

Effects of different growth media and planting densities on growth of lettuce grown in a closed soilless system

ABSTRACT

This study aimed at determining the effects of growth medium and planting density on lettuce (*Lactuca sativa* L.) production under a closed soilless system. Soilless lettuces were produced during autumn season of 2012-13, that were tested under three different growth media and two planting densities (16 and 33 plants/m²). The highest head mass and marketable head mass (0.640 and 609 kg) were obtained at planting density (16 plants/m²). When analyzed for interaction between the growth medium and planting density, the higher head mass (691 and 697 g) was obtained between the interactions Tuff br : peatmoss and Tuff br with planting density of 16 plants/m². The results showed that planting density and growth medium exhibited significant effects on stem weight (g), weight of leaves (outer+inner) (g), number of non-consumable leaves, number of outer leaves, number of inner leaves, total number of leaves, marketable head mass (g), head mass (g) and plant height (cm). In conclusion, the substrates interference with the development of lettuce plants, it was Tuffbr : Peatmoss and Tuff brown which provided the best plant growth.

Keyword: Growth medium; Lettuce; Planting density; Soilless culture