



Seedling Performance, Growth and Yield of Onion Sown by Direct Seeding in Tropical Riparian Soil

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ABSTRACT

The objective of this study was to obtain a seed-origin onion (*Allium cepa* L.) that was able to grow in the tropical riparian soil. Research designed with non-experimental. Two cultivars were studied, namely Sanren and Lokananta. Onion seeds were planted directly without transplanting, there were three plots (4 m x 1.6 m x 0.3 m) and three germination testplot (1 m x 1.6 m x 0.3 m). Soil tillage, spacing/population, fertilization, plant maintenance and pest-diseases control in accordance with the recommendations. Research result obtained Sanren had higher germination (94.40%) and vigor index (60.60) then Lokananta. The growth of two onion cultivars showed good performance because there was no transplanting. Almost all the the variables for seedlings, vegetative organs and bulbs were significantly different between two cultivars. From the boxplot test, it was found that the data were of symmetry for Sanren (number stems, dry weight of leaves, and dry weight of bulb), and the Lokananta cultivar (vigor index, number of stems, number of bulbs, plant height and leaf dry weight). There was a significant correlation for Sanren (plant height with bulbs weight and number of roots), and Lokananta cultivars (number of roots with number of stems and leaf dry weight). Fresh bulbs weight per clump from Sanren (46.71 g) and Lokananta (17.84 g).

INTRODUCTION

The technology package to improve onion production includes high quality cultivars, bulb quality, and extensification (Haile, Tesfaye, & Worku, 2017). Planting materials using seed of True Shallot Seed (TSS) exhibited more advatages compared to bulb such as seed handling much easier, free from pest, budged saving, and improved-production (Askari-Khorasgani & Pessarakli, 2019). Bulbs should be avoided in shallot reproduction as seeds show potential (Fairuzia, Sobir, Maharijaya, Ochiai, & Yamada, 2022). Saidah, Muchtar, Wahyuni, Padang, & Rahardjo (2020), underlined some of onion cultivars seeds ere available in the market viz., Tuk Tuk, Bima, Maja, Trisula, Gardeningrat, Purie Garden, and Maserapi. Lokananta and Sanren

are onion hybrid seeds that are also available to purchase. Sanren is recommended for lowlandand its potential yield ranges between 19-28 t/ha, and Lokananta is widely adaptive from low land to upper land and its potensial production a little bit higher at 20-25 t/ha (East-West Seed Indonesia, 2017). Reproduction using bulbs has been widely practised on irrigation and rain fed fields. Cultivationon field using bulbs of Pusa Red and treated with vermi compost produced 23 t/ha (Andishmand & Noori, 2021). Reproduction by seeds had been reported from different countries as Russia by Matveeva, Zvolinsky, Yu Petrov, & Zaitsev (2021). Iran used TSS from Texas early,white, Texas earlyGrano and Sapidan (Daraby, 2020), Japan issued technology packages of onion cultivation using TSS (Askari-Khorasgani & Pessarakli, 2019). In Kenya



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M Umar Harun:

We have reached a decision regarding your submission to AGRIVITA, Journal of Agricultural Science, "SEEDLING PERFORMANCE, GROWTH AND YIELD OF ONION SOWN BY DIRECT SEEDING IN TROPICAL RIPARIAN SOIL".

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