

PRACTICE ABSTRACT n° 9

Synthetic Biodegradable Mulch Performance over Plastic and Rice husks Mulches in Beans Production

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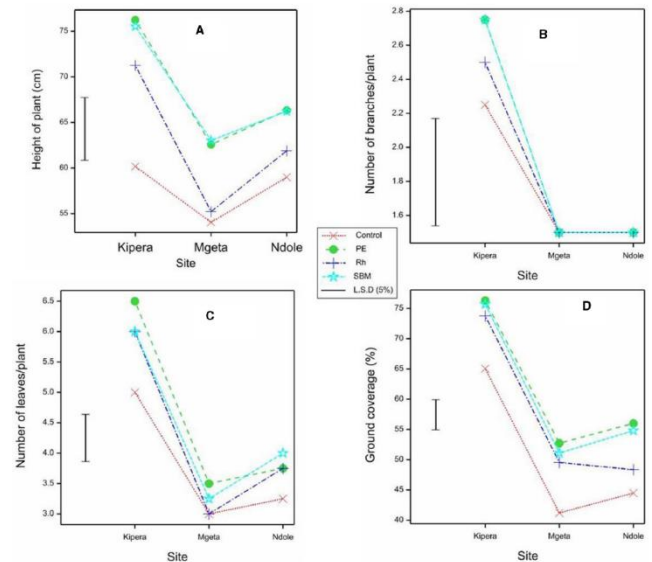
Any spacing and cropping arrangement should aim at providing better plant growth and maximum plant population per hectare. In the end, plant population determines the desired amount of yields. Appropriate spacing between rows and spacing between plants increases efficient use of light leading to faster canopy establishment, which reduces soil moisture evaporation and weed growth. Proper cropping arrangement allows intercropping practice- the simultaneous cultivation of two or more crops in the same field. The most common goal of intercropping is to produce high yields on a given piece of land by using the same resources or ecological processes that would have been utilized by a single crop.



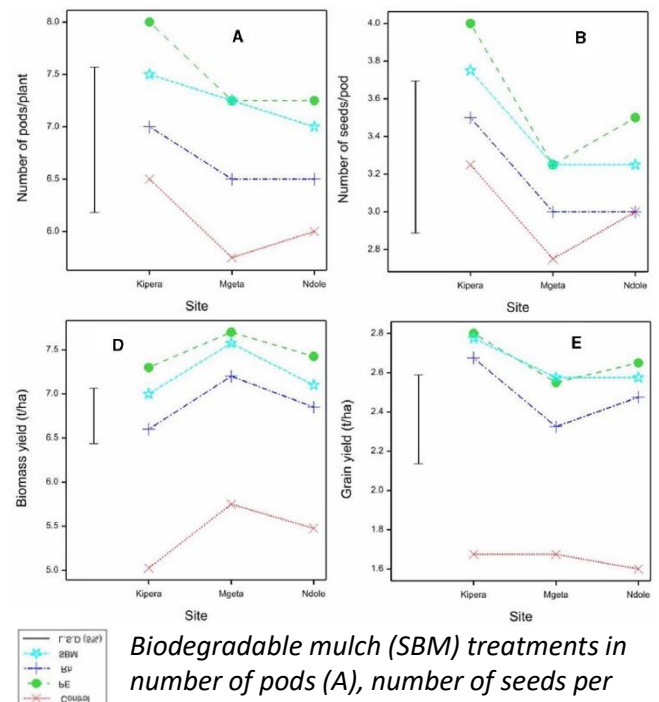
Different types of mulches were tested: polythene (a), rice husks (b), control (c), biodegradable (d); soil temperature and moisture were recorded

Results and take homes:

- Both polythene mulch and synthetic biodegradable mulch consistently outperformed the other treatments.
- The application of synthetic biodegradable mulch resulted in a substantial increase in biomass production.
- There was no significant difference grain yields between synthetic biodegradable mulch and polythene mulch.
- The degradation analysis of the mulching materials revealed that synthetic biodegradable mulch exhibited a progressive degradation pattern, polythene mulch showed no degradation.
- Synthetic biodegradable mulch has demonstrated its efficacy in enhancing crop productivity while concurrently saving the environment and promoting sustainable production.



Biodegradable mulch (SBM) treatments in plant height (A), number of branches (B), number of leaves (C), ground coverage (D); performed almost the same as polythene (PE) mulch



Biodegradable mulch (SBM) treatments in number of pods (A), number of seeds per pod (B), biomass yield (D), grain yield (E); performed almost the same as polythene