Agronomic and Farmers’ Assessments of Multipurpose Forage Crops in Central Honduras

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Abstract

Multipurpose forage crops can play an important role in improving the environmental and socio-economic sustainability of smallholder production systems in fragile environments. In the framework of a research implemented by CIAT and embedded in the BMZ/GTZ supported project “Participatory selection and strategic use of multipurpose forage germplasm in Central American hillsides”, around 150 poor farmers in 15 communities in the department of Yoro, central Honduras, conducted more than 200 experiments in their own fields with several grasses, leguminous crops and shrubs. A systemic approach was employed, in which the choice of methods and parameters was determined simultaneously by both farmers and researchers. The trials took place in three different agro-ecological zones related to altitude in 2002 and 2003.

Grasses (\textit{Brachiaria brizantha} 26610 “Toledo”, \textit{Andropogon gayanus}, \textit{Pennisetum} spp. “Camer´ un” and “King Grass”) performed well in more than 80\% of the experiments, without being significantly affected by altitude or rainfall.

Performance of legumes (\textit{Lablab purpureus}, \textit{Vigna unguiculata}, \textit{Canavalia ensiformis} and \textit{brasiliensis}) varied. Farmers assessed the results of 55\% of the trials as good or acceptable. Food security - being the primary concern - turned out to be the main criterion for the assessment of the new technologies. For instance, in the case of Vigna positive opinions were based on yield, use as food, feed, to enhance soil fertility and its drought resistance (all \( p < 0.05 \)). A significant negative aspect was susceptibility to pests. Leguminous shrubs — mainly represented by \textit{Cratylia argentea} - showed in 75\% of the cases disappointing results. Since the plant is very much liked for its characteristics (high quality fodder, leaves covering the soil improving soil fertility and maintaining soil humidity, firewood), farmers continue experimenting with \textit{Cratylia} in collaboration with researchers.

In combination with the provision of adequate information and a systematic follow-up, farmers were able to assess (new) forage based technologies properly when given the possibility to experiment freely. Valuable feedback has been provided to on-station research whereas at the same time many farmers have been motivated to become involved in the research process.

Keywords: Central America, farmers assessments, multipurpose forages, participatory research

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