

Design Of An Automated Millet Milling Machine

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Abstract

This paper is of design of an automated millet milling machine that targets the small-scale manufacturing. The demand of millet is high in the lowveld region in Zimbabwe and other arid to sub-arid regions in Asia. About 8 million tonnes of millet is produced in India per annum, accumulating to 40% of pearl millet's global production. The existing problem is that millet's demand is increasing due to health and food security reasons yet milling passes through many laborious stages and millet milling machines are relatively expensive to small scale manufacturers in developing countries. Data was collected from published scholarly documents, internet, experts in the field and local companies in the food processing industry. Extreme wearing of the rods with the hammers, development of cracks in neighbourhood of the holes contacting the rods to the hammers, with the likelihood of breakaway fracture and catastrophic results. Also, rolling contact bearings give difficult problems of balance uneven mass distribution and resonance. Numerous analysis of existing machine, use of local cheaper materials and combined mechanisms it was possible to produce a low cost and efficient product. The hammers hit the grains and shatter them before they can pass through the 0.5 mm hole screen surrounding the hammers. Hammer mill size reduction uses impact as the grain hits the projecting hammers, the screen material, and the mill cast iron casing. If this design is implemented, there will be

