CAPRI Training Session 2019

POST EVENT REPORT

We bring together modellers, developers and individuals with a strong interest and background in agriculture related research. The aim is to improve the participants' knowledge about quantitative modelling of agricultural, environmental and trade policies with the CAPRI system.
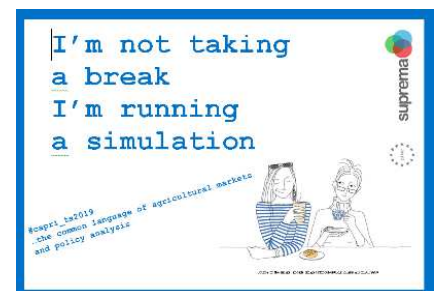
JOINT RESEARCH CENTRE (JRC), SEVILLE
NOVEMBER 5-8

"The knowledge, confidence and enthusiasm of the instructors towards CAPRI"

POLITÉCNICA

suprema

European Commission

On November 5-8, 2019, the Technical University of Madrid (UPM) and the Joint Research Centre of the European Commission (JRC), in collaboration with the CAPRI network, organised the CAPRI Training Session under the framework of the SUPREMA project. The training was held at JRC offices located in Seville, Spain.

CAPRI MODEL

CAPRI (Common Agricultural Policy Regional Impact Analysis, **https://www.capri-model.org/dokuwiki/doku.php?id=start**) is a global agroeconomic model developed for policy impact assessment purposes. Operational for two decades, it supports decision-making related to the Common Agricultural Policy of the EU and its implementation at the EU country and regional levels.

CAPRI is designed for scenario analysis. It is a comparative static model, which means that the market equilibrium is simulated for a given point in time. Its results are best interpreted as the long run outcome of some scenario, after all adjustments to the new equilibrium are completed. It contains two modules, market and supply, with iterations between which the market equilibria is calculated. The *supply module* consists of independent non-linear programming models representing around 55 agricultural inputs produced in about 60 activities at regional or farm type level. The market module is a *spatial, non-stochastic global* model for about 65 primary and processed agricultural products. About 80 world regions, aggregated to about 40 trade regions, are modelled. The market module simulates supply, demand and price changes in global markets considering bilateral trade between the regions.

The model builds on a *philosophy of model templates.* The structural similarity of the templates allows for 1) comparability of results across products, activities and regions, 2) low cost system maintenance, 3) integration within a larger modelling network, and 4) complementary approaches at different levels. CAPRI uses GAMS (General Algebraic Modelling System) software with CONOPT solver. CAPRI Graphical User Interface (GUI) is used for viewing the model's database and results and for running it.
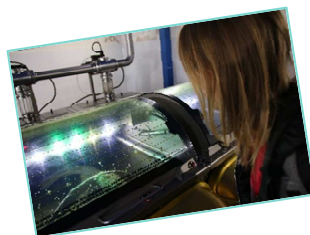
CAPRI COMMUNITY

Methodological development, updating, maintenance and application of CAPRI are based on a *network approach.* In the first 15 years it was dominated by the key developer, Wolfgang Britz, and a series of PhD projects supervised by Thomas Heckelei. In the recent years, the responsibilities have spread within the main contributors: the Bonn team (**University of Bonn** and **EuroCARE GmbH**, Bonn, Germany), **Institute of Farm Economics at the von Thünen Institute** (Braunschweig, Germany), **Swedish University of Agricultural Sciences** (Uppsala, Sweden), **Technical University of Madrid**, **JRC in Seville** and **JRC in Ispra**. Over the years researchers from various universities and institutes (e.g., from Norway, Switzerland and Ireland) have contributed to CAPRI, which can be seen from the contributions to many publications.

The CAPRI system strongly benefitted from EU Commission support in various forms. Most of the initial developments were co-financed by DG-RSRCH through the series of past FP and H2020 projects. Furthermore, the DG-JRC (D.4 in Seville and D.5 in Ispra) has actively contributed to improvements and extensions in various components of the system. Since some years, recurring demand for up-to-date and long run projections on the part of DG CLIMA is contributing to regularity in the updating process for the database and projections.

#capri_ts2019
…the common language of agricultural markets and policy analysis
AND impacts on the environment

OBJECTIVES OF THE TRAINING

The annual CAPRI training aims at bringing together modellers, developers and any individuals with a strong interest and background in agriculture related research to improve their knowledge about agricultural economics and quantitative modelling of agricultural, environmental and trade policies with the CAPRI system.

The focus of the 2019 training was to provide participants with fundamental knowledge of CAPRI model to support and foster its further *independent use* for educational and research purposes.

PARTICIPANTS

The CAPRI training session 2019 was attended by 36 trainees. They represented 12 EU and 4 non-EU countries. The participants from Germany, Hungary, Czechia, Finland, Italy, Spain, Greece and Switzerland were affiliated with the institutions, among the main tasks of which was performing agricultural research for the state or local governments. 11 education-providing institutions were represented as well. In particular, from Ireland, UK, Poland, Germany, Sweden, Spain, Ukraine and China.

TRAINERS

The training was held by 12 trainers. Among them are five developers of the CAPRI model: **Peter Witzke**, **Torbjörn Jansson**, **Alexander Gocht**, **Maria Blanco** and **Mihaly Himics**. Advanced CAPRI modellers, Mariia Bogonos and Jordan Hristov (JRC, Seville), Jörg Rieger and Sebastian Neuenfeld (von Thünen Institute, Braunschweig), Klaus Mittenzwei (Norwegian Institute of Bioeconomy Research, Oslo), Monika Kesting (EuroCare GmbH, Bonn) and Ida Nordin (Swedish University of Agricultural Sciences, Uppsala) gave introductory sessions and supported group and individual work during the course.

FORMAT & AGENDA

The training offered parallel sessions for "beginners" and "advanced" CAPRI users. The sessions for the beginners provided theoretical foundations about CAPRI supply and market modules, baseline generation and comparative static policy impact analysis. The advanced group covered in-depth theory about the model, selected advanced topics such as baseline calibration, adjusting the GUI reporting viewer, and strategies for error-handling. The participants were supplied with the CAPRI tutorial and reading materials specifically developed for individual preparation to the course.

Day 1
Welcome and Introduction to CAPRI

Software in CAPRI

GUI and Results review

Day 2
Scenario definition and GAMS

Building of database

Day 3
Baseline generation

SOCIAL EVENT

Day 4
Presentations: Recent applications of CAPRI

Running of policy scenarios

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"Motivation, preparation and ability to convey messages"

"Professionalism"

"Participants are asked to solve problems"

"Use of interesting examples"

"It was very enjoyable and helped to get to know the CAPRI group more"
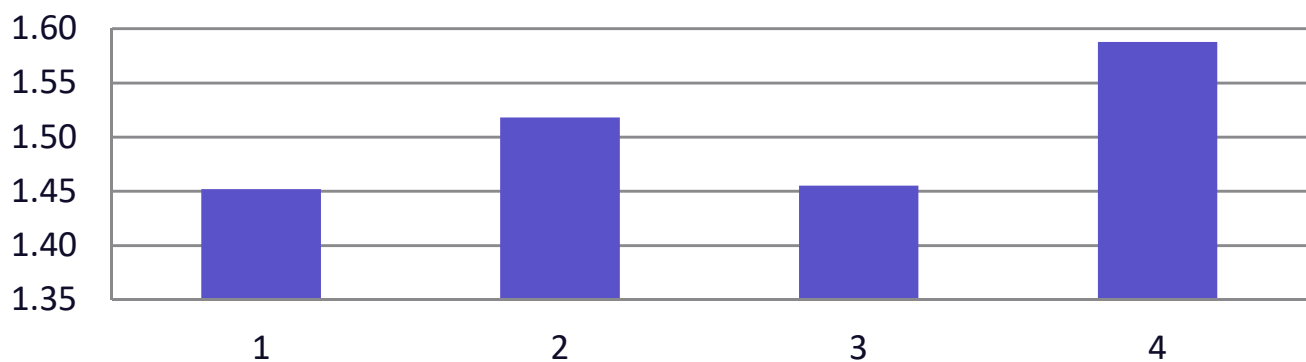
"Approachable and simple teaching style"

"I really enjoyed the excursion"

"Technical knowledge and capacity to engage with attendees"

"Very well organized"

"The willingness to answer questions and the help during the exercises assuring that everyone could follow"

**Assessment by the participants:
course content and structure. Average scores.**

Category	Score
1	1.45
2	1.52
3	1.46
4	1.59

Legend: *1 - The information provided during the course motivated me to continue/start working with the CAPRI model. 2 - The information provided during the course motivated me to discover CAPRI model more. 3 - Exercises were engaging and helped better understand CAPRI model. 4 - I would recommend this course to my fellow colleagues.*

Scores: -2 Strongly disagree │ -1 Disagree │ 0 Neutral │ 1 Agree │ 2 Strongly agree