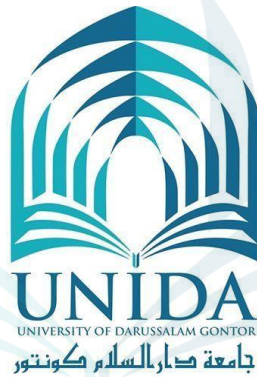


THESIS

**THE COMBINATION EFFECTS OF SILICA-
MODIFIED LIQUID ORGANIC FERTILIZER AND
VARIETIES ON SHALLOT PRODUCTIVITY (*Allium
ascalonicum* L.)**



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**PENGARUH KOMBINASI PUPUK ORGANIK CAIR TERMODIFIKASI
SILIKA DAN VARIETAS TERHADAP PRODUKTIVITAS BAWANG
MERAH (*Allium ascalonicum* L.)**

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ABSTRAK

Tanaman bawang merah (*Allium ascalonicum* L.) merupakan tanaman sayuran rempah yang digunakan sebagai penambah citarasa pada masakan. Di Indonesia tanaman bawang merah memiliki prospek yang bagus untuk dibudidayakan karena permintaan masyarakat terhadap kebutuhan bawang merah semakin meningkat akan tetapi produktivitasnya masih cukup rendah. Alternatif yang digunakan dalam meningkatkan produktivitas bawang merah yaitu melalui pemupukan dan penggunaan varietas yang tepat. Pemupukan organik menggunakan Pupuk Organik Cair (POC) merupakan solusi untuk mengurangi pupuk anorganik yang berdampak negatif terhadap lingkungan. POC dapat dimodifikasikan dengan penambahan Silika. Silika merupakan senyawa (SiO_2) unsur hara bagi tanaman yang dibutuhkan dalam mendukung pertumbuhan tanaman, namun peranannya sebagai unsur hara kurang mendapatkan perhatian. Penelitian bertujuan untuk mengetahui pengaruh Pupuk Organik Cair (POC) yang termodifikasi silika (Si) dan varietas terhadap produktivitas tanaman bawang merah. Penelitian dilaksanakan di lahan percobaan Universitas Darussalam Gontor Putri Mantingan pada 22 November 2023 sampai 21 Januari 2024. Rancangan penelitian ini menggunakan Rancangan Petak Terbagi (Split Plot) dengan 2 faktor. Faktor pertama POC termodifikasi Si yang terdiri dari 3 taraf: P1= POC 5 ml + Si 5 g.l⁻¹, P2 = POC 10 ml + Si 5 g.l⁻¹, P3= Tanpa pupuk (Kontrol) Faktor kedua yaitu varietas terdiri dari 2 taraf: V1= Bima Brebes dan V2= Thailand. Hasil dari penelitian menunjukkan bahwa perlakuan POC 5 ml + Si 5 g.l⁻¹ berpengaruh nyata pada jumlah daun, jumlah anakan, berat basah dan berat kering total tanaman per sampel, berat basah dan berat kering umbi per sampel. Varietas Bima brebes berpengaruh nyata pada tinggi tanaman, diameter, berat basah dan berat kering total tanaman per sampel, berat basah dan kering daun per sampel, berat basah dan kering umbi per sampel. Kombinasi perlakuan POC termodifikasi silika dan varietas tidak berpengaruh nyata.

Kata Kunci: Bawang Merah, POC, Silika, Varietas

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ABSTRACT

The onion plant (*Allium ascalonicum* L.) is a vegetable spice used as a flavor enhancer in cooking. In Indonesia, shallot cultivation holds good prospects due to the increasing demand for shallots, but its productivity remains relatively low. One alternative to increase shallot productivity is through fertilization and the use of appropriate varieties. Organic fertilization using liquid organic fertilizer (POC) is a solution to reduce the use of inorganic fertilizers, which have a negative impact on the environment. POC can be modified by adding silica. Silica is a nutrient compound (SiO_2) essential for plant growth, though its role as a nutrient has not received much attention. This study aims to determine the effect of silica-modified liquid organic fertilizer (POC) and varieties on shallot productivity. The research was conducted at the experimental field of Darussalam Gontor Putri Mantingan University from November 22, 2023, to January 21, 2024. The study used a split plot design with two factors. The first factor is silica-modified POC, consisting of three levels: P1 = POC 5 ml + Si 5 g.l-1, P2 = POC 10 ml + Si 5 g.l-1, and P3 = no fertilizer (control). The second factor is the variety, consisting of two levels: V1 = Bima Brebes and V2 = Thailand. The results of the study showed that the treatment of POC 5 ml + Si 5 g.l-1 had a significant effect on the number of leaves, number of tillers, and the wet and dry weight of both plants and tubers per sample. The Bima Brebes variety increased plant height, diameter, and the wet and dry weight of both leaves and tubers per sample. However, the combination of silica-modified POC and varieties did not show a significant effect.

Keywords: Shallots, Liquid Organic Fertilizer, Silica, Varieties

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THESIS RATIFICATION SHEET

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STATEMENT

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Hearby state that as follows:

1. Thesis entitled: **The Combiantion Effects of Silica-Modified Liquid Organic Fertilizer and Varieties on Shallot Productivity (*Allium ascalonicum* L.)**
2. The research carried out is author's own work.
3. Any ideas or quotations or other forms in this thesis, have been recognized in accordance with the standard procedures of the discipline.
4. The author also admits that this thesis can be produced thanks to the guidance and support of the supervisors, namely: Mahmudah Hamawi S.P., M.P. and Haris Setyanigrum S.Si., M.Sc.

If in the future in this thesis thing are found that show that academic fraud has be done, the author is willing to withdraw the bachelor's of the S1 Agrotechnology department, Faculty of Science and Technology, University Darussalam Gontor.

Ngawi, 10th Desember 2024



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FOREWORD

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Hopefully, all the help, support, and prayers that have been given will be a Jariah charity and get the best reward from Allah SWT. The author realizes that this thesis is still far from perfection, therefore the author greatly appreciates all

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