

## ABSTRAK

**Utami Sabina. 2026. Efektivitas Bakteri Pelarut Fosfat dan Tepung Cangkang Kepiting terhadap Ketersediaan P Tanah dan Produktivitas Tanaman Jagung Pulut (*Zea mays* L. var. *ceratina*). Di Bawah Bimbingan Cecep Hidayat dan Efrin Firmansyah.**

Jagung pulut (*Zea mays* L. var. *ceratina*) merupakan salah satu jenis jagung yang memiliki kandungan amilopektin tinggi sehingga bertekstur pulen dan banyak dimanfaatkan sebagai bahan pangan. Namun, produktivitasnya pada tanah masam masih rendah akibat terbatasnya ketersediaan fosfor (P). Upaya peningkatan ketersediaan P pada tanah masam dapat dilakukan melalui pemanfaatan bakteri pelarut fosfat (BPF) dan bahan organik seperti tepung cangkang kepiting. Penelitian ini bertujuan untuk mengetahui interaksi serta menentukan kombinasi terbaik antara BPF dan tepung cangkang kepiting dalam meningkatkan ketersediaan fosfor dan produktivitas tanaman jagung pulut. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) faktorial dengan beberapa kombinasi perlakuan dosis BPF dan tepung cangkang kepiting. Parameter yang diamati meliputi tinggi tanaman, pH tanah, P tersedia, serta komponen hasil seperti panjang tongkol, diameter tongkol, dan bobot tongkol. Hasil penelitian menunjukkan bahwa pemberian BPF dan tepung cangkang kepiting berpengaruh nyata terhadap pH tanah dan komponen hasil tanaman, namun tidak berpengaruh nyata terhadap tinggi tanaman dan P tersedia. Pemberian BPF 10 ml polybag<sup>-1</sup> dan tepung cangkang kepiting 22 g polybag<sup>-1</sup> memberikan pengaruh terhadap diameter tongkol tanaman jagung pulut (*Zea mays* L. var. *ceratina*).

Kata Kunci: BPF, Tepung cangkang kepiting, Tanah masam, Jagung pulut.

## ABSTRACT

***Utami Sabina. 2026. Effectiveness of Phosphate Solubilizing Bacteria and Crab Shell Powder Application on Soil Available P and Productivity of Waxy Corn (Zea mays L. var. ceratina). Supervised by Cecep Hidayat and Efrin Firmansyah.***

Waxy corn (*Zea mays* L. var. *ceratina*) is a maize type characterized by high amylopectin content, resulting in a sticky texture and making it widely used as a food source. However, its productivity on acidic soils remains low due to limited phosphorus (P) availability. Improving P availability in acidic soils can be achieved through the application of phosphate-solubilizing bacteria (PSB) and organic materials such as crab shell powder. This study aimed to determine the interaction and to identify the best combination of PSB and crab shell powder in enhancing phosphorus availability and the productivity of waxy corn. The experiment was arranged in a Completely Randomized Design (CRD) with a factorial treatment structure consisting of several combinations of PSB and crab shell powder dosages. Observed parameters included plant height, soil pH, available phosphorus, and yield components such as cob length, cob diameter, and cob weight. The results showed that the application of PSB and crab shell powder significantly affected soil pH and yield components, but had no significant effect on plant height and available phosphorus. The application of 10 ml polybag<sup>-1</sup> PSB and 22 g polybag<sup>-1</sup> crab shell powder influenced cob diameter of waxy corn (*Zea mays* L. var. *ceratina*).

**Keywords:** PSB, Crab shell powder, Acidic soils, Waxy corn.