High latex yielding and disease resistance of rubber clones IRR 200 series

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Abstrak

Rubber clones of Indonesian Rubber Research (IRR) 200 series have been produced from intensive breeding program started in 1985. Some clones showed superior characteristics such as high latex yielding, vigorous, and disease resistant. This study aimed to test their performances in a field trial conducted since 1999 at Sungei Putih Experimental Garden, North Sumatra. The experiment was designed in a randomized block, using twelve IRR clones as treatment and PB 260 clone as control, three replications. Planting distance was 5 m x 4 m and plot size was 10 rows x 50 trees. Observations were made on girth size of the 2, 3 and 4 year-old trees, dry rubber yield following the 1/2S d/2 and 1/2S d/3.ET2.5% tapping systems, bark thickness, rings number and diameter of latex vessels, as well as leaf fall diseases intensities of 3-5 year-old trees. The results showed four IRR 200 clones, i.e. IRR 207, IRR 208, IRR 211 and IRR 220 produced high latex. Using the 1/2S d/2 tapping system, three clones with highest dry rubber yield were obtained, namely IRR 208 (49.8 g tree-1 tapping-1 or g t-1 t-1), IRR 211 (48.8 g t-1 t-1) and IRR 220 (52.0 g t-1 t-1), whereas that using the 1/2S d/3. ET2.5% tapping system, their yields were 63.2 g, 64.3 g, and 66.2 g t-1 t-1, respectively. At four year-old, these clones had girth size of 41.4-51.0 cm, girth increment 9.7-11.6 cm year-1, bark thickness 6.3-7.2 mm, latex vessel rings number 6.8-7.0, and diameter of latex vessels 23.75-26.57 mm. All of the clones were moderately resistant to Colletotrichum, Oidium and Corynespora leaf fall diseases. This study suggests that IRR 207, IRR 208, IRR 211 and IRR 220 rubber clones are suitable for commercial stake holders and the recommended tapping system is 1/2S d/3.ET2.5%.