

Olive Oil Extractor

Background

Olive was introduced about one decade ago as an emerging healthy oil source through the grafting of existing wild olive trees (Kahu) and raising new orchards in upstream areas of Punjab, Khyber Pakhtunkhwa (KP) Provinces and FATA.

More than 6,000 grafted olive plants have already started fruiting and more than this number will be ready for fruiting during a couple of years. Olive orchards developed so far in the above areas are spreading over 165 and 206 hectares respectively in Punjab and KPK.

Agricultural and Biological Engineering Institute (ABEI) has developed a small oil extractor unit through reverse engineering and selected a potential agricultural machinery manufacturer M/s Technology International, Faisalabad for manufacturing of a small-scale olive oil extraction unit. An MoU was signed between the collaborative machinery manufacturer and PARC. ABEI engineer provided technical assistance during manufacturing of the machine. The first prototype machine has now been manufactured. Pre-testing of prototype unit was done with stored olive fruit at ABEI Testing Lab.



Why Olive Processing (Oil Extraction)

- Local production of extra virgin and chemical free olive oil
- Value addition
- Wide range of products
- To reduce import bill
- To target export potential

Issues/challenges

Main bottlenecks in promoting olive production in the country is non-availability of fruit processing facility, due to which a significant portion of olive fruit production gets wasted due to non-availability of community based olive fruit processing facility for edible oil in the country.

Local development of olive Oil Extractor

ABEI took the initiative, identified and imported a community based olive oil extraction unit having 50 kg.h-1 processing capacity as suggested by the olive farmers. The unit was adapted under our local socio-economic conditions .

Adaptation: Its average processing capacity varied from 38 to 44 kgh-1 with an average oil recovery from 9 to 11 percent. The Coratina (Syrian) olive variety gave maximum oil recovery percentage i.e. 19.4 as compared to other Spanish varieties tested.



Implementation Strategy

- Up scaling of ABEI Olive oil extractor will be done through involving more local manufacturers
- Technical assistance to collaborating institutions and manufacturers to operationalize olive oil extraction units

- Demonstrations in olive growing areas in collaboration with the manufacturer and other stakeholders
- 50% subsidy to farmers will be proposed to purchase local oil extractors

Benefits

- Higher oil recovery as compared to traditional methods of oil extraction(from 10% to 20%).
- Total operational cost is estimated :Rs.12.4 kg-1 of fresh olive fruit processing.
- The extracted oil is extra virgin and can be consumed directly after natural cleaning through sedimentation for one week.
- Employment generation
- Enhancement of farmers' income from marginal lands
- Export potential
- The waste material(cake) can be easily utilized for making syrup, jam & jelly and biscuits
- The unit is portable and can easily be shifted from one place to another.
- Price of the local unit is much lower as compared to imported one. It is about one third .

