

**Effect of Bulb size, Spacing and Planting depth on Growth and Yield of Red onion
(*allium ascolanicum*) in Dry zone under Irrigated Condition**

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Abstract: The study was conducted at the Agricultural Research Station Thirunelvely, to investigate the effect of bulb let sizes (6.8 cm and 5.3 cm circumference) , three plant spacing (10 cm × 10 cm, 10 cm × 5 cm, 8 cm × 8 cm) and two planting depth(full bulb under soil, half bulb under soil) on growth and yield of red onion. Larger bulbs produced higher plant height and number of leaves per plant. Larger bulb gave higher yield (20.2 mt/ha) than the smaller bulb (18.2 mt/ha).The closer spacing (10 cm x 05 cm) was significantly superior to wider spacing (10cm x 10 cm), and the yield has increased with increasing plant populations. Closer spacing (10cmx 05cm) gave higher yield (22.74 mt/ha). The wider spacing (10 cm x 10 cm) gave significantly higher fresh weight of one plant than closer spacing. Plant height was significantly increasing in closer spacing (10 cm x 05 cm) and significantly decreased the number of leaves per plant. Planting depth was not significant in yield. But shallower planting gave higher yield (19.5 mt/ha) than deeper planting (18.9 mt/ha) and also the bulb circumference increased in the shallower planting than deeper planting. The shallower planting produces higher number of bulbs per cluster (9.6) than deeper planting (8.9). The economically small size (5.3 cm) bulbs plantings with closer spacing gave 27 % of net profit than the larger size bulb planting. Adoption of closer spacing (10 cm x 05 cm), small size bulbs (5.3 cm) with shallow planting is more suitable for profitable red onion production.