



Action FA0803



**COLOSS Work Shop
WG4**

**"Honey bee vitality and diversity
Survival test: final results and paper preparing"
12 - 13. 04. 2012**



**Research Institute of Horticulture
Apiculture Division in Puławy
Kazimierska 2, 24-100 Puławy, Poland**



InHort
SKIERNIEWICE

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Agenda

TIME	PROVISIONAL PROGRAM
11.04.2012 (Wednesday)- arrival to Puławy	
12.04.2012 (Thursday) Marynka Palace in Puławy	
09:30 - 10:00	WG4 registration
10:00 – 10:30	Welcome and organizational matters
10:30 – 13:30	Presentations (discussion) of/on WG4 activities done, primary results, paper drafts
13:30 – 14:30	Lunch
14:30 – 18:00	Presentations – discussions – publication preparing
19:00	Welcome dinner
13.04.2012 (Friday)	
Seasonal Laboratory of Apiculture Division or Marynka Palace	
09:30 – 10:30	Results and discussions on the papers preparing
10:30 – 11:00	Coffee break
11:00 – 13:30	Presentations – discussions – publication preparing
13:30 – 14:30	Lunch
14:30 – 18:00	Presentations – discussions – publication preparing
19:00 – open	Social dinner

Local organizers: Beata Panasiuk, Małgorzata Bieńkowska



Abstracts

Survivability of European honey bee colonies with regard to genotype and environmental adaption - Ralph Büchler, Beata Panasiuk, Malgorzata Bienkowska, Seppo Korpela, Sreten Andonov, Aleksandar Uzunov, Cecilia Costa, Fani Hatjina, Plamen Petrov, Yves Le Conte, Nikola Kezic, Maja Drazic, Jerzy Wilde 4

Classification and description of the environments in which the GEI experiment was performed - Cecilia Costa, Sreten Andonov, Ralph Büchler, Maja Drazic, Fani Hatjina, Yves Le Conte, Beata Panasiuk, Aleksandar Uzunov 5

Colony development parameters in relation to genotype and environmental variations - Lauri Ruottinen, Malgorzata Bienkowska, Ralph Büchler, Leonidas Charistos, Maja Drazic, Dariusz Gerula, Fani Hatjina, Hrisula Kiprijanovska, Yves le Conte, Marco Lodesani, Plamen Petrov, Jerzy Wilde 6



Survivability of European honey bee colonies with regard to genotype and environmental adaption

Ralph Buechler*¹⁾, Beata Panasiuk²⁾, Malgorzata Bienkowska²⁾, Seppo Korpela³⁾, Sreten Andonov⁴⁾, Aleksandar Uzunov⁴⁾, Cecilia Costa⁵⁾, Fani Hatjina⁶⁾, Plamen Petrov⁷⁾, Yves Le Conte⁸⁾, Nikola Kezic⁹⁾, Maja Drazic⁹⁾, Jerzy Wilde¹⁰⁾

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A descriptive and statistical analysis of the results from the long term survival experiment on genotype – environment interactions (GEI) will be presented and discussed with regard to a proposed common scientific publication in JAR.

A preliminary evaluation of the 621 colonies in test indicates significant differences of the survival rate and average survival duration between the genotypes and the test locations as well as significant interactions between those factors.

The survival is limited by a number of causes with different relevance during the course of the experiment and for specific environmental conditions. Recommendations can be concluded for the reduction of European colony losses by the use of well adapted bees and for the needs of local breeding activities.



Classification and description of the environments in which the GEI experiment was performed

Cecilia Costa^{1*}, Sreten Andonov²⁾, Ralph Büchler³⁾, Maja Drazic⁴⁾, Fani Hatjina⁵⁾, Yves Le Conte⁶⁾, Beata Panasiuk⁷⁾, Aleksandar Uzunov²⁾

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In order to assess the impact of the environmental factors on the survival of different strains of honey bees and on colony and disease development, the locations in which the genotype-environment interactions experiment was carried out will be objectively described by using meteorological parameters. The first whole year of the experiment, 2010, was chosen as reference year, and for each location the following parameters were obtained from regional or national weather / environment institutions: daily mean, minimum and maximum temperature (°C), daily mean relative humidity (%), daily rainfall (mm). These parameters will be used to classify the environments by relating them to honey bee activity, for example by assessing the number of days of flight activity and the duration of the winter cluster. Information on the vegetation status of the test locations was also collected and will be used as a further descriptive parameter.

Colony development parameters in relation to genotype and environmental variations

Lauri Ruottinen^{1*}, Malgorzata Bienkowska², Ralph Buechler³, Leonidas Charistos⁴, Maja Drazic⁵, Dariusz Gerula², Fani Hatjina⁴, Hrisula Kiprijanovska⁶, Yves le Conte⁷, Marco Lodesani⁸, Plamen Petrov⁹, Jerzy Wilde¹⁰

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Colony development through the seasons is unavoidable related to environmental conditions as well as to the genetic base of the bees and it is referring to bee population through the seasons, number of brood cells, honey yield per year, feed balance, pollen storage and overwintering index. The last parameter will also take into account food consumption during the winter months.

Preliminary data on colony development related to the GEI experiment, has shown strong influence of the environment on the performance of queens of the different genotypes. Data on "extreme" conditions, eg Greece and Finland might be used as examples. Methods for data analysis and the complete set of results will be presented and discussed focussing in the planned publication.

