Cuts and windrows wheat and rice crops
A tractor front mounted machine
Saves time and labor
An intermediate technology between manual and combine harvesting
Creates one thousand skilled and one Lac un-skilled seasonal jobs
Operating Cost: Rs. 1800/ha
Financial Benefit: Rs. 1500/ha

Power Source: 37 kW
Tractor
Cutting Width: 2.3 m
PTO Speed: 450 rpm
Field Capacity: 0.5 ha/h
Labor Requirement: 3 persons
Overall Length: 2.3 m
Overall Width: 0.5 m
Overall Height: 0.7 m
Overall Weight: 275 Kg

REAPER-WINDROWER POPULATION IN PAKISTAN

FARM MACHINERY INSTITUTE, NARC, ISLAMABAD
ZERO TILLAGE TECHNOLOGY

SALIENT FEATURES

- Ensures timely sowing of wheat
- Reduces cost of production
- Reduces pollution & energy input
- Improves seed germination
- Increases crop yield

SPECIFICATIONS

- Power Source: 37 kW Tractor
- Number of Rows: 12
- Row Spacing: 20 cm
- Field Capacity: 0.4 ha/ha
- Operational Cost: Rs. 900/ha
- Financial Benefit: Rs. 1700/ha

ZERO TILL DRILLS AVAILABLE IN PAISTAN

YEAR UNITS
1995 0
1997 500
1999 1000
2001 1500
2003 2000
2005 2500

FARM MACHINERY INSTITUTE, NARC, ISLAMABAD
FMI SEEDER

SALIENT FEATURES

☆ Ensures timely wheat sowing under heavy crop residue
☆ Cuts 7.5 cm stubble strips as well as picks up loose straw lying in front of each opener of Zero-Till Drill and chops them into small pieces before spreading it uniformly over seeded rows in a single operation
☆ Improves soil fertility due to mulching, saves one irrigation, improves seed germination and reduces environmental pollution
☆ Drill can be easily detached and the chopper can be used for other purposes

SPECIFICATIONS

☆ Type : Mounted
☆ Power Source : 37 kW Tractor
☆ Row Spacing : 15 cm
☆ Field Capacity : 0.4 ha
☆ Flail Rotor Speed : 2000 rpm
☆ Fuel Consumption : 6 L/ha
☆ Operating Cost : Rs.1050/ha
☆ Financial Benefit : Rs.1950/ha

FARM MACHINERY INSTITUTE, NARC, ISLAMABAD
WHEAT STRAW CHOPPER

SALIENT FEATURES

- A tractor operated toed-behind machine
- Harvests stubbles and picks up combine ejected straw, chops and blows it into the trolley
- Reduces environmental pollution
- Increases combine harvested area
- Operating units 250

SPECIFICATIONS

- Power Requirement : 37 kW
- Tractor
- Width of Cut : 2 m
- Field Capacity : 0.30 ha/h
- Field Efficiency : 60 %
- Field Straw Recovery : 50-60 %
- Operating Cost : Rs. 1300/ha
- Financial Benefit : Rs. 1800/ha

FARM MACHINERY INSTITUTE, NARC, ISLAMABAD
A tractor operated stationary thresher
Employs throw-in type crop feeding mechanism
Built-in mechanism for re-threshing of un-threshed crop
Reduces field grain losses
Improves grain quality
Timely threshing ensures better rates
Reduces the threshing season
Operating cost Rs. 400/ t
Financial benefit Rs. 225/ t

Threshing System Axial-flow
Threshing Drum Peg Tooth
Power Source 50 kW tractor
Labour Requirement 4 persons
Grain Output 1.5-2.0 t/ h
Cleaning Efficiency 99 %
Grain Breakage Negligible
Fuel Consumptions 7 L/ h
MOBILE SEED PROCESSING UNIT

SALIENT FEATURES

- Removes inert material, weeds and broken grains from healthy ones
- Grades seed into three categories:
  - Healthy seed
  - Light seed
  - Broken and immature seed
- Movable from one place to another
- Suitable for Wheat, Paddy, Pulses, Maize, Canola, Sunflower, Peas and Okra

SPECIFICATIONS

- Cleaning Capacity: 2 t/h (Wheat) 1 t/h (Paddy)
- Cleaning Efficiency: 98%
- Labour Requirement: 3 men
- Operating Cost: Rs. 250/t (wheat)
- Seasonal Capacity: 2000 tons
- Power Requirement: 7.5 kW
- Components: Aspirator, 3 deck grader, Elevator
- Overall Length: 3.25 m
- Overall Width: 1.6 m
- Overall Height: 4 m

FARM MACHINERY INSTITUTE, NARC, ISLAMABAD
## Financial Impact of FMI Technologies

### (Million Rs.)

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<th>Year</th>
<th>Reaper</th>
<th>Groundnut Digger</th>
<th>Groundnut Thresher</th>
<th>Planter</th>
<th>Zero-Till Drill</th>
<th>Sunflower Thresher</th>
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