LIST OF TABLES AND FIGURES

Table No.                                      Page No.

2.1 Physico-chemical analysis of composted kitchen waste 40
with and without earthworms at different time intervals,
value are mean ±S.E. (n=3)

2.2 Physico-chemical analysis of soil bed (Initially and after 41
40 days) with and without earthworms during kitchen
waste composting each datum represents the mean of two
replications

2.3 Amount of Nitrogen (ppm) in different organic waste 46
during composting (Each value represents mean of three
determinations)

2.4 Amount of Phosphorous (ppm) in different organic waste 48
during composting (Each value represents mean of three
determinations)

2.5 Amount of Potassium (ppm) in different organic waste 49
during composting (Each value represents mean of three
determinations)

2.6 Amount of Calcium (ppm) in different organic waste 50
during composting (Each value represents mean of three
determinations)

3.1 Textural analysis of vermicompost used 58
in this study

3.2 Bulk density, pH and Electrical conductivity of 60
vermicompost as compared to soil

3.3 Total elemental concentration in vermicompost as 61
compared to normal cultivated crop field soil.

3.4 Solubility of elements in vermicompost as related to 62
equilibrium pH (Each data represent the mean of three
determinations)

4.1 General properties of vermicompost and experimental 75
soil (sandy loam)
4.2 Bulk density and corresponding pore space (%) of vermicompost treated soil

4.3 pH and Electrical conductivity of soil as influenced by various application rates of vermicompost.

4.4 Effect of vermicompost application on the concentration of macro and micro elements in soil saturation extracts.

4.5 Effects of vermicompost application on soil enzyme activities

5.1 Seed germination in corn and soybean in response to vermicompost treatment

5.2 Mortality of corn and soybean seeds treated with aqueous extract of vermicompost.

5.3 Germination of corn and soybean seedlings treated with aqueous extract of vermicompost (±SD)

5.4 Root and shoot primordia emergence of corn and soybean seeds treated with various concentrations of aqueous extract of vermicompost

6.1 Plant height, leaf area and mean dry mass or quantity of various plant parts of corn and soybean grown on soil amended with various amount of VC, values in parentheses indicate % increase with reference to 0 levels of VC application rate (±SD)

6.2 Chlorophyll and carotenoid content (mg/g) fresh weight in the leaf of corn and soybean (60 day old) grown on soil treated with various amount of VC value in parentheses indicate % increase with reference to 0 level of VC application rate (±SD)

6.3 Protein, Carbohydrate and energy content of seed/grain samples of corn and soybean grown on soil amended with various rate of vermicompost

6.4 Elemental composition of corn and soybean plant grown on soil amended with vermicompost. Each value represent mean of three determinations (±SD)
Figures

1.1 Role of earthworm in organic waste recycling
1.2 Earthworms Farm, Bacteria and Plants
1.3 Vermiculture Ecosystem

2.1 A view of vermicomposting shed
2.2 Effect of earthworm inoculation on easily extractable Nitrogen in different organic wastes after 7 weeks
2.3 Effect of earthworm inoculation on easily extractable Phosphorous in different organic wastes after 7 weeks.
2.4 Effect of earthworm inoculation on easily extractable Calcium in different organic wastes after 7 weeks
2.5 Effect of earthworm inoculation on easily extractable Potassium in different organic wastes after 7 weeks

4.1 The set up of Respirometer (Diagramatic representation) for the measurement of soil respiration.
4.2 Mechanical composition of soil in response to vermicompost application
4.3 pH and Electrical conductivity of soil as influenced by vermicompost application
4.4 CO₂ evolution in response to vermicompost application

5.1 Root number in 7 day old corn and soybean seedlings grown in various concentration of vermicompost extract
5.2 Change in root length of 7 day old corn and soybean seedlings grown in various concentration of vermicompost extract
5.3 Changes in shoot length of 7 day old corn and soybean seedlings grown on various concentration of vermicompost extract.
5.4 Change in fresh weight of 7 day old corn and soybean seedlings in various concentration of vermicompost extract
5.5 Changes in dry weight of 7 day old corn and soybean seedlings in various concentration of vermicompost extract
5.6 Pigment concentration of corn and soybean grown in various concentration of vermicompost extract
Plates

2.1 Earthworm species (*Eisenia fetida*) used for vermicomposting during this study

6.1 Appearance of 75 day old corn (*Zea mays* L.) plants grown on normal field soil.

6.2 Appearance of 75 day old corn (*Zea mays* L.) plants grown on field soil treated with 2.5% (W/W) vermicompost application rate

6.3 Appearance of 75 day old corn (*Zea mays* L.) plants grown on field soil treated with 5% (W/W) vermicompost application rate

6.4 Appearance of 75 day old corn (*Zea mays* L.) plants grown on field soil treated with 10% (W/W) vermicompost application rate

6.5 Appearance of 90 day old soybean (*Glycine max* L.) plants grown on normal field soil

6.6 Appearance of 90 day old soybean (*Glycine max* L.) plants grown on field soil treated with 2.5% (W/W) vermicompost application rate

6.7 Appearance of 90 day old soybean (*Glycine max* L.) plants grown on field soil treated with 5% (W/W) vermicompost application rate

6.8 Appearance of 90 day old soybean (*Glycine max* L.) plants grown on field soil treated with 10% (W/W) vermicompost application rate

6.9 Appearance of 90 day old soybean (*Glycine max* L.) plants grown on field soil treated with 25% (W/W) vermicompost application rate

6.10 Appearance of 90 day old soybean (*Glycine max* L.) plants grown on field soil treated with 50% (W/W) vermicompost application rate