

The Construction Technology of Dryer Silo Materials to Grains Made from Webbing Bamboo: A Drying Technology Solutions to Empowerment Farmers in Yogyakarta, Indonesia

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Abstract : Indonesia is an agrarian country have almost population work as farmers. One of the popular agriculture commodity in Indonesia is paddy and corn. Production of paddy and corn are increased, but not balanced to the development of appropriate technology to farmers. Methods of drying applied with farmers still using sunshine. Drying by this method has some drawbacks, such as differences moisture content of corn grains, time used to dry around 3 days, and less quality of the products obtained. Beside it, the method of drying by using sunshine can't do when the rainy season arrives. On this season the product obtained has less quality. One solution to the above problems is to create a dryer with simple technology. That technology is made silo dryer from webbing bamboo and wood. This technology is applicable to be applied to farmers' groups as well as the creation technology is quite cheap. The experiment material used in this research will be obtained from the corn grains. The equipment used are woven bamboo with a height of 3 meters and have capacity of up to 900 kgs as a silo, gas, burner, blower, bucket elevators, thermocouple, Arduino microcontroller 2560. This tools automatically records all the data of temperature and relative humidity. During on drying, each 30 minutes take 9 sample for measuring moisture content with moisture meter. By using this technology, farmers can save time, energy, and cost to the drying their agriculture product. In addition, by using this technology have good quality moisture content of grains and have a longer shelf life because the temperature when the heating process is controlled. Therefore, this technology is applicable to be applied to the public because the materials used to make the dryer easier to find, cheaper, and manufacture of the dryer made simple with good quality.

Keywords : grains, dryer, moisture content, appropriate technology

Conference Title : ICFAE 2017 : International Conference on Food and Agricultural Engineering

Conference Location : Amsterdam, Netherlands

Conference Dates : February 07-08, 2017