

Study on diversity of agronomic traits of purple napiergrass in Taiwan⁽¹⁾

Huang-Cheng Chen ⁽²⁾ Jeng-Bin Lin ⁽³⁾⁽⁴⁾ Tzu-Rung Li ⁽³⁾ and Chin-Jin Hou ⁽²⁾

Received: Sep. 10, 2013; Accepted: May 26, 2014

Abstract

Purple napiergrass is a subspecies of *Pennisetum purpureum*. The 69 samples of purple napiergrass, collected from 15 counties in Taiwan, were determined the diversity using agronomic traits in this study. The present experiment evaluated 14 agronomic traits, i.e. toppest height of last leaf collar (THC), plant height of leaf tip (PHL), length of stem (LS), width of stem (WS), number of leaves (NL), flag leaf length (FLL), flag leaf width (FLW), height of leaf margin pubescence (HLMP), width of leaf margin pubescence (WLMP), length of leaf sheath pubescence (LLSP), height of leaf ligule pubescence (HLLP), height of leaf scar pubescence (HLSP), number of nodes (NN), length between nodes (LN). Three plants were determined for each sample. The result showed that the 14 agronomic traits were significantly different among samples. Most of the correlation coefficients between the agronomic traits showed significant correlations ($P < 0.05$). The correlation coefficients between WS and NL showed significantly positive correlation. Further, those between THC and PHL, LS, WS, NL, FLL, FLW, HLMP, WLMP, HLSP, NN and LN showed significantly were positive correlations ($P < 0.01$). The correlation coefficients between NN and FLL and HLMP were significantly negative with -0.31 and -0.32, respectively. Therefore, the correlation coefficient between NN and HLMP might be used as the selection index for purple napiergrass breeding.

Key words: Purple napiergrass, Agronomic traits, Diversity.

(1) Contribution No. 2119 from Livestock Research Institute, Council of Agriculture, Executive Yuan.

(2) Agronomy Department National Chiayi University, Taiwan, R.O.C.

(3) Forage Division, COA-LRI, Hsinhua, Tainan 71246, Taiwan, R.O.C.

(4) Corresponding author, E-mail: jblin@mail.tlri.gov.tw.