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Editor's Note

The Third International Congress on Bee Sciences was successfully held online. We are delighted to have offered this event free of charge. It was an honor to bring together experts from various fields of bee sciences. This Congress allowed to exchange of innovative ideas and fostering the development of new research and collaborative projects. With 44 invited speakers representing 30 countries and a scientific committee composed of nearly 300 distinguished scientists from over 65 countries, the congress truly reflected global participation. We extend our heartfelt thanks to everyone who contributed and supported the event. We look forward to seeing you at our next congress.

Warm regards from Turkey!

Assoc. Prof. Dr. Ulaş ACARÖZ

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Poster presetation

Analysis Of Food Consumption And Survival Of Honey Bees Fed With Craft Brewer's Yeast

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Abstract:

Apis mellifera honey bees play a vital role in ecosystems through their pollination services, but face threats such as nutrient deficiencies. Yeasts, a common by-product of craft brewing, holds promise as a nutritional supplement. Argentina increased craft beer production generating residual *Saccharomyces cerevisiae* yeast. We aimed to evaluate how supplemental feeding with craft beer yeast affects honey bees' food consumption and survival. Yeast cells from ALE beer production were isolated from the residual sediment after the brewer's wort fermentation. S05 yeasts were molecularly characterized. The effect of feeding yeast cells on bee survival was assessed using 245 bees per diet group in Lab conditions. Newly emerged bees were fed: A) SYRUP (1:1 sucrose: water), B) SYRUP + Apipromotor® (dietary supplement rich in amino acids and high in vitamins), C) SYRUP + live S05 yeasts (1.80E+06 cells/ml) and D) SYRUP + non-viable S05 yeasts (2.50E+06 cells/ml). The mortality and consumption of the diets were recorded every 24 hours throughout the extended survival test in honeybees. Dead bees were removed and food was replaced after each observation. Kaplan–Meier survival analyses showed that bees fed Diet C survived significantly more than bees from other diets. Bees fed with live yeasts did exhibit a significant change in their survival proportions (Log Rank Test: p= 4e-16) compared to bees fed with the control diet. The mean survival times were 21, 22, 27, and 22 days for diets A, B, C and D, respectively. A generalized linear mixed model was performed using diet as fixed effects and replicates as a random effect. It showed no significant difference in feed intake up to day 15 for the different diets (p-value = 0.3603). In conclusion, this study reinforces a potential dietary supplement where research focuses on discovering and using by-products from the craft brewing industry.

Keywords: *Apis mellifera*; *Saccharomyces cerevisiae*, circular economy.

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