

Research Article

DOI : 10.15740/HAS/AJSS/15.1/22-26

# Impact of tillage practices on water use and energy efficiency in cotton under rainfed condition

■ Chitte Karishma and S.M.Taley

Received : 25.09.2019; Revised : 04.05.2020; Accepted : 21.05.2020

MEMBERS OF RESEARCH FORUM:

**Corresponding author :**  
**Chitte Karishma**, Dr. Panjabrao  
Deshmukh Krishi Vidyapeeth, **Akola**  
**(M.S.) India**  
Email: karichitte030@gmail.com

**Co-authors :**

**S.M.Taley**, Department of Soil and  
Water Conservation Engineering, Dr.  
Panjabrao Deshmukh Krishi  
Vidyapeeth, **Akola (M.S.) India**

## Summary

The field experiment was conducted at Central Research Station (CRS) of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The experiment field consist of 6 different treatments and 4 replications viz., conservation tillage (1 blade harrow before sowing) ( $T_1$ ), conservation tillage (1 Tyne+1 blade harrow) ( $T_2$ ), sub- surface tillage (90 cm H.I+2 Tyne+ blade harrow) ( $T_3$ ). Economical sub-surface tillage (1 sub surface +1 tyne+1 blade harrow) ( $T_4$ ), 1 Ploughing+ 2 Tyne +1 blade harrow ( $T_5$ ), Across the slope cultivation with opening of BBF after two row+2 tyne+1 blade harrow ( $T_6$ ). Water use efficiency was more dominant in treatment  $T_3$  ( $2.92\text{kg ha}^{-1}\text{mm}^{-1}$ ), the energy efficiency is maximum for treatment  $T_3$  (3.7) followed by treatments,  $T_4$ ,  $T_5$ ,  $T_6$ ,  $T_2$  and  $T_1$ .

**Key words :** Harrow, Efficiency, Tillage, Conservation, Energy

**How to cite this article :** Karishma, Chitte and Taley, S.M. (2020). Impact of tillage practices on water use and energy efficiency in cotton under rainfed condition. *Asian J. Soil Sci.*, **15** (1) : 22-26 : DOI : **10.15740/HAS/AJSS/15.1/22-26**. Copyright@ 2020: Hind Agri-Horticultural Society.