

## RINGKASAN

Penelitian ini bertujuan untuk mengetahui 1) pengaruh empat formula pada pupuk *slow release* urea terhadap pertumbuhan dan hasil tanaman bawang merah di tanah sawah Purwosari dan 2) formula terbaik pada pupuk *slow release* urea terhadap pertumbuhan dan hasil tanaman bawang merah di tanah sawah Purwosari. Penelitian dilaksanakan pada bulan November 2019 hingga Maret 2020. Penelitian dilaksanakan di lahan eks sawah budidaya padi sawah desa Purwosari, Kecamatan Baturraden, Kabupaten Banyumas dan di Laboratorium Riset, Universitas Jenderal Soedirman.

Penelitian berupa percobaan pada lahan sawah menggunakan RAKL non factorial dengan lima perlakuan yang diulang sebanyak lima kali. Formula pada masing-masing perlakuan meliputi: F0 = N-P-K (Urea, SP-36, dan KCl), F1= 70% urea + 6% kitosan + 24% asam humat, F2 = 70% urea + 10% *Azolla microphylla* + 10% gondorukem + 10% asam humat, F3= 60% urea + 10% *Azolla microphylla* + 10% montmorillonit + 10% gondorukem + 10% asam humat, dan F4 = 56% urea + asam humat 3% + zeolit 24% + tepung tapioka 11% + gondorukem 6%. Variabel yang diamati meliputi pertumbuhan dan komponen hasil tanaman. Variabel pertumbuhan tanaman meliputi tinggi tanaman, jumlah daun, jumlah anakan, bobot tanaman segar, dan bobot tanaman kering. Variabel hasil berupa umbi.

Hasil penelitian menunjukkan bahwa formula terbaik untuk pertumbuhan dan hasil tanaman bawang merah adalah F2. Pertumbuhan dan hasil tanaman bawang merah F4 selalu lebih rendah dibandingkan perlakuan kontrol (F0). Petani dapat menghemat pemupukan dan mengoptimalkan penyerapan nitrogen tanaman dengan *slow release* urea.

## SUMMARY

*This research aims to determine: 1) the effect of four formulas on slow release urea on the growth and yield of shallot plant at Purwosari village and 2) formula of slow release urea that have the best growth and yield of shallot plant at Purwosari village. The research was conducted in November 2019 until Maret 2020. The research was conducted at the ex-paddy fields of Purwosari village, Baturraden District, Banyumas Regency and Research Laboratory, Jenderal Soedirman University.*

*Research in the form of non-factorial field experiments using RAKL with five treatments repeated five times. The formula of each treatment includes: F0 = NPK (Urea, SP-36, and KCl), F1 = 70% urea + 6% chitosan + 24% humic acid, F2 = 70% urea + 10% Azolla microphylla + 10% gondorukem + 10% humic acid, F3 = 60% urea + 10% Azolla microphylla + 10% montmorillonite + 10% gondorukem + 10% humic acid, and F4 = 56% urea + 3% humic acid + 24% zeolite + 11% tapioca flour + 6% gondorukem. The observed variable including growth and yield components of shallot. The variable of growth including the height of plant, the number of leaves, the weight of fresh plant of clump-1, the weight of fresh plant of effective plot, the weight of dry plant of clump-1, the weight of dry plant of effective plot, and the number of clump-1 bulbs. The yield components of shallot is a bulbs.*

*Result of the research showed that the best formula for plant growth and yield of shallot plant is F2. The growth and yield of shallot produced by F4 is always lower than in the control treatment (F0). Farmers can fertilize less and optimize nitrogen uptake by plants with application of slow release of urea.*