Mounting evidence suggests that certain non-nutrient bioactive compounds promote optimal human health and reduce the risk of chronic disease. An Internet-deployed database, EuroFIR-BASIS, which uniquely combines food composition and biological effects data for plant-based bioactive compounds, is being developed. The database covers multiple compound classes and 330 major food plants and their edible parts with data sourced from quality-assessed, peer-reviewed literature. The database will be a valuable resource for food regulatory and advisory bodies, risk authorities, epidemiologists and researchers interested in diet and health relationships, and product developers within the food industry.