Use of computer software for comparison of crop water requirements to actual water applied in canal command area of Jayakwadi project

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Abstract: The comparison was made of water applied in canal command and water requirements of crop estimated by using CRIWAR software at Marathwada Agricultural University, Parbhani, Maharashtra for command area of Lohagaon minors and Singapur minors of Jayakwadi project. In the Singapur command area during Rabi 1999-2000 and 2000-2001, the excess water of 44.77 and 46.98 cm excess depth of water was applied, respectively than the requirement of the crops i.e. about 60 per cent more water was used in the command area for irrigating the crops. At the same time during summer 2000-01, 49.1 cm less depth of water was applied in the command, which directly affected the crops production. If the proper planning, designing of cropping pattern and proper release scheduled of water operated, the crops grown in summer can be saved and productivity can also be increased. It was observed that excess utilization of water in Rabi can be controlled by proper designing of cropping pattern, its implementation and required release scheduled of water, then the deficit of water in summer may not be faced. During Rabi and Summer 2004-05; 0.36 to 16.77 per cent less quantity of irrigation water was applied. Similarly in the command area of Lohagaon 135.1 to 160.8 per cent excess quantity of water was applied in Rabi 1999-2000 and 2000-01 and 25.18 per cent less quantity of water was applied in summer 2000-01. During Rabi, Summer 2000-01 and 2004-05, 4.86 to 25.18 per cent less water was applied in the command area. Therefore, proper designing of cropping pattern and water releasing schedule is very much important to irrigate the designed cropping pattern in the command area. But performing this is a time consuming, hence use of computer software is necessary for micro-level cropping pattern planning and water release scheduled for increasing the project efficiency and water use efficiency in the command area.

Key words: Software, Water requirements, Project potential, CRIWAR