

DETERMINATION OF MINIMUM IRRIGATION APPLICATION
DEPTH UNDER LASER LEVELED FIELD



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ABSTRACT

The research is an effort for collection and analysis of field data not under controlled condition, but under actual field conditions. Four plots were sown with maize 922 (a hybrid variety of Monsanto). Two plots contained conventionally level i.e. (CON1 and CON2) and the remaining two plots leveled precisely i.e. (PLL1 and PLL2) with each plot having 0.095 hectare. The water inputs and the resultant yields were monitored. The collective yield from the PLL1 and CON1 were 2.94 kg and 1.61 kg of maize per cubic meter of water and the yield from the plots PLL2 and CON2 were 2.93 kg and 1.65 kg of maize per cubic meter of water.

Basin irrigation method was used in all four plots. The irrigation application cutoff time for PLL1 and CON1 plots was kept $3/4^{\text{th}}$ of the length of these plots and the irrigation application cutoff time for PLL2 and CON2 plots was kept $2/3^{\text{rd}}$ of their lengths.

The average irrigation application depth in PLL1 was applied as 5.21 cm and the average irrigation application depth in PLL2 was applied as 4.64 cm. And the Average irrigation application depth in CON1 was applied as 7.38 cm and the average irrigation application depth in CON2 was applied as 6.31 cm.

More over irrigation water which applied to the PLL1 experimental unit meets to the crop water requirement of Maize crop and the irrigation water which applied to the

PLL2 could not meet the crop water requirement of Maize crop and this plot was remained under irrigation (this is due to 2/3rd irrigation application cutoff time of its length).

The above paragraph shows that more irrigation water is used to irrigate the conventional field as compared to precision land leveled field and also shows that the both plots CON1 and CON2 were remained over irrigation at some places and under irrigation at some other places.