ANTAM STANDARD CODE
FOR TESTING OF PADDY TRANSPLANTER

Rice Transplanter are to be considered the same machines as Paddy Transplanter for the purpose of this Code

Centre for Sustainable Agricultural Mechanization
United Nations Economic and Social Commission for Asia and the Pacific

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It cover 13 chapter start from 1. Scope - 13. Waterprof test
It revised of ANTAM STANDAR CODE  For Testing of Paddy Transplanter 003-2017
scope of transplanter. walking and riding
6.1 Tests to be conducted on paddy transplanter are given below:

1. Checking of specifications
2. Basic safety requirements
3. Parking brake test (if applicable)
4. Noise test
5. Water proof test
6. Field performance test (machine performance and transplanting performance)
<table>
<thead>
<tr>
<th>No</th>
<th>Parameter</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The exposed transmission and rotating part device</td>
<td>Covered and protected</td>
</tr>
<tr>
<td>2</td>
<td>Position of exhaust port</td>
<td>Do not facing to the operator</td>
</tr>
<tr>
<td>3</td>
<td>The operator work floor (riding type)</td>
<td>Should not slip and flat</td>
</tr>
<tr>
<td>4</td>
<td>The row marker (if applicable)</td>
<td>Should have locking mechanism</td>
</tr>
<tr>
<td>5</td>
<td>The operator symbol</td>
<td>Should be visibly near the key control</td>
</tr>
<tr>
<td>6</td>
<td>The gap distance between control level</td>
<td>Min 25 mm</td>
</tr>
<tr>
<td>7</td>
<td>The surface of pedal</td>
<td>Should non lip and easy to clean</td>
</tr>
<tr>
<td>8</td>
<td>The positive pole of battery</td>
<td>Should have protective cover</td>
</tr>
<tr>
<td>9</td>
<td>The foot step on riding transplanter</td>
<td>Should put on left and right, with max height 55 cm</td>
</tr>
<tr>
<td>10</td>
<td>All exposed sharp edges</td>
<td>Should have smooth finish</td>
</tr>
<tr>
<td>11</td>
<td>The head lights</td>
<td>Should have on front and rear side (optional)</td>
</tr>
<tr>
<td>12</td>
<td>Reverse horn (Riding type)</td>
<td>Should be equipped</td>
</tr>
<tr>
<td>13</td>
<td>Protective device for operator include earmuffs</td>
<td>Should be equipped</td>
</tr>
<tr>
<td>14</td>
<td>Dangerous moving parts</td>
<td>Should be indicated by safety signs, and illustrated on operating manual</td>
</tr>
</tbody>
</table>
Parking brake test

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100
Field test

Seedlings Conditions shall be recorded as follows:
- Age of seedlings (Days)
- Variety
- Plant density (No. of plants per cm\(^2\))
- Leaf stage (No. of leaves)
- Height of seedlings (mm)
- Thickness of seedling mat (mm)

Please randomly sample 3 seedling mats and take 5 measurements of seedling number per cm\(^2\) for each seedling mat. Report the average number of seedlings per cm\(^2\) in ANNEX F.

The actual field condition shall be recorded as follows:
- Area (L x W) (m\(^2\))
- Soil Type
- Soil hardness/Drop cone test (Cone depth (mm))
- Depth of hard pan/Foot zinkage (mm)
- Depth of water (mm)
- Qualitative assessment (leveling, stubble)
- Method of tillage
- Method of puddling

Please provide specific soil physical properties including bulk density, clay percentage in addition to the soil type ANNEX F.

To be collected after cone depth data measurement is completed.

A brief description of the measurement method of field levelness and stubble shall be provided in the test report ANNEX F.
The following transplanter settings shall be recorded before the test:
- Distance between hills (mm)
- Depth of planting (mm)
- Number of seedlings per hill

**Soil hardness**

The soil hardness at transplanting operation is expressed with the depth of penetration of a drop type cone penetrometer and called “cone depth”. The apex angle of the cone should be 45 degrees and weight is about 135 grams. Cone penetrometer should drop from a height of 1.0 meter from the soil surface, without standing water to the tip of the cone. After penetrating, the depth should be measured from the tip of the cone to the soil surface in centimeters (RNAM 1983). Soil hardness refers to the top soil surface layer.
The instruments:

- Meter
- Callipers
- Stop watch
- Tachometer
- Sound level meter
- The liter
- Sound level meter
- Soil penetrolloger

Soil penetrolloger

2 cm² of circle are, 60° angle of cone