

## **Effects of bulb size, Plant density and planting season on some quantity and quality traits of seed onion C.V. Red Azarshar.**

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This research was conducted for studying the effects of bulb size, plant density and season planting on the yield and quality of seed onion at Seed and Plant Improvement Institute Karaj. The experiment was in split block based on complete randomized blocks with four replications. Factors studied included: Onion bulb size at four different diameters (2.5-4 cm, 4-5.5, 5.5-7 and >7cm), plant density at four different levels (10×60 cm<sup>2</sup>, 15×60, 20×60 and 25×60 cm<sup>2</sup>) and planting time at two different seasons (Autumn and spring). Results of combined analyses showed that: Among levels of bulb size, was higher for most of quantity traits with bulb size diameter (>7 Cm), for example seed yield per plant and per hectare, seed yield per inflorescence umbrella and weight of seed thousand was significant ( $\alpha=0.01$ ). Seeds obtained from bulbs with (5.5-7 cm) diameter and (>7cm) were high percentage viability ( $\alpha=0.01$ ).

Among density treatments, effect of the plant density, 20×60 cm (83333 plants per hectare) was recognized as superior with to seed yield and seed viability percentage. The effect of interaction between bulb size and plant density was not significant on seed yield per hectare, but was significant on seed yield per plant ( $\alpha=0.01$ ). The effect of interaction between bulb size and