

## **Effect of Coloured Cellophane Shading on Seed Germination, Plant Growth and Fruit Quality Characteristics of Tomato (*Solanum lycopersicum* L.)**

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In urban agriculture there are trends to grow crops under different colour shading. Colour of light differently affect on plant growth and biochemical properties of plant. The present study was conducted to evaluate the effect of coloured shading on seed germination, plant growth, fruit quality and fruit yield of tomato (*Solanum lycopersicum* L.). Yellow, red, green, blue coloured cellophane and transparent cellophane (control) were used in the experiment. To evaluate quality of fruits two experiments were conducted in a polythene house with Complete Randomized Design; (1) whole fruit covered by coloured cellophane and (2) whole plant covered by coloured cellophane. The coloured cellophane shading differently affected on seed germination, growth, fruit quality and yield of tomato. The highest seed germination was observed in yellow colour (93.47%) and the lowest at green (73.25%) at day 6<sup>th</sup> of germination. At one month after transplanting highest and lowest plant height (24.5 cm, 13.5 cm) and number of leaves (8, 7) were found in yellow and green, respectively. The highest leaf area (20.07 cm<sup>2</sup>) and plant fresh weight (4.83 g) were found in control; whereas, the lowest was found in green (4.34 cm<sup>2</sup>, 0.74 g, respectively). The highest fruit weight (35.13 g) and length (3.97 cm) were found in the fruits covered by green cellophane; whereas, the lowest (24.74 g, 3.20 cm) in the blue (Experiment 01). The highest Brix value was found in red and the lowest from yellow. Ascorbic acid content was highest in yellow colour (90 mg/100ml) but lowest in green colour (30 mg/100ml). In the experiment 2, blue cellophane recorded the highest fruit weight (51.10 g), and size; whereas, the control recorded the lowest. Brix value was higher in control and the lowest in blue colour. Fruit peel thickness was higher in red (0.65 cm) and lowest in blue (0.51 cm). The highest Ascorbic acid content was recorded in yellow colour (121.25 mg), whereas the lowest in blue (57.5 mg). Finally, it can be concluded that yellow colour is the most effective on accelerating seed germination and control treatment is better for vegetative growth of the plant. To have high ascorbic acid content whole plant should be covered with yellow cellophane, but when it consider yield, blue cellophane is the best.

**Keywords:** Colour cellophane, Fruit quality, Seed germination, Tomato, Vegetative growth.