

Evaluation of Improved Onion (*Allium Cepa* L.) Varieties for Growth and Bulb Yield Under Irrigated Condition in lowland Area of South Omo Zone, Southern Ethiopia

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Abstract

Onion is an important vegetable in Ethiopia. However, the yield of onion is limited mainly due to shortage of improved varieties to specific area with other factor. To solve this problem the field experiment was conducted in Omorate and Weyito location during 2019 and 2020 cropping season, respectively with the objective of identifying high-yielding improved variety/ies for bulb production. The experiment contains six varieties namely Local, Nafs, DZSHT-91-2B, DZSHT-157-1B, Adama and Nasick Red were laid down in randomized complete block design with three replications. Data were collected on number of leaves per plant, plant height, bulb diameter and bulb yield and subjected to analysis of variance using SAS software.

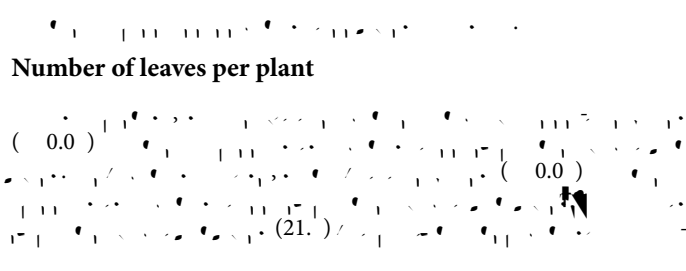
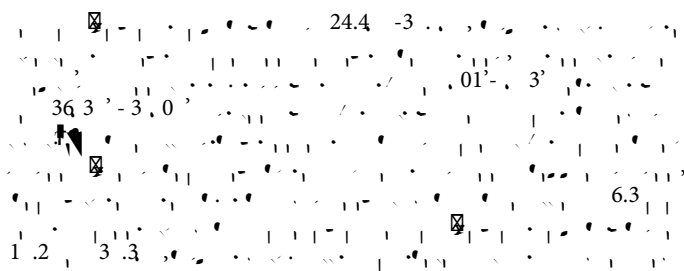
and (23.7t ha⁻¹) bulb yields were recorded from DZSHT-91-2B variety at Weyito and Omorate, respectively. Therefore, use of DZSHT- 91-2B variety can be recommended for onion producing farmers/agro-pictorial at Weyito, Omorate and its vicinity.

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Experimental treatments and design

The experiment was conducted in a randomized complete block design with four replicates. The treatments were 1-2B, 3, 3.3, 3.6, and 3.0. The experimental area was divided into four blocks, and each block contained five plots corresponding to the treatments. The plots were arranged in a 4x5 grid.

Experimental procedures

The onion seedlings were raised in a nursery under glasshouse conditions. The seedlings were transplanted to the field at a spacing of 40 cm x 20 cm. The field was divided into four blocks, and each block contained five plots corresponding to the treatments. The plots were arranged in a 4x5 grid. The experimental area was divided into four blocks, and each block contained five plots corresponding to the treatments. The plots were arranged in a 4x5 grid.

Collected data

The data collected during the experiment included plant height (cm), number of leaves per plant, and bulb yield (kg/ha). The data were analyzed using statistical software. The results showed that the 1-2B treatment had the highest plant height and number of leaves per plant. The bulb yield was also highest for the 1-2B treatment.

Statistical Analysis

The data were analyzed using statistical software. The results showed that the 1-2B treatment had the highest plant height and number of leaves per plant. The bulb yield was also highest for the 1-2B treatment.

Results and Discussion

Plant height (cm)

The results showed that the 1-2B treatment had the highest plant height and number of leaves per plant. The bulb yield was also highest for the 1-2B treatment.

