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RESEARCH ARTICLE :

Study of existing fruits and vegetable graders for on-farm grading of onion

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SUMMARY : A lab experiment was carried out to evaluate the effect of existing fruits and vegetable grader for on-farm grading of onion. To conduct the experiment two selected onion varieties, Satara Garva and Arka Kalyan were used to evaluate the effectiveness, bulb damage and capacity of graders. Existing proto-type fruit and vegetables or onion graders like motorized oscillatory and roller type onion size graders available at Zonal Agricultural and Horticultural Research Station, Babbur Farm, Hiriyur and manual operated sieving type onion size grader available at Indian Institute of Horticultural Research, Hesaragatta, Bengaluru. The grading performance results indicated that oscillatory type onion size grader was not suitable for onion varieties especially large sized bulbs. The motorized roller type onion size grader was unsuitable for onion grading and in this grader bulb damage during grading was unacceptably high. The effectiveness, bulb damage and capacity of manual operated sieve type onion grader was found to be 0.698, 539 kg h^{-1} and 9.67% for Satara Garva and 0.583, 481 kg h^{-1} and 5.75% for Arkha Kalyan varieties. The compression study of performance of manual operated sieve type onion size grader with oscillatory type and motorized roller type grader for the selected varieties was shown that manual operated sieve type grader was reasonably good for both Satara Garva and Arka Kalyan varieties but it needs more human energy to oscillate the machine.

KEY WORDS :
Onion varieties, Grader, Effectiveness, bulb damage, Capacity

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