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Performance test of sortation machine/sorghum seed grading support program for food security in city of Lamongan

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The sorghum varieties averages 2-4 mm in size and contains the outer skin/husk of about 30 percent. In the process of milling the skin/husk of sorghum seeds, they are exfoliated against this husk, so that the process of peeling husk can be done evenly which is necessary for grading process/sorting of sorghum seeds and so the sorghum seeds obtain uniform size and polishing can be evenly distributed. Addition is to remove the pericarp layer of sorghum and the layer of testa containing tannins from the endosperm, the layer can reduce the digestibility of protein in the stomach and cause constipation. Indonesian Center for Agricultural Engineering Research and Development (ICAERD) has developed a pneumatic type of sorghum grading machine with a working capacity of 200 kg/hour. The purpose of this activity is to test the prototype performance of grading machine/grain of sorghum seeds with main target: sorting of sorghum seed with uniform seed size and produce clean sorghum seeds. The performance test of grading machine of Sorghum seed is done by method and activity stage which is divided into: preparation stage, manufacturing and modification stage, functional testing stage and performance test, and reporting stage. Sieving machine using 1 HP electric motor drive power and sieve machine dimensions is 1700 mm x 740 mm x 1240 mm. The capacity of grading machine/grading reaches 200 kg/hour and the efficiency of sorting/grading of sorghum seed uniform is 86.25%. The efficiency of grading size 4 mm is 90%.

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