ABSTRACT
Many traditional agroecosystems found in Latin America constitute major in situ repositories of crop genetic diversity. This native germplasm is crucial to developing countries and industrialized nations alike. Native varieties expand and renew the crop genetic resources of developed countries while also performing well under the ecological and economic conditions of the traditional farms where they are grown. With agricultural modernization and environmental degradation, crop genetic diversity is decreasing in peasant agricultural systems. Research is urgently needed to document rates and causes of genetic erosion in these systems and the role that peasants play in maintenance of crop genetic diversity. It is proposed that multidisciplinary teams that work under the paradigms of ethnoecology and agroecology be assembled to integrate farmers’ knowledge with Western scientific approaches to design meaningful in situ crop genetic conservation strategies.
INTRODUCTION

The earth's major crops on which the world's population relies have their geographic centers of genetic diversity in the Third World (Hawkes 1983). Much of this crop germplasm can be found in small fields of peasants who historically have grown landraces of ancestral crop species and traditional varieties. Among the most genetically diverse systems are the farms within areas of crop differentiation, as is the case with maize diversity in Mexican agroecosystems (Wilkes 1979) and with the potato in traditional agroecosystems of the Andes (Jackson, Hawkes, and Rowe 1980). These in situ repositories of crop genetic diversity are important to world agriculture because native germplasm is critical for the expansion and renewal of crop genetic resources. In fact, the "health" of agriculture in industrial countries depends to a great extent on the "genetic wealth" of developing countries.

On the other hand, native crop diversity is crucial to developing countries for several reasons:

1. Native varieties are highly adapted to the ecological heterogeneity that characterizes agricultural landscapes of the Third World.
2. Native varieties offer risk-averting advantages to resource-poor farmers confined to marginal lands and they outperform improved varieties under environmentally stressing conditions and/or low-input management.
3. Native crops in these traditional farming systems make a substantial contribution to the food self-sufficiency of rural and urban-poor populations of the Third World.

Unfortunately, native crop genetic diversity is decreasing in peasant agricultural systems. Agricultural development and environmental degradation have been linked to this decrease in diversity, especially in areas where traditional farming systems have been modified through the introduction of modern crop varieties and/or high-input technologies (Mooney 1983).

Most farmers throughout the developing world grow a mix of traditional and improved varieties for subsistence and commercial purposes that results in some cases in enhanced diversity, whereas in others decreased diversity. These patterns change across agroecological zones, ethnic groups, socioeconomic conditions, and technological domains, with