ABSTRACT

DRY SEASON SWEET CORN RESPONSES TO ANTITRANSPIRANTS, GRASS MULCH AND DENSITY

Gebre Mariam Shekour

Application of phenylmercuric acetate (PMA), Vapor Gard (poly-1-p-menthen-8-9-diyl) and lucuntu grass (Ischaemum timorense Kunth.) mulch to dry season grown, unirrigated sweet corn (Zea mays L. var. saccharata Sturt.) increased fresh ear weight by up to 44.8, 41.4 and 75.0% respectively. The increase in fresh ear weight resulted from improved plant water status and growth in response to the reductions in evaporation from the soil surface and transpiration from the leaves brought about by the mulch and antitranspirants, respectively.

The effectiveness of a single application of 20mg/L a.i. PMA (15 days) was shorter than that of 6.0% a.i. Vapor Gard (40 days) and because of this two applications of PMA at 38 and 58 days after planting (DAP) were required for maximum benefit while in the case of Vapor Gard a single appliation at 38 DAP was sufficient. A single application of lucuntu grass mulch at the rate of 3.5 t/ha. at 38 DAP also increased yield almost to the level of the irrigated control.

The growth and yield responses to increases in plant density indicate that plant densities of 47619 and 57142 plants/ha. are optimal for sweet corn

production under dry and wet season conditions respectively in Trinidad.

An economic analysis shows that the application of lucuntu grass mulch, PMA and Vapor Gard can be very profitable, increasing gross margins by 151.4, 117.2 and 97.5%, respectively.