58th Annual Meeting

of the SOCIETY

FOR ECONOMIC BOTANY

BRAGANÇA - PORTUGAL

JUNE 4-9, 2017

Living in a global world:

local knowledge and sustainability

Book of abstracts

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WLBC The William L. Brown Center — Missouri Botanical Garden

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Ethnobotany, ethnopharmacology and natural products· challenges and trends – Session 4

Chair: Sonia Peter, Barbados Comunity Colleage, Bardados
Thursday, June 8, 14h30 – Auditório Dionísio Gonçalves

Agrobiodiversity and traditional knowledge· conservation strategies and sustainable development – Session 1

Chair: Laura Aceituno-Mata, Instituto Madrilleno de Investigación y Desarrollo Rural y Alimentário (IMIDRA), Spain
Tuesday, June 6, 11h00 – Auditório Pequeno

Agrobiodiversity and traditional knowledge· conservation strategies and sustainable development – Session 2

Chair: Zbynek Polesny, Czech University of Life Sciences, Czech Republic
Tuesday, June 6, 14h30 – Auditório Pequeno

The research of Josip Bakić on nonconventional sources of food at the coast of ex-Yugoslavia (1962-1986 and after).

Authors: Jug-Dujaković, Marija [1], Łuczaj, Łukasz [2].

Josip Bakić, biologist from Split, Croatia, took the main professional role in the military macro-project "Survival in the Nature" that lasted for 26 years. The project is a unique example of combining a scientific study with a practical military experiment: inventarisation of edible plants and animals was done, the possibility of soldiers' and citizens' survival on the Adriatic coast and islands based on wild plants and marine and terrestrial animals was explored; wild food plants and animals from the nature that had been used by the population from the east Adriatic coast during World War I and II were surveyed; phytochemical properties of wild edible plants and animals were assessed, and their preservation was studied. The results of the macro-project were disseminated to the public through scientific papers and presentations, workshops, film documentaries, and survival book and handbook. The macro-project "Survival in Nature" is the only example in history in which military experiments on foraging were documented to such an extent and over such a long period of time, with the results made available to the public.

Keywords: Foraging, Famine, World War II, Josip Bakić, Wild edible plants, Wild foods, Sea food, Adriatic Coast, Survival.

Affiliation: 1 - Institute for Adriatic Crops and Karst Reclamation, Split, Department of Plant Sciences, Put Duilova 11, Split, 21000, Croatia; 2 - University of Rzeszów, Institute of Applied Biotechnology and Basic Sciences, Werynia 502, Kolbuszowa, 36-100, PL

Biomass production and nutrient concentration on potted *Stevia* in response to N, P, K or B fertilization.

Authors: Afonso, Sandra Cristina Pereira [1], Arrobas, Margarida [1], Rodrigues, Manuel Ângelo [1].

Stevia rebaudiana (Bertoni) is a perennial plant belonging to Asteraceae family, native from Amambay region, between Brazil and Paraguay. It has been used for centuries by Guarani Indians as a sweetener and to treat diabetes. Stevia composition includes glycosides from steviol, the steviosides, natural sweeteners that reduce blood glucose, noncaloric, with a sweetening power much higher than sucrose. Studies also showed a high content of proteins, K, P, Mg, Ca and trace of copper, iron, manganese and zinc. Japan was one of the first countries to commercialize stevia based products and to establish it as a crop, and since then interest has expanded overall. European Union only authorized stevia as a food additive since 2011. Natural and healthy alternatives to sugar are being more preferred by consumers, explaining the great increased of stevia based products, and the perspectives are for stevia consumption to increase even more in the coming years. Also there is a growing scientific interest on stevia. However, agronomic knowledge is still scarce. This investigation aimed to assess the effect of increasing rates of N, P, K or B application on stevia biomass production and nutrient concentration in plant tissues. The effect of fertilizer treatments on stevia was also assessed through the use of the portable chlorophyll meter SPAD-502 plus which estimate leaf chlorophyll content. A pot experiment was installed as a randomized design with four replications. Five rates of each nutrient were applied, namely N (0, 0.75, 1.5, 2.25, 2 g/pot), K (0, 0.25, 0.5, 1, 1.25 g/pot), P (0, 1.25, 2.5, 3.75, 5 g/pot), or B (0, 0.025, 0.05, 0.075, 0.1 g/pot). The data is important to adjust fertilizer rates to crop demands, enabling to maximize production and improve the nutritional value of stevia products. Results showed a significant increase of dry biomass in response to N fertilization, attaining the higher values with a rate of 1.5 g N/pot. There were not found significant differences in dry matter yield with P, K or B fertilizer rates. SPAD readings showed a slight variation with N fertilization and maximum values were recorded in the 1.5 g N/pot treatment.

Keywords: *Stevia rebaudiana*, Fertilization, Biomass production, Tissue elemental composition.

Affiliation: 1 - Mountain Research Centre, Bragança, BRG, 5300, Portugal