



# Growth and productivity of clover in response to the preceding crops and organic treatments in the highlands of Awi Zone of Ethiopia

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## Introduction

- Low soil organic carbon and fertility status remain unresolved dominating challenges to Sub-Saharan Africa for decades.
- This resulted in chronic food and feed insecurity in the region including Ethiopia.
- Using different sources of organic treatment unquestionably essential to restore the decline trend of the soil in agro ecosystem.

## Objective

To evaluate the effects organic treatments on growth parameter and biomass yield of clover under Sub-Saharan climatic and soil conditions

## Methodology

- Four different levels of organic treatments (control; 5 t ha<sup>-1</sup> farmyard manure (FYM); 2.5 t ha<sup>-1</sup> fresh Sesbania manure (FSB); and 5 t ha<sup>-1</sup> FYM combined with 2.5 t ha<sup>-1</sup> FSB) were done under station and on farm conditions in field laid out of randomized complete block design (RCBD) with four replications.
- Data of plant height, number of tillers plant<sup>-1</sup> and shoot dry biomass ha<sup>-1</sup> were taken and subjected to analysis of variance (ANOVA) using general linear model (GLM).

## Result

- The results showed that the effect of applications of organic treatments has a significant effect on the growth and performance of clover in both locations and combined over locations.
- The highest total dry biomass of clover (5.6 t ha<sup>-1</sup>) was recorded at FYM at 5 t ha<sup>-1</sup> combined with FSB at 2.5 t ha<sup>-1</sup>.
- The unfertilized control gave the lowest mean dry biomass (3.06 t ha<sup>-1</sup>) of clover compared to all other treatments

## Conclusion & Recommendations

- The biomass yield of clover increased substantially in response to organic treatment.
- The greatest part of biomass harvested on treatment FYM at 5 t ha<sup>-1</sup> combined with FSB at 2.5 t ha<sup>-1</sup>.
- Hence, FYM at 5 t ha<sup>-1</sup> combined with FSB at 2.5 t ha<sup>-1</sup> could be recommended for better dry biomass yield of clover under sub-saran climatic and soil conditions.
- In general, the finding bridges the gap of chronic livestock feed and farm manure shortage of the region.



Figure 1 . The performance of clover at 7.5 t ha<sup>-1</sup> manure



Figure 2 . Prof Bernhard demonstrate improved soil to farmers

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