

## D-D2-21

### Quality related Components of Korean Indigenous Tea (*Camellia sinensis*) Leaves\*

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This study was carried out to obtain useful information and to search quality related components for breeding of tea by analysis of Korean local tea leaves at Sulloc Cha Insitute in juju island. For this purpose, chlorophyll(SPAD 502), color characteristics(CHROMA METER CR-410, MINOLTA), total nitrogen, caffeine, theanine, NDF(Neutral Detergent Fiber), TFAA(Total Free Amino Acids), and catechin of 200 lines were analysed on first crop of tea picking stage(a bud and five leaves)in 2007. Experimental data on chlorophyll content(SPAD) of Korean local tea genetic resources ranged from 51.3% to 82.3% and Hunter L, -a, b, and G(-a/b) values ranged 55.1~65.4, -90.7~-12.57, 20.2~24.13% and 0.38~0.57, respectively. The result of analysis on the total nitrogen, TFAA, theanine, and NDF content were ranged 5.13~6.35%, 2.87~4.58%, 1.64~2.66%, and 15.8~21.3%, respectively. In there contents, 4 extremely high TFAA lines were over 4%, caffeine content of those ranged from 2.82% to 4.13%, mean was 3.55%, and 5 lines showed low caffeine content below 3%. Catechin content showed from 15.8% to 21.3% and 4 extremly high catechin lines were selected. These results indicated that it is possible to select promising lines with high content of quality components and low contents of caffeine from Korean domestic germplasm. \*This study was carried out with the support of "On-Site Cooperative Agriculture Research Project (Project No. 20070401080021 )", RDA, Republic of Korea. Lee Min Seuk Tel: 064-794-6491, E-mail: leems@jwgreent.co.kr

## D-D2-22

### Selection and identification of black raspberry mutants from gamma-ray irradiated nursery stock

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In order to breed the useful mutants in black raspberry, cultivated in Gochanggun, 2-year-old nursery stocks were irradiated with 70(264 lines) and 120 Gy(360 lines) of gamma-ray. The LD<sub>50</sub> dose was identified as 70 Gy. Morphological characteristics of the variants were observed such as stem variation, no. of thorn and no. of sucker compared with donor cultivar. Of the 178 mutants, 9 lines with the useful mutant characters were selected and random amplified polymorphic DNA(RAPD) was carried out to confirm mutation state at the molecular level with 12 primers. RAPD polymorphisms between control and mutants were detected in 8 primers. There are many bands be revealed only in mutants and disappear in mutants reversely. Valuable mutants obtained will be useful for developing new cultivars and studying gene function in molecular level.

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