya, Ecuador*

Palm oil basic steps to process this oil. Anibal Urizar*, *Sales, Desmet Ballestra Latin America sa de CV, Mexico*

Fractionation of palm and palm kernel oils for designing high quality commodity and specialty fats. Veronique J. Gibon*[1], Marc Kellens[2], *[1]R&D Department, Desmet Ballestra Group SA, Belgium; [2]Desmet Ballestra Group, Belgium*

Optimization of palm oil deodorization process conditions by RSM. Fatma Nevin Basaran*[1], Ferda Altuner[1], Özgür Anuk[1], Onur Özdikicierler[2], Muzaffer Kamilçelebi[1], Ömer Faruk Kan[1], Ali Yasin Karahan[1], Onur Erdemir[1], *[1]R&D, Besler Gida Ve Kimya San Ve Tic A.Ş., Turkey; [2]Faculty of Engineering—Food Engineering Department, Ege University, Turkey*

High oleic palm oil: Uses and applications. Juan Fernando Munoz*, *R&D-Innovation, Danec SA, Ecuador*

General Processing (Energy, Sustainability, Future)

PROCESSING
Sponsored by Clariant
Chairs: Darren Litle, Arisdyne Systems Inc., USA; and Ruchira Nandasiri, University of Manitoba, Canada
Tuesday, May 3, 2022 | 7:25–9:30 a.m. EDT (Atlanta, USA; UTC-4)

A world first funded by the European Union: Adaptation and startup of an U.K. hexane extraction plant to run on a 100% biobased solvent. Laurence Jacques, Mickael Bartier*; *EcoXtract, Pennakem Europe, France*

Improving the efficiency and capacity of edible oil refineries. Alan Paine*, *ARP Lipids Consulting, United Kingdom*

Process management
Brent German*, *Blind Corner Solutions LLC, United States*

Utilization of controlled flow cavitation to minimize process inputs, energy, and waste while maximizing process yield, quality, and sustainability. Darren Litle*, *Arisdyne Systems, Inc., United States*

Energy treasure hunts. John Barry*, *Barry Consulting Services LLC, United States*

Organic solvent nanofiltration membrane for vegetable oil refining. Mohammad Hossein Davood Abadi Farahani*, *Seppure Ptd Ltd, Singapore*

Novel Technologies—Plant-based Foods

PROCESSING
Sponsored by Clariant
Chairs: Pulari Krishnankutty Nair, Danone North America, USA; and Anil Kommineni, Danone, USA
Tuesday, May 3, 2022 | 9:55–Noon EDT (Atlanta, USA; UTC-4)

The Novel Technologies—Plant-based Foods session covers using soluble soybean polysaccharides to improve lactose recovery; processing dynamics at the molecular and supramolecular level; adding fat crystals to oleogels; sustainable protein microgels for low-calorie food; and factors that influence plant-based milk quality and stability.

Processing plant proteins colloidal structures. Milena Corredig*, *Department of Food Science, Aarhus University, Denmark*

Modifying plant proteins as microgels for fat replacement applications. Ben J. Kew* (***European Section Student Travel Grant Winner***), Melvin Holmes, Anwesha Sarkar, Evan Liamas, *School of Food Science and Nutrition, University of Leeds, United Kingdom*

Fat crystal network reinforced plant-derived polysaccharide-based oleogels. Zong Meng*, Qinbo Jiang *School of Food Science and Technology, Jiangnan University, China (People's Republic)*

Evaluation of plant-based milk quality and stability: A commercial analysis. Andrew Elder*[1], Steve McColley[1], James G. Redwine[2], Ashley Apil[1], *[1]Kalsec Inc., United States; [2]Analytical, Kalsec, Inc., United States*

Methods of improving the lactose recovery from the permeate and the drying ability of Greek yogurt whey. Venkateswarlu Sunkesula*, *Idaho Milk Products, United States*

Edible Oil Contaminants—Analysis and Industrial Perspective

PROCESSING
Joint session with the Analytical Division.
Sponsored by Clariant
Chairs: Jan Kuhlmann, SGS Germany GmbH, Germany; and Wim de Greyt, Desmet Ballestra Group, Belgium
Tuesday, May 3, 2022 | 1:25–3:30 p.m. EDT (Atlanta, USA; UTC-4)

The Edible Oil Contaminants session includes: the regulatory status of MOSH/MOAH; recent methods for determining MOSH/MOAH; method for detecting MCPD and GE applied to fats and oils; the introduction of an AOCS Official method adaptation for food emulsifiers; silica-based material's applications to reduce GE; and mitigation of MCPD.

Mitigation of MCPD in physically refined palm oil. Kornél Nagy*, Marine Nicolas, Karine Redeuil, Xanthippe Theurillat, *Nestlé Research—Societé Des Produit Nestlé SA, Switzerland*

Reducing glycidyl esters in RBD edible oil with silica+. Chelsea Grimes*, *Biofuels and Edible Oils, W. R. Grace & Co., United States*

MCPD and glycidyl esters—presentation of a modular analysis method for oils and fats as well as compound foods. Martin Kaminski*, *Department 5, BVL, Germany*

Determination of 3-MCPD and glycidol in food emulsifiers: Analytical solution and multi-laboratory validation. Jan Kuhlmann*, *SGS Germany GmbH, Germany*

Recent analytical methodologies for the determination of MOSH/MOAH in edible oils & fats. Susanne Kühn*, Michael Koch, *Institut Kirchhoff Berlin GmbH part of Mérieux NutriSciences, Germany*

MOSH/MOAH in edible oils and fats: Current status and mitigation solutions. Antonios Papastergiadis*, Wim De Greyt, *R&D Centre, Desmet Ballestra Group, Belgium*

Food Safety, Process Safety & Energy

PROCESSING
Chairs: Matthew Williamson, ADF Engineering, USA; and Richard Clough, Texas A&M University, USA
Tuesday, May 3, 2022 | 3:55–6 p.m. EDT (Atlanta, USA; UTC-4)

Cost effective hygienic design strategies for your protein plant. Dennis M. McCullough*, Scott Korte, *Process Plus LLC, United States*

Maintaining compliance with combustible dust regulations. Matthew Williamson*, *ADF Engineering, United States*

Energy management systems. John Barry*, *Barry Consulting Services LLC, United States*

Controlling outcomes succeeding in safety. Brent German*, *Blind Corner Solutions LLC, United States*

Recent advances in enzymatic fat splitting—as the time come for wide industrial plant implementation? Hans Christian Holm*, *Novozymes AS, Denmark*

New and Emerging Technology

PROCESSING
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Fernanda Furlan Goncalves Dias, University of California, Davis, USA; and Orayne Mullings, Desmet Ballestra North America Inc., USA
Wednesday, May 4, 2022 | 7:25–9:30 a.m. EDT (Atlanta, USA; UTC-4)

The New and Emerging Technology session features talks on a method to increase the purity of fumarated rosin; using proteolysis to extract proteins and lipids; developments in ice condensing in oil refining; an alternative bio-based solvent; the effect of ultrasound disruption on lipid extraction; and pre-processing sunflower meal to enhance protein separation.

Purification of fumarated rosin. Bing Wang*[1], Mitra Ganewatta[2], *[1]Ingevity, United States; [2]Innovation, Ingevity, United States*

Latest developments in ice condensing in oil refining: The SAFE solution. Marc Kellens*, Bart Schols, *Desmet Ballestra OFO, Belgium*

Understanding the impact of proteolysis on extractability, physicochemical, and functional properties of proteins and lipids from almond flour. Juliana Leite Nobrega De Moura Bell*, Fernanda Furlan Goncalves Dias, *Food Science and Technology, University of California, Davis, United State*

Oilseeds extraction using 2-methyloxolane as an alternative bio-based solvent to hexane. Ombeline Claux*, *GREEN Laboratory, Avignon University, France*

Effect of ultrasound disruption on lipid extraction from Nannochloropsis sp. Esther Mienis*[1], Dries Vandamme[2], Imogen Foubert[3], *[1]Microbial and Molecular Systems, KU Leuven, Belgium; [2]Analytical and circular chemistry, UHasselt, Belgium; [3]KU Leuven, Belgium*

Optimization of feed preparation for sunflower meal prior to protein separation using triboelectric belt separation. Natsuki Barber*, Abhishek Gupta, *ST Equipment & Technology, United States*

Biofuels II

PROCESSING
Joint session with the Industrial Oil Products Division
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Bruce Patsey, Oil-Dri Corp of America, USA; and Robert O. Dunn, Jr., USDA ARS NCAUR, USA

Wednesday, May 4, 2022 | 9:55 a.m.–Noon EDT (Atlanta, USA; UTC-4)

The second Biofuels session includes fractionation by urea inclusion; solution for measuring oil content; and silica adsorbents.

Fractionation of biodiesel by urea inclusion to improve its cold flow properties and provide feedstocks for chemicals/polymers production. Junli Liu*, Bernie Tao, *Agricultural and Biological Engineering, Purdue University, United States*

Measurement of distiller's corn oil (DCO) in process streams of ethanol plants. Michael Ebitson*, *Marketing, Biotage, United States*

Filter Media Options in Renewable Fuels and Edible Oils. Eric Appelbaum*, *Dicalite Management Group, Inc., United States*

Adsorptive reduction of metals and phospholipids from biofuel feedstocks. Neal Williams*[1], David Gittins[2], Tony Smith[2], *[1]Science and Technology, Imerys, United States; [2]Imerys, United States*

Silica adsorbents for biofuel feedstock pretreatment. Chelsea Grimes*, *Biofuels and Edible Oils, W. R. Grace & Co., United States*

Control, Instrumentation and Machine Learning

PROCESSING
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Jonathon Speed, Keit Spectrometers, UK; and William Younggreen, Alfa Laval Inc., USA
Wednesday, May 4, 2022 | 9:55 a.m.–Noon EDT (Atlanta, USA; UTC-4)

The Control, Instrumentation and Machine Learning session features Raman spectroscopy for measuring fats; a discussion of analytical approaches to the characterization of oil samples; and FTIR spectroscopy for measuring fermentation.

Static optics FTIR spectroscopy for the measuring and control of fermentation. Jonathon Speed*, *Keit Spectrometers, United Kingdom*,

Raman spectroscopy as a tool for understanding oil or fat quality in food products. Karen Esmonde-White*, Tory Woolf, Mary Lewis, Ian Lewis, *Endress+Hauser, United States*

Interpretability as a quality parameter for validation of sensor analytics approaches. Geir Rune Flaaten*, *Aspentech, Norway*

Advanced Process Control in Edible Oils Refining. Richard Sallis*, *Keit Spectrometers, United States*

Fermentation

PROCESSING
Joint session with the Biotechnology Division
Sponsored by Desmet Ballestra North America, Inc.
Chairs: Tsunehiro Aki, Hiroshima University, Japan; and Mahesh Balwant Khot, Farmsow Pvt. Ltd., India
Wednesday, May 4, 2022 | 9:55 a.m.–Noon EDT (Atlanta, USA; UTC-4)

The Fermentation session includes talks on isolating microorganisms in crude glycerol to measure fatty acid composition; using yeasts to produce biodiesel and healthier metabolites; enhancing oil production from yeast; biodiesel production using agro-waste; and improving the quality of pennycress meal.

Fungal bioprocessing to improve quality of pennycress meal as potential feeding ingredient for monogastric animal. Xiao Sun*[1], David Marks[2], Bo Hu[1], *[1]Bioproducts and Biosystems Engineering, University of Minnesota, United States; [2]Plant and Microbial Biology, University of Minnesota, United States*

Rhodotorula mucilaginosa R2: A potent oleaginous yeast isolated from traditional fermented food, as a promising platform for the production of lipid-based biofuels, bioactive compounds and other value-added products. Pritam Bardhan*, Manabendra Mandal, *Department of Molecular Biology & Biotechnology, Tezpur University, India*

Genetic modification to enhance single cell oil production in the oleagineous yeast Rhodotorula mucilaginosa. Sheetal Bandhu*[1], Debashish Ghosh[2], *[1]Kusuma School of Biological Sciences, Indian Institute of Technology, Delhi, India; [2]Biochemistry and Biotechnology, CSIR-Indian Institute of Petroleum, India*

Studies on filamentous fungus Fusarium sp. accumulating hydroxy fatty acids. Eiji Sakuradani*, Kai Yoshida, Naomi Murakawa, Takaiku Sakamoto, *Tokushima University, Japan*

Process Optimization for Biodiesel Production Using Agro-Waste Substrate. Ameeta Ravikumar*[1], V. Ravi Kumar[2], Rashmi Bed[1], *[1]Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University, India; [2]Chemical Engineering and Process Development Division, CSIR-National Chemical Laboratory (CSIR-NCL), India*

Utilization of sugar cane bagasse as a substrate for fatty acid production by *Aurantiochytrium* sp. Kenshi Watanabe*, *Hiroshima Univeristy, Japan*

Processing Poster Session

Sponsored by Clariant and Desmet Ballestra North America, Inc.
Chairs: Alan Paine, ARP Lipids Consulting, UK; and Orayne Mullings, Desmet Ballestra North America Inc., USA

Effect of emulsifier addition on the thermomechanical properties of a high oleic palm oil based oleogel. Victor Cedeño-Sánchez, Devanshu Mehta*, John Carriglio, Andrew MacIntosh, *University of Florida, United States*

Comparison of high oleic palm oils and shortenings in a baking application. Melissa Perez-Santana, Gloria Cagampang, Christopher Nieves, Victor Cedeño-Sánchez, Andrew MacIntosh*, *University of Florida, United States*

Effect of high oleic acetyl triacylglycerol (acetyl-TAG) on functional properties of biodegradable sorghum DDGS packaging film. Eda C. Kaya*[1], Timothy Durrett[2], Scott Bean[3], Valentina Trinetta[4], Umut Yucel[1], *[1]Food Science Institute/Department of Animal Sciences and Industry, Kansas State University, United States; [2]Biochemistry and Molecular Biophysics, Kansas State University, United States; [3]USDA Center for Grain and Animal Health Research, Manhattan, Kansas., United States; [4]Kansas State University, United States*

Effect of high-intensity ultrasound on canola oil bleaching (Brassica napus L.). Alelhi C. De Jesús-Hernández*[1], Genaro G. Amador-Espejo[1], Raúl J. Delgado-Macuil[1], Héctor Ruiz-Espinosa[2], *[1]Centro de*

Investigación en Biotecnología Aplicada, Instituto Politécnico Nacional, Mexico; [2]Facultad de Ingeniería Química, Benemérita Universidad Autónoma de Puebla, Mexico

Pulsed electric field treatment enhances lipid bioaccessibility while preserving oxidative stability in Chlorella vulgaris. Greta Canelli*[1] (***Processing Division Student Award Winner***), Isabelle Kuster[1], Luc Jaquenod[1], Patricia Murciano Martínez[2], Zhen Rohfritsch[3], Fabiola Dionisi[2], Paolo Nanni[4], Christoph J. Bolten[5], Alexander Mathys[1], *[1]ETH Zurich, Switzerland; [2]Nestlé Research, Switzerland; [3]Analytical science, Nestlé Research, Switzerland; [4]Functional Genomics Center Zurich, Switzerland; [5]NPTC Food Singen, Switzerland*

Isothermal crystallization of palm olein with different seeding methods. Veronique J. Gibon*[1], Bastien Jacquet[1], Christophe Blecker[2], Sabine Danthine[2], *[1]R&D Department, Desmet Ballestra Group SA, Belgium; [2]University of Liège—Gembloux Agro-Bio Tech, Belgium*

Effect of food emulsions on the cytotoxicity of 3-chloropropane-1,2-diol esters. Ayse Nur Akpinar*[1], Selvi Secil Sahin[2], Büşra Moran Bozer[3], Aziz Tekin[1], Cansu Ekin Gumus-Bonacına[1], *[1]Ankara University, Turkey; [2]University of Leeds, United Kingdom; [3]Hitit University, Turkey*

Effect of pretreatment conditions on mustard bioactive compounds. Thu Nguyen*, Ruchira Nandasiri, N. A. Michael Eskin, *Food and Human Nutritional Sciences, University of Manitoba, Canada*

Tailoring the ultrafiltration of colostrum whey to produce a bioactive compound-rich permeate for subsequent isolation by nanofiltration. Andrea J. Tam*[1], Sierra D. Durham[1], Daniela Barile[1], Juliana Leite Nobrega De Moura Bell[2], *[1]University of California, Davis, United States; [2]Food Science and Technology, University of California, Davis, United States*

This presentation goes into detail on the types of filter aids and mechanisms such as adsorption, chelation, and hydration and the latest developments for optimal impurity removal for biorefineries. Neal Williams*[1], David Gittins[2], Tony Smith[2], Lazaebrean McDowell[2], *[1]Science and Technology, Imerys, United States; [2]Imerys, United States*

Formation of lentil protein-tannic acid complexes limits in vitro peptic hydrolysis and alters peptidomic profiles of the protein. Ruth Boachie*[1], Ogadimma Okagu[2], Raliat Abioye[3], Nico Huttmann[4], Teresa Oliviero[5], Edoardo Capuano[5], Vincenzo Fogliano[5], Chibuike Udenigwe[4], *[1]School of Nutrition Sciences/Agrotechnology and Food Sciences, University of Ottawa/Wageningen University & Research, Canada; [2]University of Ottawa, Canada; [3]Chemistry and Biomolecular Sciences, University of Ottawa, Canada; [4]University of Ottawa, Canada; [5]Wageningen University & Research, Netherlands*

Study of the phenolic fraction for the valorization of olive pomace as a functional ingredient. Ilaria Grigoletto[1], Patricia García Salas[2], Enrico Valli*[3], Alessandra Bendini[4], Federica Pasini[1], Sebastián Sánchez Villasclaras[5], Roberto García Ruiz[6], Tullia Gallina Toschi[1], *[1]Department of Agricultural and Food Sciences, Alma Mater Studiorum—University of Bologna, Italy; [2]University of Bologna, Italy; [3]Department of Agricultural and Food Sciences and Interdepartmental Centre of Agri-Food Industrial Research, Alma Mater Studiorum—Università di Bologna, Italy; [4]DISTAL, Alma Mater Studiorum Università di Bologna, Italy, [5]Chemical, Environmental and Materials Engineering, University of Jaen, Spain; [7]Plant and animal biology and ecology, University of Jaén, Spain; [8]Department of Food and Agriculture Sciences, University of Bologna, Italy*

A practical guide for refinery scope 1 & 2 carbon footprint reduction: An in-depth analysis of CO2 reduction through energy analysis and conservation, CO2 reduction through clean energy generation, CO2 reduction through offsets. Joseph C. Johnson*, Sam Woodham, *Engineering, Fuji Vegetable Oil Inc., United States*

Application of choline chloride based deep eutectic solvent for the extraction of ferulic acid from oil palm pressed fibre. Mei Han Ng*, Nu'man Abdul Hadi, *Engineering and Processing, Malaysian Palm Oil Board, Malaysia*

Effects of particle size distribution and feed moisture content on the techno-functional properties of extruded soybean meal. Ravinder Singh*, Filiz Koksel, *Department of Food and Human Nutritional Sciences, University of Manitoba, Canada*

Efficacy of air frying as a hot air pre-treatment technique in enhancing the yield of the major oil-derived sinapic acid derivatives from canola oil. Olamide S. Fadairo*[1], Ruchira Nandasiri[2], N. A. Michael Eskin[2], Martin G. Scanlon[2], *[1]Food and Human Nutritional Sciences, Richardson Centre for Functional Food and Nutraceutical, University of Manitoba, Canada; [2]Food and Human Nutritional Sciences, University of Manitoba, Canada*

Impact of almond roasting and particle size on the simultaneous extraction of lipids and proteins for almond milk production. Jessica Hallstrom*, Fernanda Furlan Goncalves Dias[1], Juliana Leite Nobrega De Moura Bell, *Food Science & Technology, University of California, Davis, United States*

Novel encapsulated ionic liquid analogous for free fatty acid conversion to fatty acid methyl ester. Adeeb Hayyan[1], Mohamed E. Mirghani*[2], Hanee F. Hizaddin[1], Mahar Diana Hamid[1], Jehad Saleh[3], M.Y. Zulkifli[4], Waleed Al Abdulmonem[5], Fahad A. Alhumaydhi[6], Abdullah S.M. Aljohani[6], *[1]Department of Chemical Engineering, University of Malaya, Malaysia; [2]International Institute for Halal research and Training (INHART), International Islamic University Malaysia (IIUM), Malaysia; [3]Department of Chemical Engineering, King Saud University, Saudi Arabia;[4]Academy of Islamic Studies, Universiti Malaya, Malaysia; [5]Department of Pathology, Qassim University, Saudi Arabia; [6]Department of Medical Laboratories, Qassim University, Saudi Arabia; [6]Department of Veterinary Medicine, Qassim University, Saudi Arabia*

Process considerations for using alternative feedstock in the production of biodiesel. Bryan Yeh* *American Biodiesel Dba Community Fuels, United States*

Utilizing tea industry by-products to improve instant tea aroma. Umesh Rajapakse*[1], Chamila Jayasinghe[1], Akila Dalpathadu[2], Darshika Pathiraja[1], Sarath P. Nissanka[3], *[1]Department of Food Science and Technology, Wayamba University of Sri Lanka, Sri Lanka; [2]Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka; [3]Department of Crop Science, University of Peradeniya, Sri Lanka NCAUR, United States*