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## Food Security as an Objective of Multipurpose Forage Crops in Central-America

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### Abstract

Although it is widely recognised that multipurpose forage crops can play an important role in improving the environmental and socio-economic sustainability of smallholder production systems in fragile environments, adoption of especially legumes has been generally low.

However, a participatory research effort in Honduras showed that forage legumes had a good potential to be accepted especially by poor farmers when, amongst soil fertility enhancement and fodder production, food security was addressed as well.

About 150 farmers with different levels of resource endowment representing the typical maize and beans based agricultural system of central Honduras conducted over 100 experiments in their own fields with grasses, shrubs and leguminous crops (mainly several varieties of cowpea, *Vigna unguiculata*). Around half of the participating farmers were women. The choice of research methods and parameters was determined simultaneously by both farmers and researchers. Dichotomous logistic regression models were used to examine the variables influencing the inclusion of feed, food and soil fertility as objectives on the one hand and determining the factors influencing adoption on the other.

Poorer farmers at high altitudes were 43 % more likely to include food production as an objective of forage crops than richer farmers in lower areas. Full or semi landownership increased the chance of food production as main objective by 31 %. Farmers using inputs like fertiliser were significantly less likely to include food production as an important objective for forage crops.

Cowpea was identified as the most promising forage legume. Reasons for continuing growing cowpea in the next growing season were its use as a food at household level, its perceived potential as a cash crop and its ability to improve soil fertility (increasing the chance of cowpea to be adopted by 38 %, 37 % and 53 % respectively).

Results also indicate that farmers tend to amplify in more income oriented issues once food security has been achieved. For instance, fodder (hay, silage) and livestock production can be developed as an important farm component to offer a valuable potential for intensification and income generating opportunities (market linkage).

**Keywords:** Central-America, food security, multipurpose forages, participatory research