

## SUSMEATPRO

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The vision for the European Union as expressed in the Europe 2020 strategy is to achieve sustainable and safe food systems. Although meat is a healthy food item, having proteins of high biological value, a high content of essential minerals and B-vitamins, it lacks antioxidants. Several epidemiological and experimental studies suggest that a high intake of meat, especially red and processed meat, is associated with increased colorectal cancer risk. Diets and products with a higher proportion of fruits and vegetables are therefore advocated. Furthermore, innovative preservation strategies are needed for both conventional and organic meat products to improve sustainability and reduce potentially harmful effects of processing and meat consumption. Research has shown that many plants are very rich in natural antioxidants, and some plants also contain significant amounts of antimicrobial compounds.

We hypothesize that complex plant extracts, with high contents of specific phytochemicals obtained from various horticultural plant materials and side streams from processing of these materials, will have synergistic antimicrobial effects, inhibit the growth of pathogenic and spoilage bacteria in different meat products, and improve overall quality and safety of meat. We also hypothesize that incorporation of complex antioxidant plant extracts in processed meat products will result in healthier products due to decreased level of oxidation in the meat, thus preventing the inflammation reactions upon consumption.

In this interdisciplinary project we will i) collect local horticultural plant material and side streams, and screen the material for antioxidant and antimicrobial capacities, ii) develop complex natural food additives from selected superior extracts, iii) test the additives in conceptual meat products, iv) perform animal testing to prove the concept of healthier meat products with complex plant additives, and v) disseminate the results to the society and food industry.