

Challenges and Potential of Acidic Mineral Soil Utilization for Hybrid Corn Development

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Abstract. Abstract The demand for corn is increasing and will continue to grow along with the increasing population with various needs. In addition, corn is a multi-functional plant, namely as a source of food, feed, industrial raw materials and energy. Thus, maize production must continue to be pursued, while fertile land for maize cultivation is decreasing due to competition with other food commodities, in addition to the shift in the function of fertile agricultural land to non-agriculture which has been going on for a long time. Acid mineral soil as a landscape must be optimally utilized as compensation for the conversion of agricultural land to non-agricultural uses. The development of this area is intended to increase soil productivity for corn without disturbing its stability level, so as to create a sustainable productive area. This type of soil is classified as poor in nutrients, easily degraded, low resilience and the recovery process takes a long time, so its management must comply with conservation principles. Especially for the development of food crops, especially corn. It is suspected by various parties that intensive and continuous maize cultivation in areas like this accelerates the degradation of soil fertility. Therefore, a conservation management system is needed combined with acid tolerant maize varieties to increase productivity and sustainable use of acid mineral soils. Several approaches to managing acid soils are conservation systems through the use of amendments such as: lime, organic fertilizers, tolerant varieties, phosphate solubilizing bacteria, exogenous mineral nutrients, humic acids and or a combination thereof.

Keyword: corn, acid mineral soil, management, conservation.