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Food Production: Tradition and Innovation

DR ANTONIO GALLO (ACADEMIC COORDINATOR) / PROF. ALDO PRANDINI / PROF. EDOARDO FORNARI/
PROF. MATTEO GATTI/ DR. LUCA SANDEI/ INTERNATIONAL VISITING PROFESSORS: PROF. RIAZ A. AZIZ / MARIA
XIMENA QUINTANILLA CARVAJAL

Overview

Area: Agribusiness & Food Sciences
Dates: 14-25 June (2 weeks)
Campus: Piacenza
Course Number: AG / FD 310
Term: Summer School 2021
Credits: 6 ECTS

Course Description

After providing an overview about biochemical background, nutritional value and health-related issues linked of the Mediterranean diet, the course will cover the 'farm-to-fork' pathway of typical food types of the Po Valley and, in particular, of the Piacenza district, including tomato sauce, *Grana Padano*, *salumi* and *wine*. For any of them, theory and practice under the form of tasting will be delivered.

Main Topics

Salumi: a unique itinerary to excellence - Prof. Aldo Prandini and Dr. Antonio Gallo

- The production chain of the "Typical Italian Heavy Pig"
- The guideline of the "Consortium of Parma and S. Daniele Prosciutto (ham)"
- Processing of Italian PDO (Protected Designation of Origin) salami: Coppa Piacentina (air-cured seasoned pork meat), Pancetta Piacentina (seasoned belly/bacon), Salame Piacentino (salami) and Prosciutto di Parma and San Daniele (Parma and San Daniele Ham).

Grana Padano and Parmigiano Reggiano: history, tradition and processing - Prof. Aldo Prandini and Dr Antonio Gallo

- History and tradition of Italian hard cheeses
- Differences in nutrition aspects related to dairy cow diets
- Guidelines of the Protection Consortium of Italian hard cheeses
- Grana Padano PDO and Parmigiano Reggiano PDO: the specification and the manufacturing process
- Spoilage defects and problems during production
- Grana Padano and Parmigiano Reggiano tasting

References

Reading material on specific topics, links to websites will be supplied during the course.

Biography

Prof. Aldo Prandini is professor of Animal Sciences at the Faculty of Agricultural, Food and Environmental Sciences. Università Cattolica del Sacro Cuore, Piacenza-Cremona Campus. His fields of research are



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the nutrition of non-ruminant animals and the quality of meat and PDO products. He is member of different Scientific Associations and is co-author of more than 150 papers about these topics.

Dr. Antonio Gallo is a researcher in Animal Nutrition Science at the Faculty of Agriculture, Food and Environmental Sciences of the Università Cattolica del Sacro Cuore. He has a PhD in Animal Nutritional Science. During his Ph.D., he spent a period at Utah State University as visiting scientist. For his PhD thesis, he received an award for “best thesis in Animal Production Science”. His research field regards feed evaluation, feed safety and modelling digestion process in total tract of dairy cows. He is member of different Scientific Associations and is co-author of more than 70 peer-reviewed papers and 2 book chapters.

Viticulture and enology: a trade-off between tradition and innovation – Prof. Matteo Gatti

- Climate change is challenging viticulture worldwide in terms of geographical distribution and ripening patterns. Do we have short term tools to face such a challenge?
- There is the need to compromise between “tradition” and “innovation” to stay competitive in the wine market. Is the terroir concept still holding as it was? Feasible solutions.
- Status and outlook for the viticulture of the Colli Piacentini area, Po Valley, Italy. Our vine growing standards.

References

- Keller, M. 2015. The Science of the grapevines – Anatomy and Physiology. Academic Press, San Diego, California, USA.
- Iland, P., Dry, P., Proffitt, T., Tyerman, S. 2011. The grapevine: from the science to the practice of growing vines for wine. P. Iland Wine Promotion, Adelaide SA, Australia.

Biography

Dr. Matteo Gatti is Associate Professor at the Department of Sustainable Crop Production (Section of Fruit Culture and Viticulture). He obtained his PhD at the University of Angers (FRA) working on “Evaluation of the Terroir Effect on Wine Stilbenes Concentration”. From November 2013 to May 2014 he has been invited research fellow at the School of Chemistry of the University of Auckland (NZ) establishing “New Viticultural Trials on Central Otago Pinot Noir”. Prof Gatti has authored or co-authored 40 papers published in international refereed journals and 15 edited in international refereed proceedings. His main research fields are grape physiology, breeding, vineyard management, precision viticulture and viticultural zoning.

Food Marketing – Prof. Edoardo Fornari

Learning aim is to provide students with basic knowledge of marketing-mix tools managed by manufacturers and retailers in the food & beverage industry. Both strategic and operational levers of marketing plans will be discussed. In particular, the following main topics will be addressed:

- path to purchase: consumers'/shoppers' needs, behaviours and emerging lifestyle attitudes towards food & beverage products;
- branding strategies in food & beverage, considering both single-firm brands and collective/consortium-managed brands (i.e. PDO brands;)
- food & beverage multichannel trade-offs: modern trade vs normal trade; buying groups vs chains; brick and mortar stores vs digital stores; general merchandise stores vs specialized stores;
- food & beverage retailers' marketing autonomy: assortment, store design, pricing, promotions and communication policies.



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Development of understanding will be enhanced by means of case studies discussion regarding both large and medium-small firms and both national/local as well as international/global markets.

By the end of the course, students will have acquired knowledge about the basis of food marketing management. This will allow them to develop basic capabilities of market analysis, strategic planning and its application.

References

Reading material on specific topics will be supplied during the course.

Biography

Prof. Edoardo Fornari is Professor of Retail Marketing, Internet Marketing and Marketing of Food Products at the Catholic University of the Sacred Heart (Italy), where he is also associate researcher at REM Lab, the Research Centre on Retailing and Trade Marketing. He is Chair of the "Service, Retailing & Channel Management" section of the Italian Marketing Society, and member of the European Association for Education and Research in Commercial Distribution (EAERCD). His research activity is mainly focused on marketing channels, food marketing, retail management, branding, trade marketing, multichannel retailing and shopper marketing.

Tomato sauce: from the field to the pasta dish - Dr Luca Sandei

- The Italian red gold: History, Tradition, Biodiversity, Cultivation and Research
- Excellence and Innovation to make Quality: Tomato processing and Quality attributes of Italian Tomatoes
- Visit to tomato processing plant (3 Hours practical).

References

- Tomato Production, Processing & Technology by Wilbur A. Gould – CTI PUBLICATIONS INC. Baltimore, Maryland.
- I derivati industriali del Pomodoro by Carlo Leoni – SSICA – Parma.
- Handbook of Vegetable Preservation and Processing – ed. Y.H. Hui, S. Ghazala, et al. - Marcel Dekker, Inc. New York –Basel.
- A complete Course in Canning by D.L. Downing – CTI Publications INC. Baltimore, Maryland.

Biography

Dr. Luca Sandei graduated in Food Science. He is Project Manager of many researches and development projects (on vegetable products, fresh, processed dry and frozen food), and the Head of the tomato department since 2008 at SSICA (Experimental Station for the Food Preserving Industry in Parma, Italy). He is also the Chairman of the International Legislation Commission of the WPTC (World Processing Tomato Council). Dr. Sandei is national member of Codex Alimentarius.

An overview of agricultural trade between Italy, its EU partners and the U.S – Prof. Riaz A. Aziz

- The objective is to provide a broad basis of understanding of trade issues that impact the Italian agricultural industry. The following topics will be addressed:
 1. Tariffs: The unexpected side effects of trade constraints
 2. Agricultural productivity and economic growth
 3. Impact of agricultural research and modern technology on food production



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References

- Agriculture Policy and Trade Reform: Potential Effects at Global, National and Household Levels by the Organization for Economic Co-Operation and Development – OECD Publishing. Paris, France.
- The Influence of Trade Agreements in Global Agricultural Markets by Benjamin Stenton – Nova Science Publishers, Inc., Hauppauge, New York.
- Agricultural Development and Economic Transformation by John W. Mellor – Springer International Publishing, Cham, Switzerland.
- Integrated Processing Technologies for Food and Agricultural By-Products by Zhongli Pan, et al. – Academic Press, Cambridge, Massachusetts, United States
- Tariffs in Global Agricultural Markets by Paul Gibson, et al. – Economic Research Service – United States Department of Agriculture, Washington, D.C, United States
- Additional reading material and web links will be supplied during the course.

Biography

Riaz Aziz is a Faculty Lecturer at the Department of Agribusiness and Applied Economics at North Dakota State University in Fargo, North Dakota and at the Offutt School of Business at Concordia College in Moorhead, Minnesota. Aziz teaches classes in Agricultural Finance, Agribusiness Management, Corporate Finance, Money and Banking, and International Studies. His research includes precision farming, agricultural best practices, and regional weather conditions that impact agriculture in the Northern plains. He teaches courses on Asia and leads college students on cultural immersion experiences to India and Nepal. He is the President and co-founder of a non-profit organization (Begunahi Foundation) dedicated to educating and empowering underprivileged women in India.

The use of whey in Colombia – Prof. María Ximena Quintanilla Carvajal

- History
- Production processes: from cheese to packages
- Nutritional aspects Italian red gold: History, Tradition, Biodiversity, Cultivation and Research

References

- Whey Proteins, Editor(s): Hilton C. Deeth, Nidhi Bansal, Academic Press, 2019, ISBN 9780128121245.
- G. Rabaioli Rama, D. Kuhn, S. Beux, M. J. Maciel, C. F. Volken de Souza, 2019. Potential applications of dairy whey for the production of lactic acid bacteria cultures, International Dairy Journal, 98: 25-37
- Aragón-Rojas, S; Hernández-Sánchez, H and Quintanilla-Carvajal, M.X. (2018). Multifunctional Role of the Whey Culture Medium in the Spray-Drying Microencapsulation of Lactic Acid Bacteria. Food technology and Biotechnology. Doi No. 10.17113/ftb.56.03.18.5285

Biography

María Ximena Quintanilla-Carvajal is Associate Professor at the University of La Sabana and Senior Researcher by Colciencias. She studied her PhD program in Food Sciences at the National School of Biological Sciences of the National Polytechnic Institute, Mexico. Her research themes are based on the development of functional foods from micro and nanoencapsulation. María Ximena was a Visiting Scholar of Fulbright at the University of Massachusetts in order to test the bioaccessibility and bioavailability of compounds of interest in food.



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Learning Goals/Objectives

- To get acquainted with the concept of "we are what we eat".
- To understand the close link existing between the territory and the different typical food types.
- To perceive how "tradition" can anyway benefit from technological innovation without losing its "charme" and peculiarities.
- To understand that a "unique", non-duplicable product is a blend of optimal genotype x environment interaction and man's ability.

Teaching Methods

- Lectures
- Class discussions
- Group project works
- Guest speakers
- Tasting
- Industry/Vineyard/Winery visits.

Evaluation and grading

| | |
|------------|------|
| Mid-term | 30 % |
| Final exam | 70 % |

Detailed description of assignments

The in-class assessment will be composed of a mid-term evaluation and a final a written exam with multiple-choice questions. The weights on the two parts are 30% mid-term and 70% final exam.

Rules of conduct

Attendance: Attendance is mandatory and no absence/s will be excused. Unexcused absences will prevent students from being admitted to the final exam. In case of health issues, students will need to inform both UCSC International Office (at international.advisor@unicatt.it) and the professor and provide a medical certificate.

Exam Date: The exam date cannot be re-scheduled. Unexcused absences will result in a failing grade. In cases of unforeseeable circumstances such as illness or injury on the day of the exams, the student must submit a medical certificate and communicate his/her absence to the Professor and UCSC International Office via email prior to the exam. If the student does not justify his/her absence through sufficient documentation and with adequate notice before the final test, the student will receive an automatic Failed.