

**PB-059**

## Evaluating Characteristics of Kenaf Breeding Lines Suitable for the Reclaimed Land of Korea

In-Sok Lee<sup>1\*</sup>, Chan-Ho Kang<sup>1</sup>, Jin-Jae Lee<sup>1</sup>, Suk Ju Kwon<sup>1</sup>

<sup>1</sup>Jeollabukdo Agricultural Research Extension Service, Iksan, 54968, Korea.

### [Introduction]

Kenaf(*Hibiscus cannabinus* L.  $2n=36$ ) is an annual herbaceous crop of the Malvaceae family, which is known for both its economic and horticultural importance. Recently, rapid development of kenaf production is of important significance to protect forest resources. So, it has been called 21st century. Biological yield of kenaf is about 3-4 times that of forest and CO<sub>2</sub> assimilation capacity is about 4-5 times that of trees. Therefore, this study was conducted to select elite lines with salt tolerance through outbreeding.

### [Materials and Methods]

The parental two materials used in this study is Jangdae and Hongma 300 variety. Seeds of 2 parents and 26 F<sub>2</sub>s were raised on a reclaimed land in 2019. All plants of 26 F<sub>2</sub>s were used to record data on days to 1st flowering, plant height, stem diameter, branch number, stem dry weight per plant, leaf dry weight per plant, per plant, and seed weight per plant.

### [Results and Discussions]

These days, a concern for kenaf has been increased due to a high biomass. So, the study was conducted to select the elite lines with salt tolerance through outbreeding. The plant height showed highly significant mean difference and 21 plants of F<sub>2</sub>s were superior to the two parents. There was a big difference in diameter of 15 cm above soil surface. The two parents showed 17.5 (the former) and 27.8 cm (the latter), respectively. However, the line 25-1 was the highest with 41.8 cm, which is considered to be transgressive segregation. Findings showed the stem dry weight of two lines, 19-1 and 24-1, was higher than that of two parents. Among the selected lines, two lines (20-1 and 25-2) for the stem dry weight were twice as high as that of both parents. When assessing seed weight per plant, the two lines (19-1 and 24-1) over 12 g was higher than other selected lines. Unlike this lines, the parent (Hongma 300) didn't set seeds. Put previous findings together, the two lines (19-1 and 24-1) would be excellent germplasms for a reclaimed land of Korea.

\*Corresponding author: Tel. +82-63-290-6038, E-mail. bioplant325@korea.kr