

## Development of Purslane (*Portulaca oleracea* L.) Production in the Hydroponic System Using Vertical Farm

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Purslane (*Portulaca oleracea* L.), one of *Portulacaceae* family, is a plant known to improve human health including anti-diabetes, anti-cancer, and anti-oxidation with its ingredients such as unsaturated fatty acids, ascorbic acid, and polyphenols. In spite of its activity, there is hard purslane to develop as a drug or functional food because of its heavy metal contamination. Therefore, it is required developing the new method to produce purslane under clean and stable environment. In this study, we estimated the possibility of purslane production in the hydroponic system and develop the best condition for purslane production in the vertical farm. We used two kinds of soilless media (rock wool and polyurethane foam) and three kinds of nutrient solutions (Hoagland, Otsuka, and Yamazaki), and evaluated the plant growth. The growth parameters were measured at 28 and 35 days after transplanting (DAT). There was no significant growth difference between the two kinds of soilless media for seedling stage. However, larger leaf area was observed from purslane grown under rock wool than polyurethane foam at 8 DAT. The highest growth parameters were observed in Hoagland solution (HS). Shoot fresh weight and number of leaves of plants grown under HS were 2.3-2.6 and 2.7-2.8 times higher than those of the others at 35 DAT. These results suggest that purslane could be raised in the hydroponic system, and conditions of rock wool and Hoagland solution could increase production of purslane under the vertical farm.

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