DRAFT GUIDELINES FOR VARIANT TESTING OF SEED CUM FERTILIZER DRILL

Criteria for Determining New Model / Variant of Seed cum Fertilizer Drill

1. Base Model

A base model of a seed-cum-fertilizer drill shall be defined as the model having clearly established specifications as reported in its Initial Commercial Test (ICT) report.

- Manufacturer will specify the base model along with the list of variants, which could be added, deleted or supplemented to arrive at variants of the subject base model.
- The seed cum fertilizer drill will be tested as per the relevant Indian Standard:
  - IS 6316 :1993 (Reaffirmed 2019) Sowing Equipment -Seed-cum-fertilizer Drill - Test Code.
  - IS 6813:2000 (Reaffirmed 2021) Sowing Equipment - Seed-cum-fertilizer Drill Specification.
  - IS 3342:1998 (Reaffirmed 2019) Soil working equipment - cultivators, Animal drawn Specification.

2. Variant Model

A variant model of seed cum fertilizer drill may be derived from a base model by addition / deletion / supplementation of the features without affecting much the design principle and performance as mentioned in the Table 1**.**

For conformity of a variant model**,** specification of the model will be verified physically or through lab tests as required.

3. New Model

If any parameter/change falls outside the features listed in the Table 1, it shall be treated as a New Model and subjected to complete testing as per initial commercial test (ICT).

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Variants

1. Variants (Seed cum Fertilizer drill)

The variant model(s) may be derived from a **base model** by **addition/deletion/supplementation** of one or more of the features given in Table 1.

- The variants shall be subjected to test as specified against changes in features as mentioned in Table 1.

2. Submission of Application for Variant testing

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- The manufacturer/applicant may submit the application fortesting of a variant model along with the test (ICT) report of base model.
- If, during initial inspection, the model submitted for variant testing is found **not qualifying within the definition of a variant**, then the applicant has to apply for ICT as a new model.

3. Test fees

The test fees for variant testing of the seed-cum-fertilizer drill will be as under:-

Nature of test	Test to be conducted	Testing charges
Variant testing	Physical inspection + lab tests	20% of that of ICT Rs. 43500/-*
	Physical inspection + Field test	20% of that of ICT Rs. 43500/-*
	Physical inspection + Lab tests + Field test	30% of that of ICT Rs. 65251/-*

*As amended/revised time to time.

4. Validity of Test report

The validity of Variant test report will be the same as the validity of ICT report of tested base model.

5. Conformity Checks for Variants

- Verification of Specifications for features of variant as per Table 1.

Table 1 Determination of Variants for Seed cum Fertilizer Drill

Sr. No.	Features of Variant	Tests/Inspection Required
1	Change in number of furrow openers or spacing between them with or without change in working width	Dimensional verification & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
2	Change in furrow opener type (Shovel – single point, reversible /hoe- type/ spear point / shoe / sweep / Disc type (flat / concave etc.)	Dimensional verification, Chemical analysis, Hardness & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
3	Change in type of seed metering mechanism (Fluted roller / Cup feed / Cell feed etc.)	Dimensional verification, Laboratory calibration & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).

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4	Change in type of fertilizer metering mechanism (spur wheel/ auger type / agitator type etc.)	Dimensional verification, Laboratory calibration & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
5	Change in type of covering device used (Flat board / Press wheel etc.)	Dimensional verification & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
6	Change in type of power transmission used (Gear / Chain and sprocket)	Dimensional verification, Laboratory calibration & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
7	Change in seed/fertilizer hopper design (hopper capacity should not change more than ± 20%)	Dimensional verification, Laboratory calibration & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
8	Change in axle/feed shaft diameter (±10%)	Laboratory calibration & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
9	Change in depth control wheel design	Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
10	Change in material of metering mechanism (Seed/Fertilizer)/ depth control wheel/ ground wheel/ boot /seed agitator/ fertilizer agitator/ row marker	Mandatory dimensional verification & Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
11	Change in total weight (±20% of base, no design change)	Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).
12	Change in hitching arrangement [as per IS 17231: 2019 (ISO730: 2009) (Reaffirmed 2023)]	Mandatory dimensional verification & Field test is to be conducted in sowing operation for 1 hour.

Note: If any parameter/change falls outside the features listed on above Table 1, it shall be treated as a New Model and subjected to complete testing as per initial commercial test (ICT).

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Draft Guidelines for Administrative Extension and Technical Extension of Seed cum Fertilizer Drill

Administrative Extension

1.1 Definition

An Administrative Extension may be granted when changes made to seed cum fertilizer drill are of non-technical nature and do not influence the functional performance of the machine.

1.2 Typical Modifications

Changes on the seed cum fertilizer drill such as colour, decals, design of sheet metal parts, location of control levers, Change in type and dimensions of conveying tube used, non-functional design features, make or model denominations for marketing purposes etc subject to the machine performance is not affected.

1.3 Conditions

The laboratory and field performance of seed cum fertilizer drill is not affected. Therefore, the testing station which carried out the Initial Commercial Test can issue an 'Administrative Extension Report'. The administrative extension report shall contain a reference to the original test report (ICT).

1.4 Test fees

Test fees for Administrative Extension will be 10% (i.e. Rs.21750/-*) of that of ICT of seed cum fertilizer drill.
* as amended/revised time to time.

1.5 Validity of Test report

The validity of test report of Administrative Extension will be the same as the validity of ICT report of base model.

Note: Any changes/ modifications, the manufacturer wishes to make to the model will become permanent modification to the base model. After release of the Administrative extension report, the manufacturer is required to implement these changes in their production line. These modifications are considered permanent updates to the base model.

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Technical Extension

Sr. No.	Features of Technical Extension	Tests/Inspection Required
1	Change in material of furrow opener (Boron, High carbon steel etc.)	Chemical composition and hardness test as per relevant IS code. If material conforms to relevant IS code, then no field test required otherwise Field test is to be conducted in sowing operation for 2 hours (2 trails of 1 hour each).

2. Test fees

Test to be conducted	Testing charges
Physical inspection + lab tests	20% of that of ICT Rs. 43500/-*
Physical inspection + Lab tests + Field test	30% of that of ICT Rs. 65251/-*

* As amended/revised time to time.

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