

Development and performance evaluation of pedal operated dehuller for black soybean

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■ **ABSTRACT** : Black soybean is a food source which contains high quality protein and does not contain cholesterol and saturated fatty acids. It is rich in vitamin and minerals and has significant medicinal effect. In India, traditional method of dehulling the black soybean is hand operated grindstone (Chakki). In grindstone, main disadvantage is the incomplete dehulling of the beans. This method of dehulling is also tedious and time consuming process. Therefore post harvest management and processing of black soybean are very important and hence an effort has been made to develop a pedal operated dehuller for Uttarakhand women with the help of anthropometric data. Dehuller works on the principle of shearing force where black soybean passes through between the grind stone roller and concave surface of perforated mild steel sheet and power would be provided through pedal to the machine. The different components were designed and best dehulling efficiency of the machine was 72.08 per cent at 10 per cent moisture content and 25kg/h feed rate with payback period of 1.67year. This machine is basically designed for Uttarakhand small women farmers and can generate employment.

■ **KEY WORDS** : Black soybean, Pedal operated machine, Design components, Payback period

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