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Functional test of sortation machine / sorghum seed grading pneumatic type

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The sorghum variety of varieties averages 2-4 mm in size and contains the outer skin / husk about 30 percent. In the process of milling the skin / husk of sorghum seeds then exfoliated against this husk. So that the process of peel husk can be done evenly so it is necessary grading process / sorting of sorghum seeds so that the seeds obtained sorghum uniform 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: (i) Sorting of sorghum seed with uniform seed size; (Ii) 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 6,5 HP diesel engine drive power and sieve machine dimensions is 1610 x 1280 x 1820 mm. The capacity of grading machine / grading reaches 400 kg / hour and the efficiency of sorting / grading of sorghum seed uniform is 86, 25%. The efficiency of grading size 4 mm is 90 %.

Biography

Ana Nurhasanah has her expertise in design and testing of sorghum machinery. Her open and contextual evaluation based on responsive design, fabrications creates new pathways for improving sorghum machinery. She has built this model after years of experience in research, evaluation, design, testing and administration both in farmer and Agricultural Institution District. The foundation is based on ICEARD evaluation (ICEARD, 2017) which is a methodology that utilizes the previous design, testing: measurement, description and technical analysis. It allows for value-farmer. This approach is responsive to all stakeholders and sorghum farmer.

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