Novel strategies for innovative plant breeding: from monocolture to crop associations

Abstract

In this project we propose to investigate the potential of crop association systems (intercropping) as an untapped strategy for facing environmental and societal challenges which require a robust and sustainable agriculture. We will evaluate a spring-summer intercropping system to unravel the genetic, ecological, functional and historical significance of the traditional cultivation of the maize-bean association (*Zea mays* spp. *mays-Phaseolus vulgaris*) and an autumn-winter intercropping system based on wheat-grass pea association (*Triticum* spp.- *Lathyrus sativus*) with the main aim of delivering novel principles for an intercropping-based breeding strategy promoting sustainable farming under reduced input conditions.