

Seed definitions



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1. Pure seed : The true seeds of the variety based on seed shape, size, coloration, usually the majority of seeds. Other rice seeds appearing as off-types should be placed under rice varietal mixture.

2. Best seeds :The pure seeds that are bold or fully filled having no or low amount of discoloration (<0.5% discoloured seed surface). Half-filled and empty will fall under partially filled or unfilled.

3. Spotted: There are two types of discoloration on rice seeds,

a. Spotting caused by certain diseases (brown spot) or insects (rice bug feeding damage) and,

b. Discoloration on a portion or portions of rice seeds caused by *Curvularia* (black kernel) or sometimes by *Alternaria padwickii* (stackburn disease) or by sheath rot on certain occasions. Other rice diseases do not produce consistent discoloration.

4. Discoloured

We consider any seed having more than 0.5% discoloured or spotted seed surface as discoloured. Discoloration can occur on fully or partially filled or empty grains.

5. Partially filled

Seeds that are not fully filled due to immaturity at harvest or due to infection of seeds by certain diseases or insect damage

6. Deformed seeds

Seeds with non-normal shape due to mechanical pressure during grain formation or due to seed infection (sheath rot) or infestation white tip or stem nematode.

7. Germinated seeds

Could be genetic in nature when there is no dormancy (vivipary) or when panicles come in contact with paddy water before harvest.

8. Smutted seeds (seed diseases)

Generally are due to infection like false smut (*Ustilaginoidea virens*) or kernel smut (*Tilletia barclayana*) [organ specific diseases].

9. Unfilled seeds

Glumes without endosperms could be due to several factors for failure of some spikelets to fertilize and form endosperm, abortion of ovary due to early infectin (ex. brown spot, sheath rot, white tip nematode, black kernel, bakanae, etc.)

10. Other species: Seeds other than *Oryza sativa*

10.a. Rice varietal mixtures: Mainly discriminated from true seed of the variety by difference in seed size, shape, seed colouration, pubescence of lemma and palea, and seed coat colour. Usually minor in numbers.

11. Weed seeds: One of the seeds of the other species; vary in size from big (*Rottboella* & *Ischaemum*) to small (*Scirpus juncoides*) are reported as number of seeds in the working sample.

12. Other plant: Usually are present in improperly processed seedlot having pieces of broken leaves, stem or panicle branches

13. Inert matter: Refers to soil, sand, etc. attached or with the seeds

14. Insect damage:Seed infested by storage insects could be reported by counting the number of insect damage seeds



Assam Agribusiness and Rural Transformation Project (APART)

The World Bank is the funding agency of APART
Department of Agriculture, Assam is the nodal department for implementation of APART
ARIAS Society is the State Level coordinating and monitoring agency for APART
Assam Agricultural University is the leading Agricultural University of the State and implementing agency of APART, imparting research and scientific support.
International Rice Research Institute (IRRI) is the rice global leader providing technical and hand-holding support in the implementation of APART