

Garden Waste Shredder

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ABSTRACT

Title: Garden Waste Shredder

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The DLSU-D garden wastes have been one of the major problems of the university. Once these wastes are collected, piles and piles of organic squanders are being produced thus resulting to a larger space for its storage as it is being decomposed naturally. However, the decomposition process takes a minimum period of 4-5weeks before it could be use as organic fertilizers. This is naturally the decomposition process and that researches were conducted to hasten this. Based on the facts and data collected, it has been proven that the decomposition will be hastened if the size or area of the materials being decomposed is smaller.

Due to this, the researchers aimed to provide a machine that could fasten the decomposition process by means of reducing the sizes of the wastes. The researchers designed a shredding machine that can reduce the size of a material to a ratio 6:1 size reduction. The concept of the design and operation is that the garden wastes will be fed through the machine's hopper and the blades inside the shredder's chamber will cut these wastes into small particles until it is small enough for it to fit into the holes of the sifter located at the bottom part of the shredder chamber. The sifter will ensure that the sizes of the shredded materials are small enough to comply with the required size which is very good for composting.

By doing this, the decomposition process which takes about one and a half month will then be reduce to a minimum time of 1 - 2weeks only Thus ensuring a faster means of dispatching the wastes and converting it into a useful element for composting. Now, a lesser area of space for the piles of garden wastes was reduced and that the supply of organic fertilizers will be more abundant due to the expected higher supply of the natural compost materials.

Moreover, different testing measurements were conducted to determine the effectiveness of the developed project. From here the researchers learned the capabilities and limitations of this garden waste shredder.

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Shaft center to center distance

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