

period of nitrogen demand. This explains why plants with the T2 treatment outperformed others.

At 12 WAP T2 and T3 produced the highest fresh weight (1.87 t/ha). While T0 and T1 were significantly lower. The increase in fresh weight in the T3 plants appeared to be an immediate response to the second split dose of PM which was applied at 6WAP. On the other hand, T2 maintained consistency in high yield from 6 WAP showing that the application of manure in small doses of 2.5 t/ha was timely and may allow a more efficient uptake and utilization of nutrients for foliage yield. Fresh weight produced from waterleaf in this study was between 0.8-6.8 t/ha. This was higher

than weight from similar work which reported a fresh weight range of 0.04-1.35 t/ha [13] but was well below the amounts reported in, [26] and [14]. In [14] the authors reported weights of 10-11 t/ha. The low fresh weight in this study compared to [14] may suggest that PM applied was not fully taken up or utilized by the plants. In [26] the authors looked at the effect of organomineral fertilizers on waterleaf fresh weight and reported amounts between 20-24 t/ha. The large increase in weight here suggests an advantage with the use of organomineral fertilisers on waterleaf production. Although the cost of this fertilizer compared to PM may be higher, it calls for additional exploration in future work.

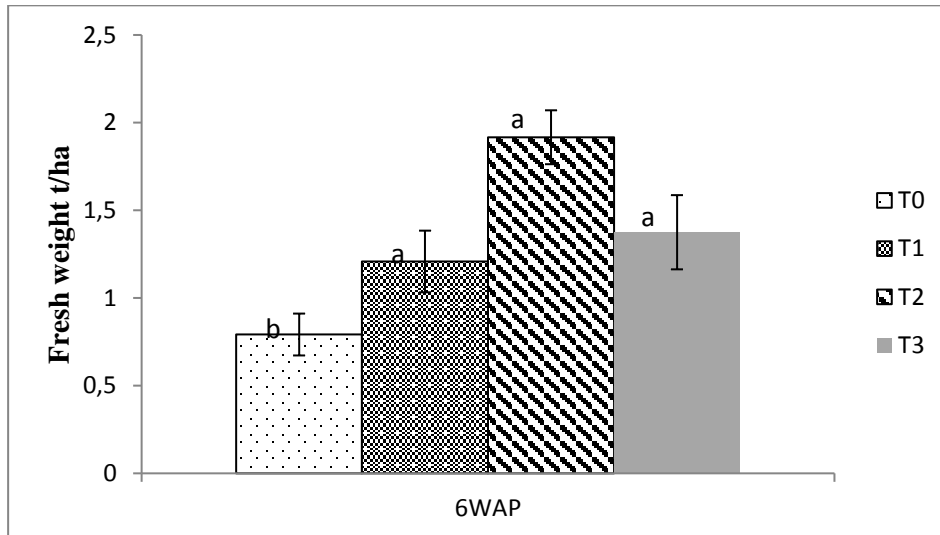


Figure 3.2 Effects of different split regimes of poultry manure on the fresh weight of waterleaf at 6 WAP. Means with the same letter are not significantly different

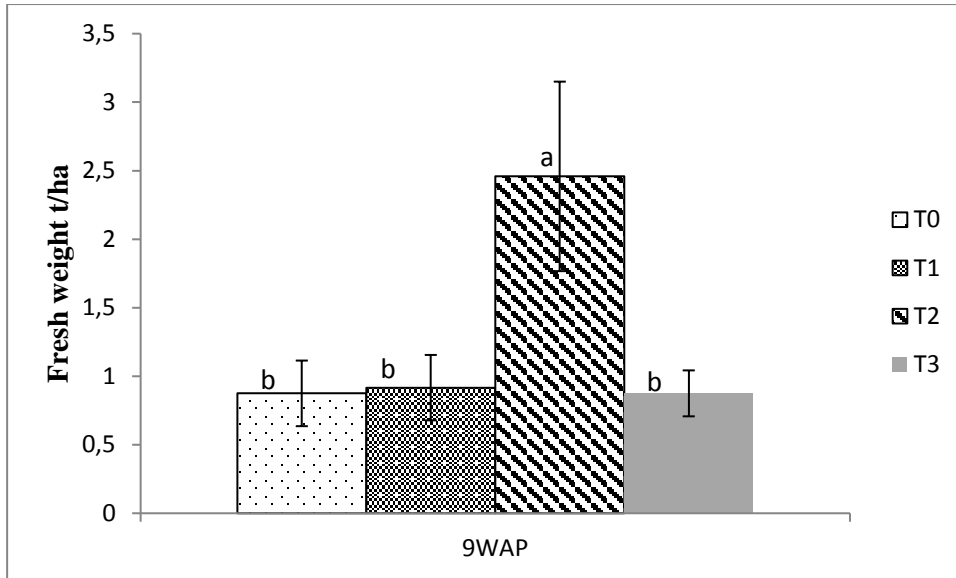


Figure 3.3 Effects of different split regimes of poultry manure on the fresh weight of waterleaf at 9 WAP. Means with the same letter are not significantly different

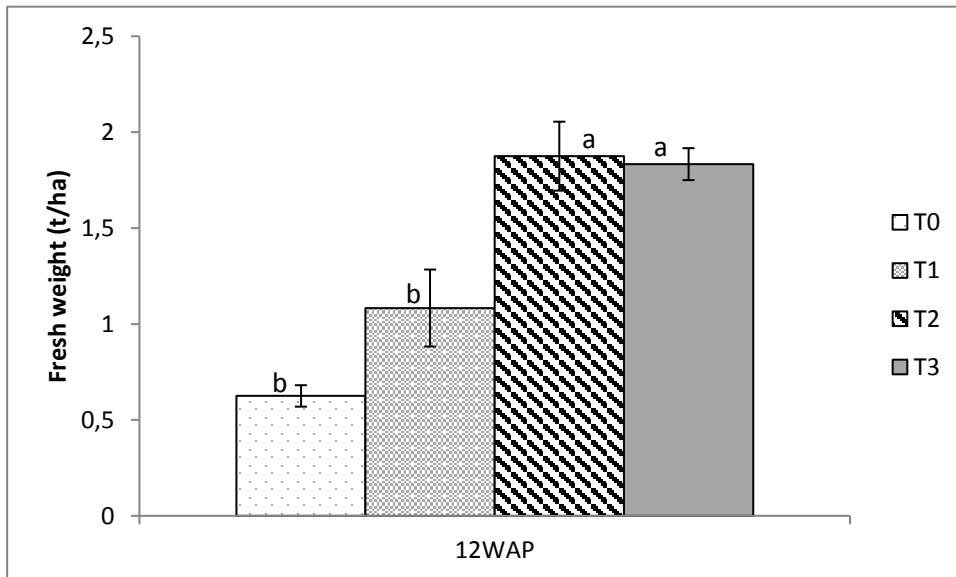


Figure 3.4 Effects of different split regimes of poultry manure on the fresh weight of waterleaf at 12 WAP. Means with the same letter are not significantly different

4. Conclusion

This study investigated the effects of different split regimes of PM on the growth and vegetative yield of water leaf. Although fresh weight in the control was significantly lower at most harvesting times, the randomly selected plants measured did not show a deficit in leaf/branch numbers or plant height throughout this experiment. Manure application at the 4 splits doses of 2.5 t/ha (applied at 3 weeks interval) was consistent in high yield compared to other treatments. This was followed by the 2 split doses of 5 t/ha (applied at 6-week interval). This work has shown that manure in 4 split doses of 2.5 t/ha will increase vegetative yield. Despite this, it is worthy of note that under practical conditions, this number of split

applications may demand additional labour during the growing season. Therefore, to increase yield, growers should aim to apply manure at 4 split doses of 2.5 t/ha (3 weeks interval). When this is not realizable due to labour cost, growers can apply manure at 2 split doses of 5 t/ha. Waterleaf is an important vegetable crop for people in Nigeria and tropical Africa. This study has contributed to the knowledge on the precise timing of PM split application, which would increase vegetative yield as well as maximize labour and manure use during production.

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