

ชื่อเรื่อง

Utilization of Vetiver Grass for Soil Moisture and Soil Improvement on Cropping System in Agro-Ecological Zone R₆S₅, Phetchaburi Province

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Abstract

Agricultural constraints at Huai Sai caused not only by low and erratic rainfall but also poor soil fertility and moisture retentively. The detrimental crop growth and yield effects of droughts are thus frequently observed in the area. Therefore, soil moisture conservation is probably the most important strategy to lessen crop failure. It has repeatedly been found that, by reducing evaporation, mulches will help to conserve moisture in the soil and maintain a more uniform supply. Mulches also help to keep moisture in the soil by suppressing weed growth and thus reducing loss through transpiration. In addition to conserving moisture already in the soil, some mulches increase the penetration of rain or irrigation water and reduce run-off.

The choice of mulching material will depend mainly on its availability and cost. The in situ mulches are therefore recommended for the purpose. The utilization of a timely cut vetiver's biomass for mulches is progressively reported by many investigators. The experiment was conducted at Huai Sai using vetiver hedges as a source of mulching material. Spacing of the hedges was 3.00x0.10 m. Four months after planting, the vetiver hedged would be cut every month for mulches of sweet corn, cowpea and string bean. All year round vetiver biomass which was cut for mulches weighed more than 8158 kg/rai. The highest biomass was recorded in May (1410 kg/rai) and the lowest was in December (47 kg/rai). Yields of sweet corn, cowpea and string bean were 1988 ears/rai, 33.1 kg/rai and 183.6 kg/rai, respectively.