New Agriculturist, **21**(1,2) :105—110, 2010

USE OF AGRO-FORESTRY AS A TOOL FOR BIO-DRAINAGE

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Received March 7, 2010 and Accepted July 2, 2010

ABSTRACT : In our country a vast area of 29 m ha suffer from water logging and salinity altering the water table, and subsequently hampering the national production targets. In such situation required minimum water table depth varies from 0.5 to 1.4 meter. To reverse these conditions alternative must be looked, one of the best such tool is concept of Bio-Drainage in short., It is the process of removal of the excess soil moisture. Such objective can be achieved by utilizing the Bio-energy of plants through transpiration. In fact transpiration varies from hydrophytes to herbaceous dicots, grasses to shrub etc; however rate of transpiration is highest in hydrophytes. In addition to this especially in types of crops C_3 and C_4, the best performance (water use efficiency) obtained in C_3. In respect to perennial tree, transpiration loss as well as down grading water table is higher in Eucalyptus tree than Bamboo tree. Above all, the climatic variation also effects the evaporation capacities resulting higher in summer than winter. All above observation strongly supports utilization of such situation for effective bio-drainage.

Key Words : Bio-drainage, type of crop/tree, water table, transpiration ratio, climatic variation.