substitute media for fertilizers was down during year 1386 in FUM. Vermicompost applied at five levels (0, 10, 25, 50, 100%) and phosphorus at two levels with 3 replications on each treatment, as Factorial Design based on completely Randomized Block. The results indicated that seed germination was earlier in 25% vermicompost. The transplant diameter, length and its chlorophyll were higher in 50% vermicompost in compare to control. LAI was highest in 25%. Zn at 100% and Fe, Cu and Mn at 50% vermicompost had highest absorption by transplants. Phosphorus absorption increased by levels of vermicompost. The first flowering was earlier in 25% vermicompost. First fruit were in 25 and 50% vermicompost.

S14.221
Melon Crop with Use of Organic Compost

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The study was carried out at experimental station of Bebedouro, in Petrolina, PE, Brazil, to evaluate the effect of organic compost on melon crop. The treatments were five kids of organic compost that contained in their formulations napier grass, coconut bagasse, castor-oil plant tart, manure goat, potassium sulphate, thermophosphate. The total and commercial yields and fruit characteristics (soluble solids content, total acidity, pH weight a pulp firmness) were evaluated. The highest yield obtained with organic compost were 27,13; 26,58; 26,45 tons·ha^{-1} composed by: 77% of coconut bagasse + 20% of manure + 3% thermophophate; 50% napier grass + 40% manure + 10% castor-oil plant tart and 50% napier grass + 40% goat manure + 10% castor-oil plant tart, respectively. The organic compost did not affect significantly the fruit chemical characteristics, such as soluble solids content, total acidity and pH. The organic management caused weight loss and reduced pulp firmness during storage.

S14.222
Effect of the Organic Fertilization, Mineral Fertilization and Furrow Irrigation System for Ridges, with Treated and Served Water, in a Lettuce Crop (*Lactuca sativa* L.)

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The present work was developed in the Environment Center Study/UNESP in a protected environment, with the objective of studying the effect of the organic fertilization, mineral fertilization and furrow irrigation system for ridges, with treated and served water, in a lettuce crop (*Lactuca sativa* L.), evaluating the nitrate and sodium contents in leaf tissue and coliforms in the percolated water. The experimental statistical design was in a randomized block design consisted of 30 asbestos boxes with volume of 500 L and a superficial area of 1 m^2, filled with soil previously sieved. The treatments were characterized by the association between fertilizers and contaminated and treated water. The seeded with lettuce was realized three times. Water collectors had been installed at 15, 30 and 60 cm of depth. Two water collections had been carried through in each cultivation, 15 days after transplanting and at harvest, to verify the nitrate and sodium contents and coliforms. The leaf tissue sampling was collected at the end of each cultivation for chemical analyses. The average content of nitrate and sodium in the percolated solution indicated that the contamination slowly advances in depth in agricultural soils and in areas of disposal of organic and inorganic residues. The microbiological analyses of the water carried through at 60 cm of depth had not presented fecal coliforms contamination. The fertilized treatment with poultry litter presented the biggest values of nitrate.

S14.223
Yield and Nitrogen Uptake of White Cabbage (*Brassica oleracea* var. *capitata*) with Organic and Inorganic Fertilisers

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Fertilisers can be used to control the nutritional value of vegetables used for human consumption as may not only influence the yield and quality of vegetable crops but also the chemical composition of the marketable product. To improve fertilisation recommendations in organic agriculture based on the understanding of the effects of organic versus inorganic nitrogen (N) fertilisers, the response of white cabbage to the application of increasing rates of mineral N fertiliser (0, 90 and 180 kg·ha^{-1}) in combination with increasing rates of an organic fertiliser (0, 20 and 40 t·ha^{-1}) from the composting process of the solid fraction (SF) of dairy cattle slurry, was assessed in the summer season at NW Portugal. Cabbage yield was strongly related to mineral N application, with N recovery rates over 70%, but it was not associated to SF compost application, except for treatments without mineral N fertilisation, where cabbage dry matter yield increased ($P < 0.05$) from 7.4 t·ha^{-1} in the control treatment to 9.4 t·ha^{-1} with the application of 40 t·ha^{-1} of compost whilst N uptake increase was 64 kg·ha^{-1}. N utilization efficiency decreased with the highest rate of mineral N application compared to nil N application and the N physiological efficiency was higher for 90 kg N·ha^{-1} compared to 180 kg N·ha^{-1}. The highest rate of compost application was associated to a longer period of compost degradation because compost N mineralisation rates decreased from 20 t·ha^{-1} to 40 t·ha^{-1} during early cabbage growth. This investigation showed that SF compost had a high rate of N mineralisation after soil application and that its fertilising effect increases when N availability from mineral fertilisation decreases. Therefore, SF composts may have increased application as a soil fertiliser on low input farming systems such as organic farming.

S14.224
Effect of Bio-Fertilizer and Organic Manures on Yield and Quality of Guava cv. Red Fleshed

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An experiment was conducted on 4 year old guava trees during 2007-08 to study the "Effect of Bio-fertilizer and organic manures on yield and quality of guava cv. Red Fleshed". Average maximum fruit yield for the rainy and winter season crop was 38.23 kg/tree and 19.03 kg/tree respectively, with 250g Azotobactor + 20 kg FYM/tree. Vermicompost (20kg/tree) had significantly higher yield over control and was recommended as 3rd best treatment among all regarding the yield. Highest fruit weight 198.2g and 299.2g, fruit length 5.9cm and 7.19cm and fruit breadth 7cm and 7.41cm for rainy and winter season crop, respectively, were obtained with the application of Phosphobacterin (50ml/tree), which was, however at par with that obtained with VAM (10 kg/tree). Highest TSS (16.07 OB and 17.9 0B) for rainy and winter season crop, respectively, as well as Vitamin C (189.57 mg/100g) was obtained with the application of VAM. Acidity was not influenced by the application of bio-fertilizer. However, acidity was highest (0.54%) under FYM treatment. From the present study, it can be concluded that the application of bio-fertilizer was more effective than organic manures in enhancing fruit growth parameters in guava in both seasons. When bio-fertilizers were grouped together, P-solubilizers were found to have more beneficial influence on fruit physico-chemical characteristics of guava cv. Red Fleshed as compared to N-fixers.

S14.225
Production of Organic Cucumbers under Different Fertilization and Soil Mulching

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