

**Application of Biourine and Planting Spacing on Yield and Seed Quality of Peanuts (*Arachis hypogaea* L.).** Supervised by Dr. Ir. Rahmat Ali Syaban, M.Si.

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**ABSTRACT**

*One of the most important agricultural plants in Indonesia which become part of national food as protein and vegetable oil source is peanuts. The low level of soil fertility and biological resources become the serious obstacles in the development process of peanut seeds. The use of organic fertilizers such as biourine is the right solution to reduce inorganic fertilizers consumption. The adjustment of plant spacing could be combined with the use of biourine fertilizers to increase the yield and quality of peanut seeds. The research started from September 2022 and finished in February 2023 at the Experimental Field and TPB Greenhouse of the Jember State Polytechnic. The design method used a factorial randomized block design (RBD) with two factors. The application of biourine fertilizer factor became the first factor (B) with 3 levels, named B1 (biourine 10 ml/l), B2 (biourine 20 ml/l), and B3 (biourine 30 ml/l). The plant spacing (J) with 3 levels, named J1 (40 cm x 20 cm spacing), J2 (40 cm x 25 cm spacing), and J3 (40 cm x 30 cm spacing) was the second factor. The treatment results showed a significantly different effect, and tested further with the Duncan Multiple Range Test (DMRT) at 5% level. The test results showed a significantly different effect on the seeds number per pod for the application of biourine fertilizers. The plant spacing treatment had very significantly different effects on the seeds yield per plot, plant height at 30 DAP, and seeds number per pod. Meanwhile, the interaction of biourine fertilizer and plant spacing had an insignificant different effect on all observed parameters.*

**Keywords:** *Peanut, Biourine Fertilizer, Plant Spacing*

**Aplikasi Pupuk Biourine dan Jarak Tanam Terhadap Hasil dan Mutu Benih Kacang Tanah (*Arachis hypogaea* L.).** Dosen Pembimbing Dr. Ir. Rahmat Ali Syaban, M.Si.

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### **ABSTRAK**

Salah satu tanaman pertanian penting di Indonesia yang menjadi bagian pangan nasional sebagai sumber protein dan minyak nabati adalah kacang tanah. Rendahnya tingkat kesuburan tanah dan sumber daya hayati menjadi kendala serius dalam proses pengembangan benih kacang tanah. Penggunaan pupuk organik seperti biourin merupakan solusi yang tepat untuk mengurangi konsumsi pupuk anorganik. Penyesuaian jarak tanam dapat dikombinasikan dengan penggunaan pupuk biourine untuk meningkatkan hasil dan kualitas benih kacang tanah. Aplikasi pupuk biourine digunakan dengan 3 taraf : biourine 10 ml/l; biourine 20 ml/l; dan biourine 30 ml/l. Jarak tanam yang digunakan, juga ada 3 tingkatan yaitu jarak tanam 40 cm x 20 cm; jarak 40 cm x 25 cm; dan jarak tanam 40 cm x 30 cm. Hasil pengujian menunjukkan adanya pengaruh berbeda nyata terhadap jumlah biji per polong pada aplikasi pupuk biourine. Perlakuan jarak tanam memberikan pengaruh berbeda sangat nyata terhadap hasil biji per petak, tinggi tanaman umur 30 HST, dan jumlah biji per polong. Sedangkan interaksi pupuk biourine dan jarak tanam memberikan pengaruh yang berbeda tidak nyata terhadap seluruh parameter pengamatan.

**Kata kunci:** Kacang Tanah, Pupuk Biourine, Jarak Tanam