

**SELECTION OF SUITABLE IRRIGATION SYSTEMS FOR  
CHILLI CULTIVATION IN THE COASTAL SANDY AREA  
OF BATTICALOA**

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## ABSTRACT

A field experiment was conducted from June to October 2002 at the Agronomy farm of Eastern University, Vantharumoolai, to select a suitable method of irrigation for chilli crops grown in the sandy regosol. Four methods of irrigation systems were practiced in this research namely; drip, pipe, basin and furrow irrigation. Same amount of water was applied in each method of irrigation. Some parameters such as yield of fresh and air dry weight, girth of plant, height of plant, perimeter of root zone, depth of root, fresh and dry weight of plant were taken to analyze the performance of plants for different irrigation methods.

The results indicate that the yield at 2<sup>nd</sup> and 3<sup>rd</sup> harvesting was significantly increased by treatment with drip irrigation system. The dry yield increments by drip than pipe were 96 % and 188 % at 2<sup>nd</sup> and 3<sup>rd</sup> harvesting respectively. However, in all three harvesting there were no significant differences observed among pipe, basin and furrow irrigation systems.

In terms of plant's girth, fresh and dry weight of plants and perimeter of root zone, the significant differences were observed for drip irrigation, while there were no significant differences observed among other three irrigation methods. However, plant height and depth of root are the only parameters, which showed no significant differences among all irrigation methods.

Therefore, overall performances of plants in this study indicated that the drip irrigation system was superior to pipe, basin and furrow irrigation systems in sandy regosol especially for chilli cultivation. Therefore, it can be pointed out that the essentialities of fabricating low cost and simple design drip irrigation system to achieve more yield per drop of water.



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