Senyawa Prekursor Aroma Daun Teh (*Camellia sinensis*) Klon Unggul PT.Pagilaran

INTISARI

PT. Pagilaran mengembangkan klon teh unggul yang diberi nama PGL. Klon unggul tersebut diharapkan memiliki aroma yang memenuhi kriteria kualitas premium. Akan tetapi senyawa prekursor aroma seperti asam lemak, karotenoid, gula terlarut dan asam amino pada klon PGL belum diketahui jumlah serta peranannya. Penelitian eksploratif ini bertujuan untuk mengidentifikasi senyawa prekursor pembentukan aroma pada klon PGL 9, PGL 10, PGL 11, PGL 12, dan PGL 15 serta mengetahui klon terbaik berdasarkan kandungan metabolomitnya pada teh klon unggul PT. Pagilaran. Kandungan asam lemak jenuh tertinggi adalah klon PGL 11 dengan konsentrasi 58,43% dan asam lemak tidak jenuh pada PGL 15 dengan konsentrasi 70.4% . Kandungan asam lemak jenuh (asam butirat) tertinggi pada PGL 11 sebesar 33,06% dan asam lemak tak jenuh (Cis 10-Pentadecenoic Acid) pada PGL 12 sebesar 25,55%. Senyawa karotenoid tertinggi terdapat pada klon PGL 12 yang didominasi oleh β-karoten dan likopen sebesar 206,12 mg/100g (db) dan 141,31 mg/100g (db). Kandungan gula terlarut tertinggi dihasilkan oleh PGL 11 yang memiliki konsentrasi glukosa sebanyak 229,77 ppm, sedangkan PGL 12 memiliki galaktosa+xylosa+fruktosa tertinggi sebayak 136,88 ppm. Teh klon PGL memiliki asam amino yang beragam dan aromanya pun beragam. Kandungan asam amino tertinggi adalah *alanin* berkisar 3,55 – 14,2 mg/100g (%db). Hasil *principle component analysis* (PCA) menunjukkan kedekatan antar klon PGL 9, PGL 11 dan PGL 12, sedangkan klon PGL 10 dan 15 berjauhan yang menandakan adanya keragaman. Klon 12 diduga berpotensi dapat menghasilkan teh premium dengan konsentrasi asam lemak butirat terendah yaitu 17.15 %, asam lemak cis-10-pentadecanoic tertinggi 25.55%, karotenoid tertinggi konsentrasi 517.54 mg/100g (db) dan didukung uji efektivitas de garmo yang menunjukkan klon PGL 12 memiliki bobot yang paling tinggi, sehingga dipilih sebagai klon terunggul.

Kata kunci: aroma, asam amino, klon, Pagilaran, teh.

Aroma Precursor of PT. Pagilaran Superior Clones Tea Leaves (*Camellia sinensis)*

ABSTRACT

PT. Pagilaran developed many superior tea clones named PGLs. These superior clones are expected to have premium quality criteria of aromas. However, the composition of aroma precursors such as fatty acids, carotenoids, dissolved sugars and amino acids in PGL clones has not yet been known. This explorative study aimed to identify the compound of aroma precursors in PGL 9, PGL 10, PGL 11, PGL 12, and PGL 15, also determined the best clones based on their metabolomic. The highest saturated fatty acid content was PGL 11 clones with a concentration of 58.43% and unsaturated fatty acids in PGL 15 with a concentration of 70.4% . The highest content of saturated fatty acid (butyric acid) was PGL 11 (33.06%) and unsaturated fatty acids (cis 10-pentadecenoic acid) was PGL 12 (25.55%). The highest carotenoid compounds were found in PGL 12 clones which were dominated by β-carotene and lycopene at 206.12 mg/100g and 141.31 mg/100g. The highest dissolved sugar content was PGL 11 which had a glucose concentration of 229.77 ppm, while PGL 12 had the highest galactose + xylose + fructose content of 136.88 ppm. The highest amino acid content is alanine ranging from 3.55 to 14.2 mg / 100g (% db). The highest amino acid content studied in alanine ranged from 3.55 - 14.2 mg/100g. The results of principle component analysis (PCA) showed the closeness between PGL 9, PGL 11 and PGL 12 clones, while the PGL 10 and 15 were far apart which indicated the diversity. Clone 12 is thought to have the potential to produce premium tea with the lowest butyric acid concentration of 17.15%, the highest cis-10-pentadecanoic fatty acid is 25.55%, the highest carotenoid concentration is 517.54 mg / 100g (db) and it is supported by de garmo's effectiveness test which shows the PGL 12 clone so that they are selected as the superior clones.

Keywords: amino acid, aroma, clones, Pagilaran, tea