Design and development of a low cost grain flour blending equipment

BDMPB Dissanayake*[1], HS Jayawardena[1], and BMKS Thilakarathne[1]., *Design and development of a low cost grain flour blending equipment, Proceedings of the international Research Symposium on Postharvest Technology(June 2014), Institute of Post Harvest Technology,pp.141-145.*

1. ***Institute of Post Harvest Technology, Jayanthi Mawatha, Anuradhapura, Sri Lanka.***

One of the major solutions to reduce the consumption of wheat flour in the country is to introduce flour mixtures blended with rice flour and other locally produced grains flour to the market and flour based food processors, since it has a great demand even now. Blending equipments are essential to produce flour mixture with uniformly distributed particles. Flour blending machines are available in the international market, but they are very expensive and those are not in an affordable price to purchase for even medium scale flour producers. Therefore, a low cost grains flour blender was designed and developed to introduce for flour producers. Developed grain flour blender was tested by blending rice flour with wheat flour to the ratio of 3:7 which is generally used for preparing bread. It was found that the minimum blending time required for giving a uniform mixture was 3 minutes when the equipment was operated at 51 rpm. Capacity of the blender was 50 kg per batch and it was operated by a 3 Hp electric motor. When compared the developed flour blender with the available blending machines in the international market with same capacity, developed flour blender reduced the blending time and the initial cost of the machine by 5 times while the flour blending cost reduced by 25%.