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Performance of improved onion (*Allium cepa* L.) varieties under Marathwada region in respect of growth and yield parameters

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ABSTRACT : An experiment was conducted at Department of Horticulture, Marathwada Agricultural University, Parbhani (Maharashtra) during *Rabi* 2006-2007 to investigate the performance of improved onion (*Allium cepa* L.) varieties under Marathwada region. It was conducted in three replications with eight varieties and having the plot size of 2.25 m x 2.00 m as gross plot and 2.10 m x 1.90 m as net plot by adopting sowing on 15 cm x 10 cm. The results revealed that variety Arka Niketan (Check) was early in maturity, while variety PKV Selection White was best for low twin bulb per cent. The neck thickness was lowest in variety Sel-383. Yield of bulb was found to be highest in variety JNDWD-207.

KEY WORDS : Onion, Variety, Vegetative growth, Yield, Onion TSS

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Onion (*Allium cepa* L.) belonging to the family Amaryllidaceae is one of the most popular bulb vegetable crops in India. Amongst all the bulb grown in India, onion is commercially regarded as the most important spice crop. Onion has special qualities, which add to taste and flavour to food preparations and culinary preparations. It is used in salads, soups, sauce and pickles for seasoning foods in culinary purposes and therefore it is called queen of the kitchen. The global picture of onion shows that though India leads in total area the per hectare productivity is as lows as 16.41 MT and in Maharashtra per hectare productivity is 21.55 MT compared to top ranking Korea (66.67 MT) (Anonymous, 2009). This is mainly due to certain constraints like non adoption of appropriate scientific production technology under suitable agrocliamtic conditions for particular area and for particular variety, for increasing onion yield and productivity. The present experiment was laid out with a view to evaluate the yield potential of different varieties of onion and their characters like growth parameters, bolting percentage, maturity days, twin bulb percentage, shape of bulb and on yield parameter.

RESEARCH METHODS

The experiment was conducted during *Rabi* 2006-07 at Department of Horticulture, College of Agriculture, Parbhani. The experiment was laid out in Randomized Block Design (RBD) with three replications and eight varieties of onion for present study. The eight varities were *viz*., V_1- PRO-6, V_2-Sel-383,V_3-Sel-402, V_4–JNDWD-207,V_5-SYN-3,V_6-PKVSel white, V_7-L-28, V_8 –Arka Niketan(C). The organic manure like FYM (20 t/ha) that was incorporated in soil 15 days before transplanting. Inorganic fertilizers used were urea, single super phosphate and muriate of potash. Recommended dose of fertilizer was 100 : 50 : 50 kg NPK/ha. The necessary preparatory tillage and intercultivation operations were done. Healthy, uniform seedlings of eight weeks old were selected for transplanting and transplanted at spacing of 15 x 10 cm. Harvesting of mature bulb was done when 50 per cent neck fall was observed. For biometric observations five plants were selected randomly from each plot as a observational plant and were labeled. The yield of total harvested cured bulbs was calculated on hectare basis for each treatment. For bolting (per cent) the number of bolted plants were counted form each plot and the bolting percentage was calculated. For maturity