

PENGARUH BEDA KETINGGIAN PIPA LATERAL TERHADAP KINERJA IRIGASI CURAH (*SPRINKLER*)

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ABSTRAK

Irigasi curah adalah sistem pemberian air ke lahan pertanian dengan menggunakan tekanan (*pressure*). Irigasi *sprinkler* adalah cara pemberian air kepada tanaman yang dilakukan dari atas tanaman berupa pemancaran dimana pemancaran itu menggunakan tenaga penggerak berupa pompa air. Penelitian ini bertujuan untuk Mengetahui pengaruh variasi tinggi pipa lateral terhadap kinerja sistim irigasi curah (*sprinkler*) dan menguji kinerja sistem irigasi curah (*sprinkler*). Metode yang digunakan dalam penelitian ini adalah metode eksperimental dilaksanakan dengan pengamatan langsung di lapangan yaitu uji kinerja sistem irigasi curah (*sprinkler*). Paramater penelitian ini yaitu, debit aliran, jangkauan curahan, pola distribusi dan keseragaman curahan (CU). Hasil yang didapatkan dari penelitian ini yaitu rata-rata debit aliran sebesar 0,000167 m³/detik, kemudian 0,000166 m³/detik pada tinggi pipa lateral 30 cm dan 0,000155 m³/detik pada ketinggian pipa lateral 40 cm. Jarak jangkauan tinggi pipa lateral 20 cm sejauh 420,52 cm, tinggi pipa lateral 30 cm sejauh 440,55 cm dan pada tinggi pipa lateral 40 cm sejauh 450,97 cm. Keseragaman curahan (CU) pada ketinggian pipa lateral 20 cm sebesar 53,33%, kemudian pada tinggi pipa lateral 30 cm sebesar 53,59% dan pada tinggi pipa lateral 40 cm sebesar 57,00%. Persentase koefisien keseragaman tertinggi didapatkan. Pada ketinggian pipa lateral 40 cm yaitu sebesar 57,00%. Tinggi pipa lateral akan meningkatkan jangkauan curahan, artinya semakin tinggi pipa lateral maka jarak lempar curahan *sprinkler* akan semakin jauh.

Kata kunci: sistem irigasi curah (*sprinkler*), tinggi pipa lateral

DIFFERENCE EFFECT OF LATERAL PIPE LEVELS ON BULK IRRIGATION PERFORMANCE (*SPRINKLER*)

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ABSTRACT

Bulk irrigation is a system of giving water to agricultural land using pressure (*pressure*). *Sprinkler* irrigation is a way of giving water to plants done from the top of the plant in the form of transmitting where the transmission is using driving force in the form of a water pump. This research aims to investigate the effect of lateral pipe height variations on the performance of the irrigation system bulk (*sprinkler*) and test the performance of a bulk irrigation system (*sprinkler*). Method used in this study was experimental method implemented with direct observation in the field, namely the performance test of the bulk irrigation system (*sprinkler*). The parameters of this study were flow discharge, outflow range, pattern, outflow distribution, and uniformity (CU). Results obtained from this research was the average flow rate of 0.000167 m³/s, then 0.000166 m³/s at 30 cm lateral pipe height, and 0.000155 m³/s at 40 cm lateral pipe height. Distance of the lateral pipe height of 20 cm as far as 420.52 cm, lateral pipe height 30 cm as far as 440.55 cm, and at 40 cm lateral pipe height as far as 450.97 cm. Outflow uniformity (CU) at the lateral pipe height of 20 cm was 53.33%, then at 30 cm lateral pipe height was 53.59%, and at 40 cm lateral pipe height was 57.00%. The highest percentage of uniformity coefficient obtained at 40 cm lateral pipe height that was equal to 57.00%. The lateral pipe height will increase the outpouring, means that the higher the lateral pipe, the further the distance of *sprinkler* pouring.

Keywords: bulk irrigation, height of lateral pipe