## 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**

Type & material :

Size of board, mm :

Thickness of sheet, mm :

Locking system :

Method of mounting plate sector :

Type of hinge :

No. of hinges :

Method of fixing :

**5.7 ROTOR SHAFT**

Type :

Size of shaft, mm :

Length

Dia

Method of mounting blades on shaft :

No. of blades on shaft :

Distance between two adjacent blades, mm :

Dia of rotor with blades, mm :

**5.8 ROTOR BLADE :**

Number :

Type :

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 :

Dimension of power input shaft :

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 teed 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

Dia :

Length :

Size(dia in mm) and number of fluted rollers :

Source of power :

Tranmission ratio of shaft of seed metering device to ground wheel :

Type of agitator :

Method of feed rate control for different sizes of seed :

Provision for closing seed discharge :

**5.12 FERTILIZER METERING MECHANISM**

Type :

Size of shaft, mm

Length :

Dia :

No. of ;rollers in metering device :

No. of cells in each rollers :

Outer dia of rollers, mm :

No. Of fertiliser feed chamber :

No. Of rollers in each chamber :

Type of agitator :

Method of feed rate control for different size of seed :

Provision for closing seed discharge

**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 delpth 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 :

| | | | |
|---|---|---|---|
| **4.7** | **Three point linkage ( Refer fig.2)** | | |

| Sl.No. | | As per IS:4468-2001 (mm) | As measured ( mm ) | Remarks |
|---|---|---|---|---|
| I | **Upper hitch point ( cat-II)** | | | |
| a) | Diameter of hitch pin (A) | 25.27 to 25.40 | | |
| b) | Diameter of hitch pin hole (B) | 25.70 to 25.91 | | |
| c) | Linch pin hole distance (D) | 93 (min.) | | |
| d) | Width between outer faces of yoke (E) | 86 (max) | | |
| e) | Width between inner faces of yoke (F). | 52-0 (min) | | |
| II | **Lower hitch points ( cat.-II)** | | | |
| a) | Dia of hitch pin | 27.79 to 28.0 | | |
| b) | Diameter of hitch pin hole (H) | 28.70 to 29.03 | | |
| c) | Linch pin hole distance (K) | 49 (Min.) | | |
| III | **Diameter of linch pin hole for (Cat.II)** | | | |
| a) | Upper hitch pin (L) | 12 (min) | | |
| IV | **Mast height (Cat. II ) (M)** | 510 (min.) | | |

| | | | | |
|---|---|---|---|---|
| V | **Lower hitch point span (Cat.2) (N)** | 823.5 to 826.5 | | |

**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 <u>Overall Dimensions, mm (Ref. Fig. 3)</u>**

Length :

Width :

Height :

Mass, Kg :

No. of greasing/oiling poins:
Greasing point :
:
Oiling point