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**Use of manure to improve grain quality, quantity  
and water stress tolerance in Corn**

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In order to investigate using the manure to improve grain quality, quantity and water stress tolerance in corn hybrid SC 704 (late maturing, non-prolific and dent) a field study was conducted during spring and summer 2005 and 2006 in agricultural research station of the college of agriculture. A completely randomized block design in factorial arrangement with three replicates was conducted. Three levels of irrigation (optimum irrigation (control), water stress 75% optimum irrigation and water stress 50% optimum irrigation) and Four levels of nitrogen fertilizer (0, 92, 184 and 276 kg N ha<sup>-1</sup>) and integrated fertilizer (46 kg urea ha<sup>-1</sup> + 5 ton ha<sup>-1</sup> FYM, 92 kg urea ha<sup>-1</sup> + 10 ton ha<sup>-1</sup> FYM and 138 kg urea ha<sup>-1</sup> + 15 ton ha<sup>-1</sup> FYM) and organic Farm Yard Manure (5 tons ha<sup>-1</sup> FYM, 10 tons ha<sup>-1</sup> FYM and 15 ton ha<sup>-1</sup> FYM) were used as treatments. Results showed that the most yield obtained from integrated system. Maximum corn seed yield resulted when optimum irrigation water was applied. Also results of this investigation showed that application of chemical fertilizer had no benefits rather than manure. Mean while manure fertilizer addition along with increasing seed quality has positive influence on improvement of soil physical and chemical characteristic.

**Keywords:** Corn, Manure fertilizer, Nitrogen fertilizer, Water stress, Yield

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