SCOOPED EYES CAN BE USED FOR SEED POTATO PRODUCTION

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A replicated field experiment on the performance of scooped eyes under field conditions was carried out at Shimla in a randomized complete block design with Indian potato cultivars Kufri Jyoti, Kufri Giriraj and JH 214 with whole tuber as a control. The emergence of whole tuber was 95 percent while employing scooped eyes it was 60 percent under rainfed conditions. The scooped eyes produced significantly higher number of tubers per m² in all the varieties; among the varieties, hybrid JH 214 produced higher number of tubers per m² (139.6). The increase in number of tubers was 182.0, 166.0 and 207.1 percent in cvs. Kufri Jyoti, Kufri Giriraj and hybrid JH 214, respectively over the control. The number of tubers weighing more than 100 g was significantly higher per m² when of whole tubers were used (8.2 to 18.1), whereas, the number of seed-size tubers (20-100 g) was higher in the produce of scooped eyes. The scooped eyes significantly reduced the number and yield of over-size tubers. Using of scooped eyes is expected to reduce the cost of cultivation by decreasing the quantity of seed materials by 2.5 to 3.5 times in different varieties. For whole tuber the seed rate was 45 q / ha with an average tuber weight of 60 g and a population of 75,000 plants, while with scooped eyes it was only 8 q / ha with an average weight 5 g of each scooped eye. This saved the seed cost in two ways i.e. i) weight-wise on initial cost of seed and ii) producing more number of seed tubers per stem, which is likely to cover more area for planting during subsequent seasons. The left over portion of each tuber (without eyes) can be utilized as food or for extraction of starch and preparation of potato flour / potato brawn from the residue after proper drying and grinding. The sale of starch and flour / brawn will compensate the labour cost involved in scooping the buds. So the aseptically scooped eyes can be used for production of higher number of total and seed-size tubers which would reduce the cost of cultivation by decreasing the cost of seed material by 2.5 to 3.5 times, besides generating employment opportunities.

EFFECT OF ORGANIC SPRAY (PANCHAKAVYA) ON POTATO SEED PRODUCTION

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Investigations were carried out during Summer 2003 and 2004 at Muthorai on sandy loam soils in RBD with six treatments (P1 : Seed tuber soaking in panchakavya (3%) + spraying panchakavya (3%) at 8 days interval, P2 : Seed tuber soaking in panchakavya (3%) + spraying panchakavya (3%) at 15 days interval, P3 : Only spraying panchakavya (3%) at 8 days interval, P4 : Only spraying panchakavya (3%) at 15 days interval, P5 : Normal cultivation with spraying panchakavya at 15 days interval and P6 : Control (normal cultural practices) and four replications, to study the effect of organic spray on potato seed production. Pooled data of two years suggest that panchakavya spray at 15 days interval could improve the yield of 30-60g sized tubers by 22 per cent over control and the increase was 6.7 per cent when it was sprayed on normal cultivated crop at 15 days interval. From multiple linear regression, it was shown that seed sized tuber number was affected significantly by total chlorophyll at 90 days, plant height at 60 days and dry matter at 60 days after planting. Seed sized tuber yield was influenced by total chlorophyll at 75 days, plant height at 60 and 90 days and dry matter at 60 days after planting. This is because the supply of nutrients and other growth promoting substances seemed to be at an optimal rate and interval when compared with other treatments. Hence, application of panchakavya @ 3% concentration at 15 days interval is useful in improving the seed sized tuber number as well as yield under Nilgiri conditions.