

Design and development of grader for Kagzi-lime

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■ **ABSTRACT** : A Kagzi-lime fruit grader was developed using concentric screen principle. The machine consists of feeding, grading, collection and power transmission units. The dimensions of the machine are 1200 mm x 700 mm x 700 mm with a cost of approximately Rs. 25,000. The Kagzi-lime fruit were graded into three grades viz., Grade-I – above 40 mm, Grade-II- between 40 to 36 mm and Grade-III- below-36 mm. The maximum grading efficiency of 95 per cent at 14 rpm of the speed of grading unit and 7 degree feed trough angle with actual capacity was found 354.45 kg/h. and Rs. 6.62/qt cost of grading. In absence of electricity (on farm) manually operated grader is also suitable to marginal farmers with 86 per cent grading efficiency and Rs. 12.23/qt cost of grading.

■ **KEY WORDS** : Design, Screen grader, Kagzi-lime, Cost analysis

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