FREE-LIVING NEMATODE DIVERSITY IN ORGANIC AND CONVENTIONAL FARMING SYSTEMS: A META-ANALYSIS.

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ABSTRACT

Research indicates that agricultural management practices affect the diversity of organic farms. Theoretically, organic farming should lead to a higher diversity of free living nematodes (FLNs) compared to conventional farming. However, it is not clear how these management practices affect the abundance and diversity of FLNs. This research synthesizes published literature reporting the diversity of FLNs in organic and conventional farms. Studies were identified through a comprehensive search in google scholar using the search string *"free-living nematodes" AND "diversity" in "organic AND conventional farming"*. Which resulted to 56 articles and after considering an inclusion criterion only 8 articles were included in the study; one of which was a PhD dissertation. Throughout these articles, the abundance of FLNs was reported to be higher in organic farms than in conventional farms. The abundance of functional groups was also higher in organic farming systems than in conventional farming systems. Bacterivores had a higher abundance, followed by fungivores. While the omnivores and predators had some insignificant abundances. The findings from this study confirms that organic farming is a more sustainable agricultural management system as compared to conventional farming. This research also shows that soils in organic farms are much healthier and of a higher quality that those of conventional farms due to the high abundance of FLNs in organic farms.

Key words: Free Living Nematodes, Species diversity, farming systems