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Increasing pineapple productivity with improved management practices

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The performance of the pineapple crop varies in relation to water availability throughout its life cycle, regardless of the relatively low water requirement. Improving soil water distribution at a particular stage of development may increase productivity. Actually, cultivar 'M-D-2 Del Monte' is the most commonly planted pineapple cultivar at the northern region of Puerto Rico. Farmers are considering the use of drip irrigation and fertigation practices to satisfy water and nutrients requirements to increase pineapple yields. To test the response of pineapple plants to fertilization and drip irrigation and experiment consisting of four treatments arranged in a complete block design with four replications was established at Isabela, PR. The fertilization treatments applied were 1) Granular fertilizer at a rate of 150-150-120-45 kg/ha at planting plus 16 foliar applications of N and K at rate of 50 kg/ha every two weeks. 2) Same than treatment 1 but with the addition of drip irrigation. 3) Same than treatment 1 applied twice monthly throughout fertigation. 4) Fifty percent than treatment 1 through fertigation. Pineapple harvesting was done 18 months after planting. Neither conventional fertilization (granular) nor fertigation treatments affected fruit weight. There was a tendency of sweeter (Brix=14.08) and heavier fruits (1.3 = kg/fruit) with plants submitted to conventional fertilization with drip irrigation (treatment 2). Pineapple plants under drip irrigation produced heavier fruits and taller plants than rainfed plants. The results indicated that drip irrigation and fertigation is an alternative management practice for cultivar 'M-D-2 Del Monte' at northern Puerto Rico.

Key Words: pineapple, drip irrigation, fertigation

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