

**ASSESSING GROWTH RESPONSES OF WATERMELON (*CITRULLUS LANATUS*)
AGAINST BIOFERTILIZER ENRICHED WITH AZOLLA AS NITROGEN
ENHANCER**

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Abstract

Compost means Relatively stable decomposed / processed product resulting from decomposition with similar characteristics as humus, made from biodegradable constituents, which contain considerable amounts of plant nutrients. Composting is a bio degradation process brought by micro – organism and/or other biological agents. (According to SLS Standard definition)

The main problem with composting which made from the municipal solid waste is nitrogen depletion. although SLS quality certificate, any manure must contain at least 2% nitrogen to be composted. The amount of nitrogen in the compost produced in Kerawalapitiya waste management park is significantly lower and it contain only 1% N. actually, at that situation it's called soil amendments.

As a solution of that, throughout this research proposed to add dry Azolla as nitrogen enhancement. By adding azolla increased the nitrogen content 5% or more and find out how it effects for the fruit's crops. (Used watermelon as fruits crops). Here actually added this N enriched new compost for fulfil N amount of water melon as an agriculture recommendation and find out whether any changes or not in morphological characteristics, yield response and fruit quality and quantity too.

Rather than adding chemicals or urea as a N fixing azolla is actually azolla is an organic and ecofriendly, non-hazard, low-cost N fixing crops.

According to the experimental result rather than adding organic or chemical fertilizer along best suit is adding these two as a combination. In this research showed that 50% chemical fertilizer and 50% new prepared Azolla mixed fertilizer showed best morphological characteristics and yield and quality parameters in watermelon after 02-month planting.

Here after dried Azolla showed that 5% N content and by adding theses 5% N increase the N content of municipal solid waste compost.

As a morphological characteristic the treatment which used chemical fertilizer only (T4) showed best result and as a quality of the fruit T6 that means 50% chemical fertilizer and 50% newly N enriched formulated compost showed best result.

And also, research finding it showed that the treatment which used only compost is showed slow growth rate comparing others.

As finally conclude that rather than using chemical or compost only by used it as a combination it showed best results.

Table of content

Contents

Acknowledgement	1
Abstract	2
Keywords	4
Abbreviations	5
Chapter 01	10
Introduction	10
1.1 Kerawalapitiya Waste Management Park (KWMP)	10
1.2 Azolla	11
1.3 Water Melon (<i>Citrullus lanatus</i>)	12
1.4 Problem Statement	13
1.5 Objectives	13
Chapter 02	14
Literature review	14
2.1 Municipal Solid Waste	14
2.2 Municipal solid waste compost	14
2.3 SLS Standard for Compost	14
2.4 Azolla	15
2.5 Azolla Biofertilizer	15
2.6 Water Melon (<i>Citrullus lanatus</i>)	16
Chapter 03	17
Methodology	17
3.1 Study Area	17
3.2 Sample Preparation and Testing	17
3.3 Fertilizer Making	19
3.4 Pot Trial	20
3.5 Data collection	28
3.6 Analyzed	40
Chapter 04	41
Result And Discussion	41
4.1 Nutrient Analyzed	41

4.2 Vine Length (Start point to first node).....	41
4.6 Leaf Nutrient Content (checked only replicate 01).....	43
4.7 Flowering Time – After 01 Month Planting.	44
4.8 Vine Fresh Weight	44
4.9 Root Fresh Weight	45
4.10 Fruit weight	46
Treatments.....	46
Total yield (g).....	46
4.11 Fruit circumference	46
4.12 Fruit width	47
4.13 Fruit length	47
4.14 Edible matter content	48
4.15 Juice contents	49
4.16 Brix value.....	49
4.17 PH value.....	50
Chapter 05	51
Conclusion	51
Suggestion and recommendation.....	52
Reference	53

List Of Tables.

Table 1 : agriculture department recommendation for water melon.....	22
Table 2 : treatments description.....	22
Table 3 : experimental design.....	25
Table 4 : collected data	28
Table 5 : Nutrient analyzed of compost and Azolla.....	41
Table 6 : Growth rate of Vine length in water melon (Citrullus lanatus)	41
Table 7 : chlorophyll content of water melon (Citrullus lanatus) leaves	42
Table 8 : leaf macro nutrient content of water melon (Citrullus lanatus)	43
Table 9 : leaf micro nutrient content of water melon (Citrullus lanatus).....	43
Table 10 : flowering amount of water melon (Citrullus lanatus).....	44
Table 11 : water melon (Citrullus lanatus) vine's fresh weight	45
Table 12 : root fresh weight of water melon (Citrullus lanatus).....	45
Table 13 : fruit weight of water melon (Citrullus lanatus).....	46
Table 14 : fruit circumstances of water melon (Citrullus lanatus).....	46
Table 15 : width of water melon (Citrullus lanatus)	47
Table 16 : root fresh weight of water melon (Citrullus lanatus).....	47
Table 17 : edible matter content of water melon (Citrullus lanatus).....	48
Table 18 : juice content of water melon (Citrullus lanatus).....	49
Table 19 : brix valuve of water melon (Citrullus lanatus)	49
Table 20 : PH of water melon (Citrullus lanatus).....	50

List Of Figures.

Figure 1 : Kerawalapitiya Waste Management Park.....	10
Figure 2 : Azolla Pinnata	12
Figure 3 : fruit crop research and development center.....	17
Figure 4 : new fertilizer making procedure.....	20
Figure 5 : Fill the pots with top soil.....	20
Figure 6 : Tillage the pots before adding compost – used hand fork	20
Figure 7 : Fertilizer Measuring	21
Figure 8 : Applied chemical fertilizer as basal.....	21
Figure 9 : compost and chemical fertilizer ready to added plant.	24
Figure 10 : seed packet	24
Figure 11 : seeding the watermelon seeds.	25
Figure 12 : water melon field.....	26
Figure 13 : applied chemical fertilizer	27
Figure 14 : applied compost.....	27
Figure 15 : measuring vine length.....	29
Figure 16 : measuring chlorophyll content using SPAD meter.	29
Figure 17 : picked the 6 th leaf in vine.....	30
Figure 18 : label the leaves according to the treatment and replicate.	30
Figure 19 : dried leaves were put the labelled mania paper and kept it in to oven.	31
Figure 20 : labelled vines.....	31
Figure 21 : measure the vine weight	32
Figure 22 : measure total leaves weigh per vine	32
Figure 23 : separate root from the vine.....	33
Figure 24 : washed the root and dried it.....	33
Figure 25 : weighing the root by electrical balance	34
Figure 26 : measuring total yield and pod weight.....	35
Figure 27 : measured the fruit circumference	35
Figure 28 : measuring the fruit width and length.....	36
Figure 29 : cut the outer layer	36
Figure 30 : measure the weight.....	37
Figure 31 : measuring juice content.....	38
Figure 32 : handheld refractometer	39
Figure 33 : measuring brix value	39
Figure 34 : measuring the PH	40