



The importance and opportunity of farmer-scientist collaboration in intercrop research

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Collaboration between farmers and scientists to trial intercrops helps scientists better understand the practicalities of sowing, growing and harvesting intercrops at large scales whilst providing farmers with methods to gather quantitative data about the intercrop performance, agronomically, environmentally and economically, compared with their standard practice (e.g., monoculture). This experience is important to encouraging the uptake of crop diversification practices such as intercropping and allows opportunity for innovations in both research and practice to develop.

We have found that participatory research between farmers and scientists is most successful when collaboration begins early in the research process, starting with identifying the existing intercropping knowledge and gaps, and the farmer's motivations for trialling intercrops. The scientist can assist with planning to ensure the trial design is suited to the hypothesis being examined. The farmer and scientist decide together which measures of intercrop performance provide evidence for the hypothesis, whether agronomic (e.g., yield, quality, disease control), environmental (e.g., pollinator abundance, soil fertility) or economic (e.g., input costs, profit margin). Working together on appropriate methodologies and data interpretation, this type of research can achieve real impact.

In DIVERSify, joint evaluation by farmers and scientists of intercrop trials has been carried out on farms in several European countries, providing a valuable way to understand similarities and differences in intercrop performance across Europe. It has linked farmers within regions for peer-support and knowledge exchange. Participatory research requires time investment by scientists and farmers for communication and data gathering. Some countries have mechanisms and funding to facilitate farmer-scientist and farmer-farmer collaboration however further investment will create further opportunities for the benefits of crop diversification to be realised in practice.