



Performance of Adjuvant on Irrigation Water and Crop Yield

JP Singh*, PPS Lubana, Ramandeep Singh and Baljinder Singh

Department of Soil and Water Engineering, Punjab Agricultural University, Ludhiana, Punjab, India

**Corresponding author E-mail: jpsingh@pau.edu*

Abstract

There are some adjuvant which decrease the surface tension of water and retain the moisture content for longer duration by reducing evaporation, percolation losses and runoff. The field experiment with All Purpose Spray Adjuvant (APSA)-80 was carried to observe the effect on irrigation water and crop yield. The saving of irrigation water and increase in yield for various crops were found to be 5-15% and 20-35%, respectively. On the basis of encouraging experimental results, the study was also conducted to survey the performance of APSA-80 on irrigation water and crop yield at different districts of Punjab. The increase in crop yield and irrigation water saving with APSA-80 were found to be 15%, 12%, 10%, 8% and 17%, 15%, 15% and 12% for rice, wheat, potato and sugarcane crops, respectively. The economic analysis of APSA-80 used in irrigation, herbicide and pesticide for rice and wheat crops was also computed. The benefit cost ratio for application of APSA-80 for wheat and rice crops was computed and found to be ₹ 6 and ₹ 10, respectively. It revealed that on the expenditure of ₹ 1 on APSA-80, the farmers are getting profit of ₹ 6 and 10 for rice and wheat crops, respectively. The performance of APSA-80 used by the farmers was found satisfactory and economically viable.

Key words: Adjuvant, APSA-80, Irrigation water, Performance, Percolation losses, Crop yield