



AGRICULTURAL UNIVERSITY - PLOVDIV
4000 Plovdiv, Bulgaria 12, Mendeleev Blvd.
tel. +359/32/654300 www.au-plovdiv.bg



Research and Innovation Profile

General information

Description

Title of the research entity/group

SUSTAINABLE AGRICULTURE (FRUIT GROWING)

Field of expertise

/in conjunction with Horizon 2020-Societal Challenge 2 (SC2): 'Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy'/

- SFS-18-2020 - Food systems pilot action
- There search team investigates aspects of sustainable fruit producing such as the influence of the root stocks on the growth, reproductive characteristics of cultivars, the quality and the chemical composition of the fruits in the following crops: sweet cherry, peach, plum, apricot and apple. On the basis of the results, the team estimates the distribution of different scion-rootstock combinations in different environmental conditions, makes recommendations about the planting density and technology of pruning and growing; estimates the possibility of root stocks and cultivars to tolerate climate instability (drought, water logging and high temperature amplitudes) to reduce their negative effects on fruit producing.

Research products and services provided by the entity/group

The Research products and services provided by the entity/group can be summarised as following:

- Evaluation the influence of rootstocks on growth, productivity and overcoming the adverse factors associated with climatic instability in deciduous fruit species.
- Evaluation the influence of different rootstocks on phenophases and growth characteristics of cultivars of the fruit species in orchard.
- Comparative studies of rootstocks with certain fruit cultivars and methods of propagation in nurseries concerning the quality of output planting material.
- Comparative studies of fruit rootstocks with certain cultivars in intensive orchard.
- Study of reproductive and growth characteristics on different apricot cultivars, grafted on interstocks.
- Performance of fruit cultivars and quality of their fruits in intensive orchards depending of rootstocks.

Participation in previous/ ongoing H2020 or other EU

2018-2022: National Research Programme "Healthy Foods for a Strong Bio-Economy and Quality of Life", Ministry of Education and Science.



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Participation in previous/ongoing H2020 or other EU projects

2019-2022: “Research on sustainable pest and disease management in apple orchards in Bulgaria and China based on precision ecological control methods”, National Science Fund of Bulgaria.
Project 13-19 “Agrobiological testing of newly introduced rootstocks for plum and apricot cultivars in orchard”, Agricultural University – Plovdiv (AUP).

Number of researchers involved /including young researchers e.g. doctoral, post-doctoral, habilitated, etc./

Assoc. Prof. Sava G. Tabakov, PhD
Assoc. Prof. Anton I. Yordanov, PhD

Research infrastructure used

Experimental orchards with modern cultivars of the main deciduous stone fruit species have been created and cultivated. Rootstocks with different genotypes were used for plums, apricots, peaches: Myrobalan seedling (*Prunus cerasifera*), M29C (clonal selection of *Prunus cerasifera*), Ishtara (complex interspecific hybrid), Wavit (clonal selection of *Prunus domestica*), Pumiselect (clonal selection of *Prunus pumila*), GF677 (*Prunus dulcis* × *Prunus persica*), GxN 15 (*Prunus dulcis* × *Prunus persica*). Only in apricot trial were included scion-rootstock combinations with interstocks which belongs to the species *Prunus persica* and *Prunus domestica*. Cherry cultivars are grown in combination with the rootstocks: Mahaleb seedling (*Prunus mahaleb*), Gisela 6 (clonal selection of *Prunus cerasus* × *Prunus canescens*) and MaxMa 14 (clonal selection of *Prunus mahaleb* × *Prunus avium*).

The experiments are of different age – from the second to the seventh vegetation and they were planted at the experimental field of the Department of Fruit Growing at the AUP. Drip irrigation is provided, and sod-mulch system is provided between the rows.

Profile of the leading researchers in entity/group

Assoc. Prof. Sava G. Tabakov, PhD (male)– is an acting Associated Professor at the Dept. of Fruit growing, Director of Educational and Experimental Base at the AUP, Bulgaria (www.au-plovdiv.bg). He is a BSc, MSc and PhD from the AUP (2014) and since 1991 to present, he is a lecturer and researcher at the Faculty of Viticulture and Horticulture at the AUP. Since February 2008, he is a Director of the Educational and Experimental Base at the AUP.



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Profile of the leading researchers in entity/group

Internationally recognised researcher, expert and adviser, experienced in executing high-profile (inter)national R&D projects in fruit growing, establishment and management of organic and conventional orchards and plant protection. An educator and communicator of sustainable (incl. organic) fruit growing to diverse rural communities, advisers, government institutions, policymakers and growers from Bulgaria, Serbia, Greece, North Macedonia. Member of Executive Agency of Variety Testing, Field Inspection & Seed Control at the Ministry of Agriculture Food and Forestry of Bulgaria (2009). Author of 40+ scientific publications, books, manuals, etc. Field of scientific interest: introduction and testing of new rootstocks and cultivars in fruit growing. New technologies for sustainable and effective fruit producing (incl. organic) and planting material producing.

Assoc. Prof. Anton Yordanov, PhD (male) – is an acting Associated Professor at the Dept. of Fruit growing at the AUP. He is a BSc, MSc and PhD from the AUP (2014). Since 2001 to present, he is a lecturer and researcher at the Faculty of Viticulture and Horticulture at the AUP. Internationally recognised researcher, expert and adviser, experienced in executing (inter)national R&D projects in fruit growing, establishment and management of organic and conventional orchards and plant protection. An educator of sustainable (incl. organic) fruit growing to diverse rural communities, government institutions, and growers from Bulgaria. Author of 30+ scientific publications, books, manuals, etc. Field of scientific interest: introduction and testing of new rootstocks and cultivars in fruit growing. New technologies for sustainable and effective fruit producing (incl. organic) and planting material

In which calls of Horizon2020-SC2 or Horizon Europe the entity/group is ready to participate and how

Cluster Food, Bio Economy Natural Resources, Agriculture and Environment

HORIZON EUROPE - Research area: Food systems; Title: Safe and Sustainable Food Systems for People, Planet&Climate

Research entity/group contact person /name, postal address, e-mail, phone number/

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