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EFFECT OF PLANTING METHODS ON YIELD AND ECONOMICS OF POTATO UNDER NORTH GUJARAT CONDITIONS

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An experiment was conducted during *rab*i seasons of 2001-02 to 2003-04 on light textured soils at potato research station, Deesa in randomized block design with three treatments replicated six times. The cut seed tubers of 30 g (±5 g) size of potato cv. Kufri Badshah were planted at the spacing of 50 x 20 cm in bullock drawn single row *deshi* plough, 45 x 20 cm in tractor drawn single row planter, while in case of tractor drawn paired row planting, the ridge and furrow width was 75 cm each and two rows of potato crop was raised on each ridge at 20 x 20 cm spacing. The significantly higher total tuber yield of potato (393 q/ha) was recorded under the tractor drawn single row planting followed by bullock drawn single row *deshi* plough (326 q/ha) planting method. Tractor drawn single row planting produced 20.51 and 30.59% higher tuber yield over bullock drawn single row *deshi* plough and tractor drawn paired row planting method, respectively. Considering the economics of the different methods, the highest net return of Rs.81,290 per ha and B:C ratio (2.45) were recorded by tractor drawn single row planting method. It also saved manpower at planting time and covered more area per unit time.

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AGRO-TECHNOLOGY FOR MAXIMIZING SEED SIZE TUBER YIELD

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A field experiment was conducted at Modipuram, Meerut during 2002-04 in loamy soil will nine treatment combinations in randomized block design with four replications, consisting two intra-row spacings (10 & 15 cm) at a constant inter row spacing of 60 cm; two levels of N, P_2O_5 and K_2O (100, 80-80 and 150-120-80 kg/ha) and two crop durations (70 and 80 days). A conventional control having 60 x 20 cm spacing, 150 kg N, 80 kg P_2O_5 and 100 kg K_2O /ha and 75 days crop duration was kept for comparison. The seed size tubers of cultivar Kufri Sutlej were planted as per treatments in mid of October in both the seasons and rest package of practices recommended for seed crop in the region was followed. The crop emergence and shoot number/plant were not affected by any of the factors, while the maximum seed size tuber number was recorded with plant spacing of 10 cm, 100 kg N + 80 kg P_2O_5 + 80 kg K_2O /ha (6,74,500 ha^{-1}), significantly higher than other combinations, where as the lowest number was recorded with conventional control (3,86,800 ha^{-1}). The similar trend was also observed for total tuber number/ha, where maximum number were recorded with plant spacing of 10 cm, 150 kg N + 120 kg P_2O_5 + 80 kg K_2O /ha and 80 days duration and lowest in control. It may be concluded that the reduction of intra-row spacing to 10 cm may provide higher number of seed size tubers in comparison to other agronomic factors, like duration or increased macro-nutrient levels.