

## RINGKASAN

Petsai atau sawi putih merupakan jenis sayuran yang banyak dikonsumsi sebagai sayuran segar. Komoditas ini memiliki nilai komersial dan prospek yang baik untuk dikembangkan. Salah satu upaya peningkatan produksi adalah penggunaan pupuk khususnya pupuk kandang dan ekstrak rumput laut guna memenuhi kebutuhan nutrisi tanaman. Penelitian ini bertujuan untuk: 1) Mendapatkan konsentrasi terbaik ekstrak rumput laut terhadap pertumbuhan dan hasil tanaman petsai. 2) Mendapatkan dosis terbaik pupuk kandang terhadap pertumbuhan dan hasil tanaman itu. 3) Menentukan kombinasi konsentrasi ekstrak rumput laut dan pupuk kandang yang optimum terhadap pertumbuhan dan hasil tanaman itu

Penelitian ini dilaksanakan di Desa Serang Kecamatan Karangreja Kabupaten Purbalingga dengan ketinggian 1000 mdpl dan Laboratorium Agronomi dan Hortikultura Fakultas Pertanian, Universitas Jenderal Soedirman. Penelitian ini dilaksanakan menggunakan rancangan acak kelompok (RAK) dengan pola faktorial. Faktor pertama adalah dosis pupuk kandang yaitu 0 ton/ha, 20 ton/ha dan 40 ton/ha. Faktor kedua adalah ekstrak rumput laut 0 ml/liter, 2 ml/liter dan 4 ml/liter. Kombinasi perlakuan antara 2 faktor sebanyak 9 perlakuan. Setiap perlakuan diulang 4 kali. Variabel yang diamati: jumlah daun, tinggi tanaman, kandungan klorofil, luas daun, bobot segar sampel, bobot kering sampel dan hasil per petak. Data yang diperoleh dianalisis menggunakan uji F pada taraf kesalahan 5% dan dilanjutkan uji DMRT taraf kesalahan 5%.

Hasil penelitian menunjukkan perlakuan pemberian pupuk kandang 20 t/ha menghasilkan nilai tertinggi pada bobot akar tanaman sebesar 3,56 g, bobot kering akar 1,52 g, bobot hasil tanaman 24,61 t/ha, bobot segar tanaman 621,42 g dan berat kering sampel sebesar 24,02 g. Perlakuan pupuk kandang 40 t/ha menghasilkan nilai tertinggi pada tinggi tanaman 26,1 cm, jumlah daun 8,40 helai, luas daun 334,48 cm<sup>2</sup>/tanaman dan kandungan klorofil 32,13 unit. Pemberian ekstrak rumput laut 2 ml/l menghasilkan nilai tertinggi pada variabel tinggi tanaman 26,97 cm. Perlakuan ekstrak rumput laut 4 ml/l menghasilkan nilai tertinggi pada jumlah daun 8,45 helai, bobot akar tanaman 3,67 g, bobot kering akar 1,56 g, bobot hasil tanaman 25,63 t/ha, bobot segar tanaman 664,53 g, berat kering tanaman 26,02 g, luas daun 326,49 cm<sup>2</sup>/tanaman dan kandungan klorofil 32,77 unit. Tidak terdapat interaksi antara dosis pupuk kandang dan ekstrak rumput laut terhadap pertumbuhan dan hasil tanaman petsai.

Kata kunci: tanaman petsai, pupuk kandang, ekstrak rumput laut

## SUMMARY

*Petsai (chinese cabbage) is a leaf vegetable that consumed in fresh condition. This vegetable has a commercial value and good prospect to be developed. The request of petsai increase every year. One of the efforts to increase the production of this commodity is applying fertilizers such as manure and seaweed extract to fulfill the nutritional needs of the plants. This study aims to: 1) obtain the best concentration of seaweed extract on growth and yield of plants of petsai. 2) obtain the best dose of manure on growth and yield of the plants. 3) Determine the combination of the concentration of seaweed extract and manure optimum on growth and yield of the plants.*

*This research was conducted at Serang Village Karangreja Purbalingga District with an altitude of 1000 meter above sea level and the Laboratory of Agronomy and Horticulture, Faculty of Agriculture, Jenderal Soedirman University. The research was conducted using randomized block design (RBD) with factorial pattern. The first factor was the manure doses, 0 ton/ha, 20 t/ha and 40 ton/ha. The second factor was the seaweed extract concentrations, 0 ml/l, 2 ml/liter and 4 ml/liter. The combination treatment of 2 factors was 9 treatments. Each treatment was repeated 4 times. Observed variables: the number of leaves, plant height, chlorophyll content, leaf area, fresh weight of sample, dry weight of sample and yield per plot. The Data obtained were analyzed using the F test at 5% error level and continued the test DMRT 5% error level.*

*The results showed application of the manure at 20 t/ha produced the highest value in fresh weight of roots 3,56 g, dry weight of roots 1.52 g, weight of plant 24,61 t/ha, fresh weight of plant 621,42 g and dry weight of leaf 24,02 g. Treatment of the manure dose 40 t/ha produced the highest value in plant height 26.1 cm, number of leaf 8.40 leaves, leaf area 334,48 cm<sup>2</sup>/plant and chlorophyll content 32.13 unit. Application of the seaweed extract at concentration 2 ml/l produced the highest value in plant height 26,97 cm. Treatment of seaweed extract at 4 ml/l produced the highest number in leaf 8,45 leaves, fresh weight of roots 3.67 g, dry weight of roots 1.56 g, weight of the plant 25,63 t/ha, fresh weight of plant 664,53 g, dry weight of plant 26.02 g, leaf area 326,49 cm<sup>2</sup>/plant and chlorophyll content of 32,77 unit. There was not interaction between the manure dose and seaweed extract concentration on growth and yield of plants.*

*Keywords: petsai plant, manure, seaweed extract*