

A multifactorial analysis approach to quantify the impact of environmental stress factors on bee health

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Abstract

Declining bee health in several EU countries was a major issue that motivated various investigations on the impact of environmental stress factors on bee health. A considerable amount of work has been undertaken to try to identify single factor causes, including pesticides. A huge research attention was given to a new chemical class of systemic insecticides called neonicotinoids. Although intensive testing under laboratory, cage and field conditions delivered numerous data endpoints a final consensus could not be achieved with all stakeholders in regard to potential impacts of these chemicals on bee health. Accordingly, a couple of research activities were initiated to define the nature of bee health problems and to identify all possible causes and critical factors using standard protocols for the assessment of bee health. An integrated review of the effect thresholds of neonicotinoids on bee health and of available results from multifactorial analyses suggest that these pesticides do not play a perceivable role in the reported bee health problems.