Carrot cleaning machine revolutionises production and marketing in north India

Haryana is the rice-wheat belt of north India, which contributes about 18 per cent of food grain production for the country. Recently, farmers of Haryana have started to diversify cropping practices from rice-wheat to vegetable and other non-cereal crops.

Bahawalpur is a village located 15 km northeast of Hisar town in Haryana state, and carrot has become a very highly remunerative crop of the village in the last 10 years. However, fresh harvested carrots without cleaning usually fetches lower prices (INR3/kg) in the market.

Cleaning carrots immediately after uprooting is a very tough task for farmers, especially in cold winter weather. Around 25-30 tonnes of carrots are produced per ha in this area. Cleaning is usually done by hand washing and largely by women or child labourers. Thus, traders and retailers usually sell clean carrots and make more money.

Fortunately the cleaning process is now revolutionised due to the invention of a carrot cleaning machine. In 2000, Mr. Mahaveer Jagada, a 6th grade-educated mechanic in Bahawalpur village, developed a simple carrot cleaning machine which is powered by a tractor engine. He continues to refine and enhance its efficiency and effectiveness.

The capacity of the recent model, which has a self-mounted motor engine, is three tonnes per hour. The cost is about INR135,000 (US$2,000). He also provides carrot cleaning machine rental services to village entrepreneurs. These entrepreneurs are renting the machine from Mr. Mahaveer on a seasonal basis, operate it and provide washing services to carrot farmers.

Washed and cleaned carrots attract a good market price. Farmers can sell cleaned carrots at the washing yard to traders for INR8-10/kg. On average, the net profit for carrot cultivation per ha is INR12,000 to 20,000 (around US$180-300). With help from the locally-made carrot washer, carrot cleaning has become much easier and has provided a catalytic force for expanding carrot production in Hisar district.

Farmers grow different varieties of carrot in the rainy season (August-September), where paddy rice was the main crop just a few years ago. Carrot is harvested by late October to early
November and after that wheat is planted in the field.

The carrot washer has also helped to develop a new market/value chain system in the area. Traders visit the yard where the carrots are cleaned, purchase the carrots and load them on their trucks. Therefore, the carrot-cleaning yard is also functioning as a market yard for carrots. Traders from New Delhi and other mega cities visit and ship the carrots from production areas to major vegetable markets in North India. Farmers have reported the carrot production areas have been increasing more than five per cent annually which is mainly due to higher profit from carrot than alternative crops (such as paddy).

A small innovation from a mechanic and true entrepreneur has caused a real revolution at the grassroots level. This innovation has contributed to the creation of net additional values of millions of USD annually in Bahawalpur village and its surrounding areas by facilitating farmers to improve postharvest handling and management of carrot, and to create a new market. Furthermore, the state government and public agencies have also supported such innovations, which provided synergetic impact in this process.

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