(10.59) compared to all other treatments. There was a clear difference between plant growth in treated and untreated coco pith and 96% seedlings in treated cocopith reached to 4 leaf stage at the 3rd week after sowing. The results of the experiment corroborate that higher K+ and Na+ in untreated coco pith medium is influenced to the growth of plant and replacement of those ions with Ca+ is provided higher survival and vigorous chili seedling production.

Poster 90

Effects of nutrient solution EC on plant growth and phytochemical accumulation in substrate-grown spinach

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The effects of nutrient solution electrical conductivity EC level on the plant growth, nitrates, total phenols, chlorophylls, riboflavin, and ascorbic acid content were evaluated in two cultivars of spinach (Spinacia oleracea L. cv. Manatee and Regia). Soil blocked spinach seedlings (five seedlings per block) were transplanted (on 25 January 2018) at 18 days after emergence into to Styrofoam planting boxes (100-cm long × 25-cm wide × 10-cm high) filled with 14 L of substrate. Each planting box was irrigated daily by drip and fertilized with nutrient solution. The nutrient solution was injected in the irrigation system at two different rates to reach two different ECs (1.7 and 1.2 dS m-1). The fresh yield was not affected by the EC of the nutrient solution or by the cultivar, nevertheless, leaf-blade and petiole dry weight percentage increased with EC. Leaf-blade NO3 concentration (1.58 mg/g fresh weight) was lower in the plants irrigated with low EC, while leaf–blade riboflavin content increased with the EC reaching 37.09 µg/100g fresh weight. Total phenols content in leaf-blade and petiole were affected neither by cultivar nor EC.

Poster 94

Optimization of organic nitrogen fertilization in horticultural substrates for potted plant production (Project OPTIFAZ)

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Demand in society for organically cultivated plants in plugs and pots is growing and one of the major challenges is fertilizing these cultures with organic N fertilizer. The project aims to develop for substrate and fertilizer companies, extension services and growers prediction and decision tools related to the use of organic nitrogen fertilizers and biological activators in potted plant productions. Due to the composition of horticultural substrates (peat, wood fibers, composted bark….), compounded by the use of small containers or plugs, biological activity in horticultural crops is in general very limited. The lack of biological activity is exacerbated when the growing