5. SPECIFICATION for
Happy Seeder

5.1 GENERAL

Name of manufacturer/applicant & Address : 
Type : 
Make : 
Model : 
Year of manufacture : 
Serial No. : 
Tractor horse power required, hp (apa) : 
Type of blade : 
Recommended travelling speed of machine, kmph : 
Location of fertilizer outlet in relation to seed outlet :

5.2 PRIME MOVER USED :

Tractor : 
Chassis No. / Engine No. : 
Year of manufacture : 
Max. PTO Power Kw (Ps) : 
Rated engine spped recommended for field test, rpm (apa) :
5.3 CHASSIS

Type of frame:

Size:
  i) Angle or box frame:
  ii) Supporting flat/angle:

Type of mounting of box section:

5.4 SIDE SUPPORT

Type of frame:

Thickness of plate, mm:

Size of bolt, mm:

  Length:
  Dia.:
  Pitch:

Method of fixing to main frame:

5.5 SHIELD (TOP COVER)

Type:

Size of shield, mm:

  Length:
  Curved width:

Thickness of sheet, mm:

Method of fixing to main frame:
## 5.6 TRAILING BOARD

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type &amp; material</td>
<td></td>
</tr>
<tr>
<td>Size of board, mm</td>
<td></td>
</tr>
<tr>
<td>Thickness of sheet, mm</td>
<td></td>
</tr>
<tr>
<td>Locking system</td>
<td></td>
</tr>
<tr>
<td>Method of mounting plate sector</td>
<td></td>
</tr>
<tr>
<td>Type of hinge</td>
<td></td>
</tr>
<tr>
<td>No. of hinges</td>
<td></td>
</tr>
<tr>
<td>Method of fixing</td>
<td></td>
</tr>
</tbody>
</table>

## 5.7 ROTOR SHAFT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Size of shaft, mm</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>Dia</td>
<td></td>
</tr>
<tr>
<td>Method of mounting blades on shaft</td>
<td></td>
</tr>
<tr>
<td>No. of blades on shaft</td>
<td></td>
</tr>
<tr>
<td>Distance between two adjacent blades, mm</td>
<td></td>
</tr>
<tr>
<td>Dia of rotor with blades, mm</td>
<td></td>
</tr>
</tbody>
</table>

## 5.8 ROTOR BLADE

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
</tr>
</tbody>
</table>
Material

Overall thickness, mm

Speed of rotor shaft corresponding to 1000/540 rpm of PTO shaft, rpm

Peripheral speed of rotor blades (m/sec.)

Blade bracket size, mm

Method of arrangement of blade on rotor shaft

5.9 DEPTH CONTROL MECHANISM:

Method of depth control adjustment

Range of depth adjustment, mm

5.10 STRAW DUCT

Type

Size, mm

Thickness of sheet

Method for height adjustment from ground level

  Maximum
  Minimum

Method for guide to straw in straw throwing passage, if any

5.11 POWER TRANSMISSION SYSTEM FOR ROTOR UNIT

Method of transmission
<table>
<thead>
<tr>
<th><strong>Dimension of power input shaft</strong></th>
<th>:</th>
</tr>
</thead>
</table>

**Primary reduction**

- **Type** |
- **No. of teeth on pinion gear** |
- **No. of teeth on crown gear** |
- **Reduction ratio** |
- **Oil capacity, l** |
- **Oil change period, h (apa)** |
- **Recommended grade of oil (apa)** |

**Propeller shaft:**

- **Type** |
- **Length of propeller shat** |
- **Mass of shaft** |
- **Provision for locking** |
- **Provision for safety**
  - **Clutch /device** |
- **Hub size (Ref. fig. 1)** |

**Secondary reduction:**

- **Type** |
- **No. of teeth on drive gear** |
- **No. of teeth on drive sprocket** |
- **No. of teeth on driven sprocket** |
- **Size of chain**
  - (Pitch/ Length/ Roller Dia) |
- **Reduction ration** |
- **Oil capacity, l** |
- **Recommended grade of oil, apa** |
- **Oil change period, h(apa)** |
- **Oil level checking provision** |
- **Provision for breather** |
- Oil filling arrangement
- No. of bearings
- Propeller shaft hub dimension (6 splined)
- Trailing hook dimension

5.11 FURROW OPENERS

Type
No. of openers
Arrangement of openers
Range of selection of openers
Method of changing row space and range
Lifting and lowering of openers
Depth control
Fertilizer placement with respect to seed

5.12 SEED METERING MECHANISM

a- Type of Seed Metering Device

Type
Size of feed shaft, mm
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dia</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>Size (dia in mm) and number of fluted rollers</td>
<td></td>
</tr>
<tr>
<td>Source of power</td>
<td></td>
</tr>
<tr>
<td>Transmission ratio of shaft of seed metering device to ground wheel</td>
<td></td>
</tr>
<tr>
<td>Type of agitator</td>
<td></td>
</tr>
<tr>
<td>Method of feed rate control for different sizes of seed</td>
<td></td>
</tr>
<tr>
<td>Provision for closing seed discharge</td>
<td></td>
</tr>
</tbody>
</table>

### 5.12 FERTILIZER METERING MECHANISM

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Size of shaft, mm</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>Dia</td>
<td></td>
</tr>
<tr>
<td>No. of rollers in metering device</td>
<td></td>
</tr>
<tr>
<td>No. of cells in each rollers</td>
<td></td>
</tr>
<tr>
<td>Outer dia of rollers, mm</td>
<td></td>
</tr>
<tr>
<td>No. Of fertiliser feed chamber</td>
<td></td>
</tr>
<tr>
<td>No. Of rollers in each chamber</td>
<td></td>
</tr>
<tr>
<td>Type of agitator</td>
<td></td>
</tr>
<tr>
<td>Method of feed rate control for different size of seed</td>
<td></td>
</tr>
<tr>
<td>Provision for closing seed discharge</td>
<td></td>
</tr>
</tbody>
</table>
5.13 **HOPPER**

Capacity, cubic metre, Kg

i- Seed box :

ii- Fertilizer box :

Type of hoppers :

Marker details :

Seed Covering arrangements :

---

5.14 **GROUND DRIVE** :

No. of wheels :

Type of wheel :

Outer dia of wheel, m :

Method of transmitting power to feed shaft :

Detail of lowering & raising ground wheel :

5.16 **Depth adjustment provision for seed frill:**

Details of depth adjustment

Range of depth adjustment, mm :

---

5.17 **Safety arrangement for rotating parts** :

5.18 **Metering unit controls**

5.19 **a- Fluted roller position handle**

Material & Type :

Size of control lever flat: Length
Width : 

Thickness : 

Height from ground level, mm : 

b-Fertilizer metering control lever 

Material & Type :

Size of control lever flat, mm

  length : 

Width :

Thickness :

Height from ground level, mm : 

5.20 Type of hitch & its details:

Type :

Shape :

Material of construction :

Size of flat, mm :

Length of lower link hitch pin, mm :

Height of lower link hitch pin, from ground level :

Method to control ;three point linkage :

<p>| 4.7 | Three point linkage (Refer fig.2) |   |   |</p>
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Remarks</th>
<th>As per IS:4468-2001 (mm)</th>
<th>As measured (mm)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Upper hitch point (cat-II)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Diameter of hitch pin (A)</td>
<td>25.27 to 25.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Diameter of hitch pin hole (B)</td>
<td>25.70 to 25.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Linch pin hole distance (D)</td>
<td>93 (min.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td>Width between outer faces of yoke (E)</td>
<td>86 (max)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>Width between inner faces of yoke (F)</td>
<td>52.0 (min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Lower hitch points (cat.-II)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Dia of hitch pin</td>
<td>27.79 to 28.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Diameter of hitch pin hole (H)</td>
<td>28.70 to 29.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Linch pin hole distance (K)</td>
<td>49 (Min.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Diameter of linch pin hole for (Cat.II)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Upper hitch pin (L)</td>
<td>12 (min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Mast height (Cat. II) (M)</td>
<td>510 (min.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Lower hitch point span (Cat.2) (N)</td>
<td>823.5 to 826.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------</td>
<td>----------------</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

### 5.20 Hydraulic system (If Given)

- **Type**: 
- **Drive to hydraulic pump**: 
- **Type of hydraulic pump**: 
- **Make**: 
- **Model**: 
- **Hydraulic tank capacity, l**: 
- **No. of hydraulic cylinder**: 
- **Type of hydraulic cylinder**: 
- **Oil change period, h (apa)**: 

### 5.21 Overall Dimensions, mm (Ref. Fig. 3)

- **Length**: 
- **Width**: 
- **Height**: 
- **Mass, Kg**: 
- **No. of greasing/oiling points**: 
  - **Greasing point**: 
  - **Oiling point**: 