

Recycling of Domestic Plastic Waste into Hippoplast as an Alternative Media Plant

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Abstract: The use of plastic and goods made of plastic have been rising from day to day. Increasing use of plastics is a consequence of the development of technology, industry, and population. On one hand, the invention of plastic has a remarkable positive impact, because it has many advantages compared to other materials. But on the other hand, the plastic waste has a negative impact that too worried, so its solutions need to be looked for. One of the alternative handlings of plastic waste is to make hippoplast. Hippoplast is planting media from plastic that formed to be like balls. The shape is like a ball because it will trap the water that enters inside it.

Keywords: Plant, plastic, recycling, hippoplast

1. Introduction

The Increase in activity of the human being is likely to give further led to a rise in the solid waste. Factor that affects the volume of solid waste except for activity of human being is the amount of population density of, a system of solid management and those bylaws, the state of geography, the season and the time, the habit of the inhabitants of, technology and the level of economic and social [1].

The number of usage of plastic in Indonesia is very high .The increased use of plastic this is a consequence of the development of industrial technology, and also the number of the population. In Indonesia, the need for constantly increasing plastics to increase an average of 200 tonnes per year [2]. The estimated amount of plastic waste from year to year in Indonesia can be seen in the following table:

Table I: Estimated amount of plastic waste from 1997 until 2002

Component	Unit	Year					
		1997	1998	1999	2000	2001	2002
Organic	%	74,6	75,38	75,18	74,99	74,60	74,22
Paper	%	10,18	10,50	10,71	10,93	11,15	11,37
Wood	%	0,98	0,39	0,20	0,02	0,02	0,02
Textile	%	1,57	1,20	1,13	1,06	1,00	0,93
Rubber	%	0,55	0,41	0,39	0,37	0,35	0,33
Plastic	%	7,86	8,11	8,30	8,50	8,69	8,88
Metal	%	2,04	1,89	1,89	1,90	1,90	1,90
Glass	%	1,75	1,93	1,99	2,05	2,10	2,16
Batterv	%	0,29	0,01	0,01	0,01	0,01	0,01
Others	%	0,18	0,18	0,18	0,18	0,18	0,18

Source : Sahwan, 2005

Plastic waste will impact negatively on the environment because it can not break down quickly and can reduce soil fertility. Plastic waste that is disposed of carelessly can also clog up drainage channels, gullies and

river so that it could lead to flooding. Plastic waste that burned pulled out of substances that are harmful to human health.

The increasing plastic waste is going to be a serious problem. Plastic waste management that was popular during this time was with the 3R (Reduce, Reuse, Recycle). Reuse was repeatedly wearing items made of plastic. Reduce is reducing the purchase or use of goods of plastics, especially items that are disposable. Recycle is to recycle goods that are made of plastic.

Each waste management mentioned above has weaknesses. The weakness of reuse are products of particular goods made of plastic, like a pouch plastic, if used repeatedly will not be good. Some kind of plastic is bad for the health body by worn repeatedly. The weakness of reduce is to be the availability of goods a substitute for plastic cheaper and more practical. While weakness of recycling is that plastic already recycled could decrease its quality.

An alternative waste management of plastic currently developed was converting plastic waste into Hippoplast. This way is included in recycling. With this, the danger of garbage piled plastic. Recycling is process that manages something that does not have economic values with more process through the physical process and chemical or both of them to be utilized or product that can be traded again [3]. One of the examples is to make Hippoplast. Hippoplast is media cropping made of plastic formed like a ball. This way is very effective to reduce plastic waste especially plastic food and will not produce residue after used to hippoplast, unlike of making bags, wallets of plastic, after worn and broken plastic some people will be discarded

2. Procedure

2.1. Plastic Waste Collection in Plastic Wrap

Plastic waste packaging material that used to make hippoplast collected in one bucket.

2.2. Food and Plastic Waste Washing Place upon Which to Spread

Washing with soap laundering because plastic waste are still dirty into strips and sun-dried more or less three hours.

2.3. The Making of

Plastic wrap ripped into a shape resembling a circle with a diameter of 10 inches. Formed round and made as much as possible meet pot to use. Balls plastic soaked in a basin up before putting into a pot. Then watered mixture of water wells and fertilizer liquid. Then planted plants that there are still roots.

3. Results and Discussion

The making of hippoplast consisting of two species of plants, flowering plants and plants named keningkir . From the first day of the making of hippoplast until the day off to the 14th plant is still alive. It was because of the root of percolating water wells pretty much the same as owning land. The cue ball who soaked with a mixture of water and liquid fertilizer containing water in the orb .The root of a plant will look for alone it nutrition who are in the plastic the cue ball.



Fig 1: Keningkir Plant with the Hippoplast Media

Plants usually readily grows on the ground in any condition, for example rarely watered can also grow usually easier grow this planting in the media . On the other hand of plants that need to care if growing in the soil go to needing care also if growing in the media cropping hippoplast. Of flowering plants are more in need of special care because its flowers can not grow as carelessly. Planting hippoplast media this the most suitable for plant that readily grows in water, because aquatic plants do not need nutrients from the soil who do not too much. In addition to use plastic garbage with effective because does not create waste more, too beautify the form of a pot that is in my own yard.



Fig 2: Flower with the Hippoplast Media

4. Conclusion

Hippoplast is very effective to reduce plastic waste especially plastic food and will not produce residue. Types of a plant that can grow used hippoplast media is wild plant like keningkir or plant that can live from the water. Flower with special care cannot grow because of lack of nutrients in hippoplast.

5. References

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