



## RESEARCH PAPER

# Effect of different irrigation methods on productivity of maize in vertisols of Northern Karnataka

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**Abstract :** Field experiment was conducted to know the response of different surface irrigation methods for maize at Water and Land Management Institute Campus, Dharwad of Northern Karnataka during 2013-14 to 2015-16. The study revealed that, the increase in grain yield was 16.05 and 6.00 per cent in alternate furrow irrigation and in conventional furrow irrigation, respectively over flooding method of irrigation. The saving in irrigation water was to the extent of 32.10 and 10.83 per cent, respectively in alternate furrow irrigation and conventional furrow irrigation over flooding method of irrigation. The water productivity was 20.66, 14.34 and 11.96 kg/ha-mm in alternate furrow irrigation, conventional furrow irrigation and flooding method of irrigation, respectively. The increase in water productivity was 72.27 per cent in alternate furrow irrigation over flooding method of irrigation and 19.54 per cent in conventional furrow irrigation as compared with that of surface flooding method. The gross benefit-cost ratios were 2.94, 2.675 and 2.53 in alternate furrow irrigation, conventional furrow irrigation and flooding method of irrigation, respectively. The increase in net income per ha-mm of water used was 87.93 and 24.38 per cent, respectively in alternate furrow irrigation and in conventional furrow irrigation over flooding method of irrigation.

**Key Words :** Alternate furrow irrigation, Flooding, Water productivity, Benefit-cost ratio, Net profit

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