International Journal of Agricultural Sciences
Volume **10** | Issue 2 | June, 2014 | 722-725
e ISSN-0976-5670 | Visit us | *www.researchjournal.co.in*

RESEARCH PAPER

Crop co-efficients through lysimetric observations and its comparison with different approaches of groundnut (*Arachis hypogea*)

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Abstract : In the dryland region, groundnut (*Arachis hypogea*) is grown as a rainfed crop, which is exposed to varying sets of weather conditions in general and rainfall distribution is particular. The acute need of water at critical growth stages, through lysimetric observations and its comparison with different approaches may provide information for decision making in irrigation scheduling the measurement of AET by means of lysimeter and it is essential to establish a relationship between the measured value of AET by in lysimeter and the estimated PET by different empirical formulae. Keeping these points in mind, a research project was planned on estimation of crop evapotranspiration in groundnut crop through lysimeter. From the field study it was seen that the Blaney and Criddle, Thornthwaite and pan evaporation methods did not give correct prediction of PET, due to estimated KC values and did not give correct estimation at various phenophases. For estimation of PET under dryland region at Solapur condition, the modified Penman method is the most suitable. The total seasonal actual evapotranspiration (AET) for groundnut was found to be 391.13 mm. This again necessities the application of protective irrigation to groundnut during peg formation to kernal development stage by the modified Penman method.

Key Words : Crop co-efficients, Evapotranspiration, Groundnut

View Point Article : Mhetre, P.B., Kamble, P.S. and Jadhav, J.D. (2014). Crop co-efficients through lysimetric observations and its comparison with different approaches of groundnut (*Arachis hypogea*). *Internat. J. agric. Sci.*, **10** (2): 722-725.

Article History : Received : 09.12.2013**; Revised :** 26.04.2014**; Accepted :** 08.05.2014

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