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ABSTRACT

Drought stress is an abiotic factor that can reduce the growth, yield, and quality of rice seeds, so it is necessary to identify varieties that are more tolerant to water shortage conditions. This study aims to determine the effect of drought stress on the production components and seed quality of five superior rice varieties (Ciherang, Sunggal, IR 64, Cakrabuana Agritan, and IP 32 HDB). The stress treatments consisted of F1 (100%), F2 (80%), and F3 (60%), with the main parameters being the number of grains per panicle, 1000-grain weight, germination capacity, growth synchrony, and growth rate. The results showed that drought stress significantly affected the physiological quality of seeds, and only the number of productive tillers produced a significant difference, while some other parameters showed no significant differences between treatments. The response of each variety was different, reflecting variations in its ability to adapt to drought stress. The Cakrabuana agritan variety showed the best results and seed quality in the parameters of the number of vegetative tillers 11.3 tillers, leaf length 41.76 cm, leaf width 0.99 cm, panicle length 27.3 cm, number of grains per panicle 154.60 grains, weight of 1000 grains 22.39 gr, and is categorized as the most resistant to stress

Keywords: *Rice, Drought Stress, Variety*