

Morpho-Anatomical Responses of Leaf Lettuce (*Lactuca sativa* L.) Grown with Different Colored Plastic Mulch

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Abstract : The potential of growing lettuce with different colored plastic mulch silver (control), red, orange, yellow and green was evaluated using two lettuce varieties, Looseleaf and Romaine. The experiment was laid out on split plot design following the Randomized Complete Block Design. The Looseleaf variety had better performance in terms of plant fresh weight, leaf fresh weight, leaf dry weight, root length, plant height and yield. However, better response was observed in Romaine in terms of leaf diameter, leaf length, root dry weight and root fresh weight. The color of the mulch reflected different qualities of light and hence the quality of absorbed light by the lettuce plants. A higher Far red and red ratio (FR:R) was obtained from green plastic mulch which was followed by the red plastic mulch. The different colored plastic mulch affected the growth and developmental responses of leaf lettuce morphological and leaf anatomical characteristics. Data in all growth morphological and yield parameters showed that those grown with red plastic mulch had better response and had longer stomates than those lettuce grown with the other colored plastic mulch. The soil temperature 10 cm below the plastic mulch was significantly influenced by the color of the mulch. The red plastic mulch had the highest soil temperature recorded while the lowest soil temperature recorded was within the yellow plastic mulch.

Keywords : anatomical, lettuce, morphological, plastic mulch

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