

Utilization of Biodegradable Fabric Waste Compost as Fertilizer for Shallots (*Allium cepa* L. var. *Aggregatum*)

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Abstract: *The fast fashion industry is a fashion model that alternates over a short period. One of the efforts to overcome the problem of reducing fast fashion waste is to apply the circular economy concept. Composting from fabric waste is biodegradable, making this a revolutionary solution for the circular economy. So, it can handle water pollution to a minimum value, fabric waste treatment must be separated from the biodegradable materials. Standard SNI 19-7030-2004 compost with specifications, among others, from domestic organic waste that can be used as fertilizer. This study applies compost from biodegradable cotton fibre waste as a result of curing its accompanying material for 30 days. Vegetable and fruit waste materials, husk charcoal, yard soil and EM4 bio activator were used to accelerate the composting process. The results of biodegradable fabric compost are used as fertilizer for shallots (*Allium cepa* L. var. *Aggregatum*) of the green stone variety. Soil pH conditions were observed for 30 days based on the P0, P1 and P2 treatments and the average real results were 5.5 – 6, 8. Onion cultivation using biodegradable fabric compost was proven to have positive effects. Tested based on plant physiology, namely the content of chlorophyll a and b leaves at DAT, which is 30 days. The value of plant leaf chlorophyll is control $C_a=0.031$ (mg/g), $C_b=0.007$ (mg/g). Shallots from the treatment of compost weight of 200gram and 300 grams, the values of chlorophyll a ($C_a=0.0018$ mg/g) and C_b were significantly different around 0.007mg/g. Chlorophyll a was tested because of the interaction of fabric compost from the treatment of 200 grams and 300 grams, there was no significant difference. The plant stem height between treatments of 300gram (P₂) cloth compost, the highest value was 29.83 cm.*

Keywords: Circular economy, biodegradable fabric compost, Shallot(*Allium cepa* L. var. *Aggregatum*), pH.

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