

CHARACTERISTIC, PHYSIOLOGY AND YIELD POTENTIAL OF RRIT 251 AND RRIT 408 CLONES

Ratchanee Rattanawong¹ and Napawan Lekawipat²

¹ Nongkhai Rubber Research Center, Rubber Research Institute of Thailand, Rubber Authority of Thailand

² Rubber Technology Research and Development Division, Rubber Authority of Thailand

Abstract

RRIT 251 and RRIT 408 are included in high latex yield group of RRIT's recommendation clones 2016. These are two clones were recommended both for the traditional and marginal areas. RRIT 251 is an important clone in class I which suitable for both Traditional and non-traditional planting area. Whereas RRIT 408 is a clone in class I suitable only for non-traditional planting area marginal area. This paper will scope on only the marginal area. RRIT 251 has a moderate growth before tapping and during tapping. Before tapping, girth increment is about 7.24 cm. per year and during tapping, girth increment is about 2.08 cm. per year. The average yield for 6 years is about 2,185 kg/ha/year with DRC is 41.2% and 1.662 Plugging Index. Refer to the result of latex diagnosis, consisted of 25.369 Inorganic phosphorus (mM), 7.033 mM sucrose (Su), 0.751 mM thiol (RSH) and 46.75% Total Solid Content (TSC). For some physiology traits, RRIT 251 was sensitive to xylem cavitation (it has narrowest safety margin = 0.19) and also sensitive to water deficit, stomata of RRIT 251 closed later than other clones (g_{s50} value = -1.46 MPa). RRIT 408 expressed good growth of average 4.78 cm. per year of girth increment before tapping and moderate growth or 1.07 cm. of girth increment per year during tapping. The average yield is 1,981 kg/ha/year. Before tapping, girth increment is about 4.78 cm. per year and during tapping, girth increment is about 1.07 cm. per year. RRIT 408 also be high yielding clones especially in marginal planting area. The average yield of 6 years is about 2,002 kg/ha/year with 38.5% DRC and 1.517 of Plugging Index. The result of latex diagnosis analysis, RRIT408 showed 22.891 mM of average Inorganic Phosphorus, 2.703 mM sucrose, 0.324 mM thiol and 38.78% TSC. For some physiology traits, RRIT 408 was high resistance to xylem cavitation (safety margin = 0.82) and also avoiding water deficit by closed their stomata earlier than other clones (g_{s50} value = -0.70 MPa).