**INTRODUCTION**

Plant parasitic nematodes (PPN) cause major yield loss to many crops including beans and maize. Free living nematodes (FLN) are beneficial and can be used as bioindicators of soil health. Organic systems have been used in reducing populations of PPN to below economic threshold levels (Farahat et al., 2012) while conventional systems have been used in suppressing PPN (Neher, 1999), but this often impacts FLN negatively. In this study we compare the effects of organic and conventional systems on PPN and FLN nematodes.

**METHODS**

- **Study Area**: Chuka (Tharaka Nithi County) AEZ 2 (UM3) with average rainfall 2000mm annually and Humic Nitisol soils
- **Crops**: Maize–bean intercrop
- **5 x 5 m plots arranged in RCBD and replicated 4 times**
- **4 Treatments**: Farmers' Practice (FP), Organic (Org), Conventional (Conv), Non Amended Control (NA)
- **Soil sampling at planting, flowering, and harvest; roots at harvest.**

  - **Nematodes counted and identified up to genera level.**
  - **Categorised into trophic groups, i.e. bacterivores, fungivores, omnivores, predators, and plant parasitic nematodes (Yeates et al., 1993).**
  - **ANOVA to determine effect of treatments on nematode abundance and diversity (for sites).**
  - **All data subjected to R version 3.2.3 and R commander version 2.2.4.**

**CONCLUSION**

- **Soils in Chuka have high diversity of soil nematodes.**
- **PPN in soil were not significantly different between systems, but in roots, they were significantly fewer in the organic system, which may be attributed to suppression by organic amendments.**
- **Bacterivores were significantly higher in organic system compared to other systems.**
- **This is possibly due to presence of manure and Tithonia, which promote soil microbes and compost, which in turn increases nematodes such as Rhabditis.**
- **Absence of predators from conventional system may suggest that conventional amendments negatively impact predatory nematodes.**
- **Organic systems will reduce reliability on use of expensive and toxic chemicals for PPN control compared to conventional system.**
- **Organic system appears to be effective in management of both PPN and FLN.**

**REFERENCES**

