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THE ORGTRACE PROJECT: CONTENT, BIOAVAILABILITY AND HEALTH EFFECTS OF TRACE ELEMENTS AND BIOACTIVE COMPONENTS OF FOOD PRODUCTS CULTIVATED IN ORGANIC AND CONVENTIONAL AGRICULTURAL SYSTEMS

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Trace elements, bioactive secondary metabolites and vitamins are among the most important quality parameters in plants. Yet, very little information is available on their content, bioavailability and health effects in organically grown plant food products. The main objective of OrgTrace is to study the impact of different agricultural management practices relevant for organic farming on the ability of cereal and vegetable crops to absorb trace elements from the soil and to synthesize bioactive compounds (secondary metabolites, antioxidant vitamins and phytates) with health promoting effects.

Based on different plant products produced in OrgTrace, diets were composed and the bioavailabilities of health promoting substances were analyzed in a human intervention study. Moreover, various health effects such as immune system responses were studied using rats as model organisms.

OrgTrace is the first study, which follows selected elements and bioactive compounds all the way from the plant and soil system to absorption in the human body. All experimental studies have now been finalized and we are able to draw final conclusions.

In this oral and poster presentation the overall scientific idea of OrgTrace and the main results obtained will be presented.

Keywords: minerals, secondary metabolites, vitamins, diets, absorption

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