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## Genetic Characteristics and Anthocyanin Content of Basil(*Ocimum basilicum* L.)

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### [Abstract]

Basil(*Ocimum basilicum* L.) is an annual herb that grows wild in hot and humid regions such as tropical Asia and Africa. This study was carried out for resource discovery, propagation, and DB construction of aromatic plants. In order to evaluate the genetic characteristics, 28 kinds of basil seeds were supplied from the Center for Genetic Resources. For basil characteristics, planting date, plant height, growth shape, leaf length, leaf shape, petiole color, petiole, stem color, flower color, after harvest, full length including roots, flower length, stem thickness and biological weight were measured. For anthocyanin analysis, only basil with purple color was selected, anthocyanins were extracted with 60% ethanol containing 1% citric acid, a standard quantitative curve was prepared with cyanidin-3-glucoside, and absorbance was measured at 525 nm. Basil planting started around June 16, and the flowering period lasted for a total of 18 days from July 19 to August 5. On August 6, when flowering was completed, morphological characteristics including flower color were measured at the site by an object. The measured basil plant length was 26.6-59.6 cm, leaf length 2.0-7.9 cm, leaf width 0.7-5.2 cm, and petiole 1.3-3.9 cm. The growth pattern of basil was generally straight, medium in shape. The color of the leaves was observed evenly by mixed green, purple, purple and green, and the recesses in the shape of the leaf were also conspicuously observed. A total of three basil flower colors were observed: white, light pink(149P 10P/84), and purple(37V 2.5RP 4/12). During the second growth survey after harvest, the total length including the basil roots is 26.7-52.0 cm, the flower length is 8.2-29.3cm, the stem thickness is 7.1-15.9mm, the number of stem nodes is 3-12 nodes, and the total weight of the basil was measured to be about 218-1540 g. There are a total of 16 types of basil expressed in purple, and the anthocyanin content was measured to be 73.74 ~ 380.72 mg/100g.

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