



Conservation tillage: A beneficial tillage system for soil and yield of maize (*Zea mays L.*)

INTRODUCTION

- One of the primary challenges of our time is to feed a growing and more demanding world populations with reduced external inputs and minimal environmental impact, all under more variable and extreme climatic conditions in the future.
- Conservation tillage is any method of soil cultivation that leaves the previous year's crop residue (such as a maize stalks or wheat stubble; A) on fields before and after planting the next crop, to reduce soil erosion and run-off.

OBJECTIVES

- To investigate the effects of different tillage systems on soil moisture.
- To investigate the effects of different tillage systems on maize grain yield.



MATERIALS AND METHODS

- Locality** → Taung experimental farm of North West Department of Agriculture and Rural Development.
- Year:** → 2020/21 cropping season.
- Plot sizes:** → A plot consist of 4 rows (100 m) with 25/75 cm inter and intra-row spacing.
- Details** → Land characterized by sandy loam soil.
→ Average annual rainfall: 450 mm.
→ Hot summer days (35°C).
- Before treatments** → Soil samples were taken.

PRELIMINARY OBSERVATIONS

Yield for the preliminary trial was not collected and stover was left for trial treatments for the 2021/22 cropping season (A and B). However moisture stress was observed during peak temperatures and further observations with data analysis will be made in the next cropping season.

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