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## On-farm evaluation of new high yielding rice (o. Sativa) genotype (fg12-259) for commercial cultivation in Guyana

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Increasing the total rice production worldwide is critical to ensuring food security, in this regard, researchers have been striving to develop higher yielding varieties capable of growing under diverse farm conditions. Farmer participatory research was found to be an important tool in effectively developing and transferring new technology from researchers to farmers since it allows for farmers input based on their specified needs. In Guyana the evaluation of a new rice genotype in the farmers' fields represents the final stage in the development of an improved variety. New rice genotype FG12-259, a candidate variety, was evaluated alongside local varieties GRDB FL 10 and GRDB FL 15 for its yield potential and lodging tolerance in varying environments. Trials were conducted in the five major rice growing regions of Guyana within the fields of twenty-four (24) and twenty-nine (29) farmers during the 1st and 2nd cropping season of 2020 respectively.

Results indicated that candidate variety FG12-259 yielded greater than or on par with that of the local varieties. During the first cropping season FG12-259 yielded on average 7795.0kg ha<sup>-1</sup> with 0.2% lodging as compared to GRDB FL 10 with 7835.9kg ha<sup>-1</sup> and GRDB FL 15, 7679.4 kg ha<sup>-1</sup> while lodging at 15.5% and 2.2% respectively. In the second cropping season FG12-259 produced on average 7528.6 kg ha<sup>-1</sup>, GRDB FL 10, 6794.5 kg ha<sup>-1</sup> and GRDB FL 15, 7163.4 kg ha<sup>-1</sup> with lodging incidence of 1.3%, 4.4% and 0% respectively. An overall 8% (566.9 kg ha<sup>-1</sup> /3.53 bags ac<sup>-1</sup>) yield advantage of the candidate variety over local varieties GRDB FL 10 and GRDB FL 15 was recorded.

Based on the results obtained and the general acceptance of new rice genotype FG12-259 by farmers, it was recommended to be released as a commercial variety, 'GRDB FL 16' for cultivation across the country.

### Biography

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