Abstract

Agricultural water management due to its dominant share in water consumption has the most effective in enhancing water use efficiency. In current study, using genetic algorithms under various weather conditions optimal cropping pattern and scheduling irrigation water of land Marvdasht city covered Doroudzan dam (Fars province). in full and deficit irrigation with the aim of maximising gross margin. By considering to various in probability in rainfall, inflow to dam and evapotranspiration, four weather conditions were determind. the Results showed in all weather conditions cultivated area and profit have increased in deficit irrigation relative to full irrigation. Also by attention to increasing evapotranspiration and reducing rainfall and the inflow to dam, the water storage in dam was not enough for full irrigation of the crops for the minimum cultivated and only there was possibility to cultivate in the deficit irrigation in the area. Water was not enough for irrigation of the crops in the weather hot and dry condition. According to the findings, the efficient use of irrigation water, irrigation water price reform and providing conditions to use of water saving technology is recommended.

Key words: Optimization, Genetic algorithm, Weather conditions, Doroudzan dam

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Optimization of water allocation Doroudzan dam using genetic algorithm under various weather conditions

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