

Conjunctive Use of Surface Water and Ground Water for Sustainability

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ABSTRACT

In the present era, surface water availability is inadequate to meet the crop water requirements and direct use of poor quality ground water is unfit for irrigation. Secondly, poor quality water directly and indirectly affects the soil physical, chemical and biological properties and reduces crop growth and yield on economic level. Conjunctive use consists of harmoniously combining the use of both surface and ground water in order to minimize the undesirable physical, environmental and economical effects of and to optimize the water demand in the soil. The main objective is to maintain both water and salt balances. Good quality water is mixed with poor one in a certain proportion (1:1, 3:1 and 5:1) before applying to the field in the blending mode or two water sources are used alternatively in cyclic mode. Utilization of poor quality ground water in conjunction with canal water is essential to enhance crop productivity, crop intensity, besides reducing agricultural losses from interruptions in irrigation and thus improve the food security through multiple uses of irrigation water than use of water from a single source.

Keywords: *Conjunctive use, Ground water, Surface water.*