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Abstract: Okra is one of the most important vegetable crops grown for its tender pods throughout the tropics, sub-tropics and warmer parts of temperate zone. Ratooning is a practice that can potentially prolong the harvesting period and increase yield of the crop. No systematic studies have been made so for which variety is responsive to ratooning and its duration with this entire issue the present investigation entitled “Effect of ratooning on okra (Abelmoschus esculentus (L.) Moench) hybrids” was carried out at the experimental farm of Department of Horticulture, Birsa Agricultural University, Ranchi, Jharkhand. Two set of experiments were conducted in this investigation. The first experiment was on “Performance of okra (Abelmoschus esculentus (L.) Moench) hybrids to ratooning”. In this, ten okra hybrids viz; NS- 801, GS- 126, Basanti, Indranil, Osaka, Crystal- 999, Hybrid- 152, Mandira, Shakti and Sonal were evaluated for suitability to ratooning, pod yield of main crop and ratoon crop and disease and pest incidence. Whereas, the second experiment on “Response of ratooning on yield and yield attributing characters of Sonal hybrid of okra” was on the established Sonal hybrid of okra which was ratooned at different stages of crop growth at 4th, 6th, 8th and 10th picking, so as to ascertain the best and appropriate stage of ratooning for economic yield, alongwith the survivability and incidence of yellow vein mosaic virus was also studied. The experiments were framed in Randomized Block Design. In first set of experiment, the significantly tallest plants were produced by main crop of NS-801 and Crystal-999 at 114.00 cm each and 124.66 and 118.66 cm in 2010 and 2011 years respectively. The check hybrid Sonal exhibited maximum yield of 116.0 and 135.5 q/ha in 2010 and 2011 till it was ratooned and was at par with Shakti, Crystal-999 and NS-801. Regarding YVMV and jassid infestation Basanti, Indranil and Mandira hybrids had more infestation. With respect to quality parameter, the hybrids Shakti, Sonal (the check), Crystal 999 and NS-801 hybrids had significantly higher protein, less fibre and were more viscous too. There was remarkable difference in findings of both years on ratoon parameters due to varied weather conditions. In 2010, 41.00% deficit rainfall coupled with 2°C higher atmospheric temperature than 2011 year resulted in poor survivability. On ratooning, the plant‟s height was reduced significantly, maximum reduction was observed in Osaka (61.75%). While the plant girth exhibited an increasing trend on ratooning and it was because of aging of plants. ii The ratoons of hybrid varieties branched more in 2011 than main crop, it was mainly due to termination of apical dominance which led to lateral growth and it was significantly maximum in Shakti, Sonal and NS-801 (4.66 and 4.33 branches each). With respect to yield attributes hybrids of Shakti, Sonal (the check) and NS-801 produced higher values. The ratoon crop flowered earlier and reached fifty percent flowering in 30.60 days after ratooning in contrast to main crop and therefore reached market early. The ratoon yield was poor in 2010 due to hot and moisture deficit condition which led to poor emergence of side branches/sprouting and high mortality. Whereas, in 2011, the second year of experimentation, 25% more yield was recorded on cumulative yield basis. With regards to quality, the fruit size was reduced on ratooning and was more acceptable to consumers and reduction in quality was also noted. With regards incidence of yellow vein mosaic virus and jassid infestation, it was reduced but with proper care. The benefit cost ratio (calculated on cumulative yield basis) was maximum in Shakti (3.08), followed by Sonal and NS-801 hybrid. The results of the second set of experiment revealed that the treatment which was ratooned after 10th pick stage was most economical with benefit cost ratio of 3.88. Although, number of pickings were more in treatment which was ratooned after 4th pick/harvest stage. The maximum survivability was in plants which were ratooned at 10th pick stage and incidence of YVMV was found to be more in ratoon after 6th pick stage. On the basis of findings of these experiments, it may be concluded that Sonal (the check) hybrid was still the highest yielder and showed parity with Shakti and NS-801 hybrids as main crop. Among the hybrids, Shakti showed its superiority in ratooning ability and exhibited statistical parity with Sonal and NS- 801. Incidence of disease and pest reduced on ratooning but with proper care. Ratooning resulted in reduction of plant height, to ease in harvesting, days to flowering and fruiting was also reduced. The best stage to ratoon the okra hybrid was 10th pick stage and it resulted in better returns. The result of first year of experimentation on ratoon, it may also be concluded that ratoon system should not be taken up in aberrant weather conditions which has „breaks‟ in monsoon rain as it leads to poor yield and more mortality. The ratoon system prolonged the cropping period of okra hybrids till month of October and November of 2010 and 2011 years, respectively.

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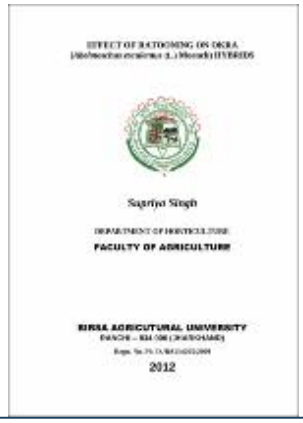

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