

Article title	Field evaluation of agronomic effectiveness of multi-nutrient fertilizer briquettes for upland crop production
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Abstract	<p>Low nutrient recovery in upland crop production systems has prompted studies to improve the current nutrient management practices to increase fertilizer efficiency. Field studies were conducted in two growing seasons (2012 and 2013) under two land management systems (till and no-till) to evaluate agronomic effectiveness of a multi-nutrient fertilizer briquette (fertilizer briquettes) for upland crop production, using corn as test crop. The fertilizer briquettes were produced through a simple physical compaction of ordinary granular fertilizers with a final nutrient composition of 23.9% N, 19.2% P<sub>2</sub>O<sub>5</sub>, 19.1% K<sub>2</sub>O, 0.9% Zn, and 2.5% S. The agronomic efficiency of the fertilizer briquettes were compared with commercial N sources, urea and ammonium sulfate supplied separately with phosphorus (P), potassium (K), zinc (Zn), and sulfur (S; for urea alone). During the wetter (2013) weather conditions, the fertilizer briquette treatment consistently produced the highest yields in both locations. At Ames Plantation, the fertilizer briquette treatment increased grain yields by ~ 16 and ~ 23% over the treatments having ammonium sulfate and urea granular fertilizers, respectively, and, in Jackson, by 16 and 34% respectively. Nutrient recovery efficiency was also greatest with the fertilizer briquettes treatment. However, during the drier weather conditions (2012), the fertilizer briquettes treatment was the least effective among the three treatments in terms of biomass and grain yields, and nutrient recovery efficiency. We conclude, with adequate rainfall conditions, the fertilizer briquettes could be an efficient fertilizer for upland crop production. However, under drier weather conditions where soil moisture is limited, the fertilizer briquettes may not be an ideal fertilizer source for upland crop production.</p>
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