

ชื่อเรื่อง

Soil Moisture and Sorghum Yield as Affected by Vetiver Hedges under Irrigated and Dryland Conditions

ชื่อผู้วิจัย

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Abstract

Soil moisture competition between Vetiver hedges and crop could affect crop yield. To date conflicting results have been stated and very few quantitative studies on this topic have been reported.

This paper presents the effects of Vetiver hedges on soil moisture and sorghum yield under various growing conditions. Treatments include hedge maturity (mature and newly planted), soil types (Vertisol and Alfisol) and moisture regimes (dryland and irrigated).

Gravimetric soil moisture and sorghum yield was recorded for each single row.

Under irrigated conditions on both soil types, mature hedge depleted more soil moisture than the sorghum crop and newly established hedges, but sorghum yield was not significantly affected by the presence of either mature or young Vetiver hedges.

Under dryland conditions on Vertisol soil, the presence of a mature hedge significantly depressed sorghum yield of the first two rows adjacent to the hedges. Yield of row 3 and further was not affected.

The above results indicate that moisture competition does occur between mature hedge and the first few rows. However crop yield is only affected when soil moisture availability is very low. Under irrigation or adequate soil moisture conditions, yield of adjacent rows was not adversely affected by Vetiver hedges.