Small millet processing machines development and outreach

Experience of DHAN Foundation
Our engagement with small millet processing equipment

1. Developing dehuller prototypes in collaboration with Tamil Nadu Agricultural University (TNAU)

2. Field testing of dehuller prototypes
   - Prototypes developed by TNAU
   - Prototypes developed by Central Institute of Agricultural Engineering, McGill and CFTRI

3. Supporting commercialisation and scaling up by fabricators
   - AVM Engineering and Victor Agro Sales

4. Supporting establishment / revival of SMPUs of different scale
Centrifugal dehuller prototypes developed by TNAU as part of our project

- Improved single chamber - Village level - 50kg/h
- Double chamber – Microenterprise level - 100 kg/h
- Double chamber - SME level - 300 kg/h
Advantages of prototypes developed

• Suitable for all SMs with necessary fine tuning
• Reduces drudgery of women significantly; time involved in dehulling reduced by 50 to 70 %
• 10 % more recovery when compared to abrasive type; Efficiency of the unit is above 80 %
• Offers more nutritious product than existing mills thro’ better retention of bran – *better retention of fibre and micronutrients*
• Versatility to meet varying requirements at affordable cost
• Easy to handle with suitable training
• Adaptable to local conditions
  • Can be installed as part of existing mills
  • Village level prototype run with single phase power
Advantages of prototypes developed...

Kodo millet rice

Output of abrasive equipment

Output of centrifugal equipment
Acceptable small millet processing equipment - Dehuller

1. For village level SMPUs to promote local consumption in the production areas
   1. Victor single chamber centrifugal dehuller
   2. AVM single chamber and double chamber (for kodo millet) centrifugal dehullers- below 100 kg/ hour capacity
   3. CIAE dehuller model

2. For processing on a commercial scale
   1. AVM single chamber and double chamber (for kodo millet) centrifugal dehullers- Above 100 kg/ hour capacity
   2. Victor double chamber centrifugal dehuller
Acceptable small millet processing equipments...

1. Grader
2. Destoner
   - Integral part of small millet processing assembly
   - Both are used for pre and post dehulling operations to get the quality output
Victor Single Chamber CF Dehuller

Specifications

*Capacity*- 40 to 50 kg/hour
*Power*- 2 HP single phase
*Versatility*- Dehulls all small millets; but more suitable for little, foxtail and proso millet

**Cost**: Rs.52,000 (approximate)

Advantages

Compact, affordable, widely tested
AVM single chamber CF dehuller with grader

**Specifications**

*Capacity*- 100 kg/ hour  
*Power*- 2 HP three phase  
*Versatility*- Dehulls all small millets, except kodo millet

**Cost**: Rs.1,05,000 (Approximately)

**Advantages**

Sturdy, combined with grader, widely tested
AVM double chamber CF dehuller with grader

**Specifications**
- Capacity: 100 kg/hour
- Power: 6 HP three phase
- Designed for kodo millet

**Cost:** Rs.2,00,000 (Approximately)

**Advantages**
- Sturdy, combined with grader
Victor Double Chamber CF Dehuller

**Specifications**
- Capacity: 100 kg/hour
- Power: 5 HP three phase
- Dehulls all small millets

**Cost:** Rs.1,03,000 (Approx.)

**Advantages:**
- Compact, affordable, widely tested
Victor Grader

**Specifications**
*Capacity*: 50 kg/ hour
*Power*: 2 HP Single phase
*Versatility*: Suitable for all small millets; with sieve change can be used for other grains too

**Cost**: Rs. 32,000 (Approx.)

**Advantages:**
- Can be used in pre and post hulling stages
- Critical to achieve quality output
Victor De-stoner

**Specifications**

*Capacity* - 50 kg/hour  
*Power* - 2HP single phase  
*Versatility* - Suitable for all small millets; with sieve change and other adjustments can be used for other grains too

**Cost:** Rs.42,000 (Approx.)

**Advantages**

- Remove immature grain and stones  
- Can be used in pre and post hulling stages  
- Can be used for segregating seed from grains
AVM De-stoner with Grader

**Specifications**

*Capacity*- 100 kg/ hour  
*Power*- 2 HP three phase  
*Versatility*- Suitable for all small millets; with sieve change and other adjustments can be used for other grains too  
*Cost*: Rs. 80,000 (Approximately)

**Advantages**

• Both destoning and grading operations in one machine  
• Remove immature grain and stones  
• Can be used in pre and post hulling stages  
• Can be used for segregating seed from grains
Perfura De-stoner with Grader

**Specifications**

*Capacity*: 100 kg/hour for small millets; other higher capacities available

*Power*: 2 HP three phase

*Versatility*: Suitable for all small millets; with sieve change and other adjustments can be used for other grains too

**Cost**: Rs. 50,000 (Approx.)

**Advantages**

- Both destoning and grading operations in one machine
- Remove immature grain and stones
- Can be used in pre and post hulling stages
- Can be used for segregating seed from grains
Other service provided by the fabricators

1. Customised designing is done based on the customer requirements
2. Trial run at the fabricating site
3. Installation support and after sales service provided based on requirement
4. Supply anywhere in India
You are welcome to contact us for further details.

Thank you!

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