

## Effect of Open-hole Ratio of Perforated White Polythene Mulch on Growth of Strawberry (*Fragaria x ananassa*)

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Mulching is the best practice that covers the soil to make favourable condition for plant growth and development. Use of mulch has morphogenetic effects on strawberry (*Fragaria x ananassa*) production. The perforated mulch system plays a vital role in the reduction of water accumulation on mulch and it directly prevents the chances of mosquito breeding. Therefore, this study was conducted to assess the effect of the open-hole ratio of perforated white polythene mulch on growth performance of strawberry. An open field experiment was conducted during *Maha* 2013/2014 at Agricultural Research Station, Rahangala. Strawberry variety 'Indian' was used and it was grown in 2 x 3 m<sup>2</sup> plots under Department of Agriculture (DOA) recommendation with different open-hole ratio of mulching systems: M<sub>1</sub>- 0% (covered with solid mulch), M<sub>2</sub>- 3.21%, M<sub>3</sub>- 6.43% and M<sub>4</sub> (Control)- 100% (non-mulched bare surface). The experiment was laid out in Randomized Complete Block Design with four replicates. Growth parameters such as plant height, crown height, number of leaves, number of runners and maximum root length were measured at two weeks interval. Emergence of weeds per plot was also recorded. The results revealed that, all the adapted mulching systems (M<sub>1</sub>, M<sub>2</sub> and M<sub>3</sub>) had significantly ( $p < 0.05$ ) higher growth performances than that of the control system (M<sub>4</sub>). Ten weeks after planting, plant height (16.1 cm ± 0.07), crown height (3.6 cm ± 0.07) and number of leaves (12 ± 0.4) were greater in M<sub>3</sub> system. In contrast to that, number of runners and maximum root length were greater in M<sub>1</sub> (13 ± 0.6 and 22.4 cm ± 0.6, respectively) and M<sub>2</sub> (12 ± 0.6 and 21.4 cm ± 0.8, respectively). Emergence of weeds were significantly greater in M<sub>4</sub> (261/plot ± 21.6) and less in M<sub>1</sub> (0/plot) followed by M<sub>2</sub> (62/plot ± 4.6) and M<sub>3</sub> (97/plot ± 6.5). Therefore, it can be concluded that, M<sub>3</sub> open-hole ratio of perforated mulching system can be used for growing of strawberry plants.

**Keywords:** Growth parameters, Perforated mulch, Open-hole ratio, Strawberry