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Prevention of colony losses
- COST Action FA0803
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Training and repro center for beekeeping
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OVERWINTERING FOOD CONSUMPTION ON THE TESTING APIARY IN REPUBLIC OF MACEDONIA

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Background

The last century's climate changes and global warming processes, especially in the semi-mediterranean zones where Republic of Macedonia is located, induced changing of the ecological conditions. This changing have strongly influenced on floral diversity and seasonality which respectively influence the life circle of the honey bee (*Apis mellifera L.*) colonies following by used api-technologies. Most obvious are climatic changes regarding the duration of the winter season. Winters became very short, and the manifestation of high maximum daily temperatures leads to high winter consumption of the food in the colonies.

Pilot experiment

In order to determine the average colony amount of food consumption, we have regularly measured 10 colonies (Pilot experiment) in one apiary on monthly basis. The colonies (hives) were measured in total after we had excluded the mass of the hive, frames, wire, wax and honey bees. Additionally, for estimation of the statistic correlation, the number of covered streets (inter-frames space) and daily maximum-minimum temperatures were measured. The experiment started in November, 2008 and finished in March, 2009.

Results

The results illustrate that average monthly consumption was **1,44 kg** with high variation (**min 0,94 kg - max 1,99 kg**) depending from the month and the average monthly temperatures. **The average daily consumption was 0,048 kg per colony which leads to a conclusion that for short winter season of 150 days, there is no need for more than 8 kg food for survival. Above this amount the colony should always have 8 - 10 kg food more.** Addition analyses were made for determination of the correlation between the average monthly temperatures, food consumption and number of streets covered with bees per colony.