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# Status of corn diversity in the marginal uplands of sarangani province, the Philippines: implications for conservation and sustainable use

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## Abstract

The status of corn genetic diversity in the uplands of Sarangani in Southern Philippines was investigated using 12 morphological traits subjected to multivariate statistical analyses. Information about traditional farming, post-harvest and storage practices were also elicited especially in relation to losses of traditional varieties, a phenomenon known as genetic erosion. While a handful of farmers still plant traditional corn varieties in the remotest areas, a significant number had already shifted to genetically modified corn. Furthermore, principal component analysis (PCA) reduced the 12 morphological traits into 5 principal components and identified ear length and ear weight to be major contributors to variation. Cluster Analysis, on the other hand, formed two distinct groups but failed to give information about intra-cluster variability among the 32 collected corn accessions. These results warrant that more informative morphological traits and that molecular markers will be used to obtain a better picture of genetic diversity in Sarangani upland corn. Molecular analysis is also needed to establish genetic identities of these cultivars and to detect gene introgression from GM varieties into the gene pool of farmers' corn varieties. These analyses are imperative for the conservation of traditional corn varieties before they disappear in the Sarangani uplands because of shifting priorities of upland farmers.

Keywords: Corn, genetic diversity, morphological characterization, Sarangani Philippines

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