Calculation of the Water Required for the Plantation of Potatoes with 184 days of the Growing period, Using Dripping Method of Irrigation

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Planting potatoes in carried out in rows, with each plant having 75cm. distancefrom the next one. For irrigation, 16 mm pipes are speard along every other row with 150 cm. distance between the rows. 6666 meters ofpipe is needed. Two drippers are used for every meters,the total of drippers used in every acre being 13332. The water used is 53328 liters, (with 4 liters used per hour), and every shift of irrigation takes 5.5 hours, using 293304 liters of water for every shift. During the period of growth; that is, 184 days,(at first 8 shifts, each shift six days after the previous one, followed by 21 shifts, each shift five days after the previous one, followed by five shifts, each shifts seven days after the previous one), there is a total of 34 shifts. Thus:

34x293304 liters of water=9972336 liters of water used during the period

184 daysx(60 secondsx60 seconds)=15897600

15897600 liters:9972336= 620% liters per second (over half a liter per second for every acre)

In the method of planting in rows, the water used is 1.5 liters per second. In the method of planting in rows using dripping irrigation, the water used per second is 620% liter.

Uses less water; water is distributed smoothly; in heavy clay water penetrates into the ground; there is a 40% increase in yield compared with another method of plantation; it is more effecient in windy areas that the irrigation method depending on rain; plantation is possible in grounds with every declivity; the fertilizer reaches the plant along with water through the system; the money invested is back within two years.