

**PENGARUH TAKARAN PUPUK NPK, ZA DAN KCL TERHADAP
PERTUMBUHAN DAN HASIL TUMPANGSARI BAWANG MERAH
(*Allium cepa* L. *Aggregatum* group) DENGAN CABAI MERAH
(*Capsicum annuum* L.)**

Karsidi

15/388560/PPN/03955

INTISARI

Upaya untuk mempertahankan produksi bawang merah dan meningkatkan pendapatan petani dapat dilakukan melalui penerapan sistem tanam tumpang sari dan pemberian pupuk tepat takaran. Tujuan penelitian ini adalah untuk (1) menentukan interaksi pengaruh sistem tanam dengan penurunan takaran pupuk anorganik terhadap pertumbuhan dan hasil bawang merah dan cabai; dan (2) menentukan takaran pupuk anorganik optimum agar diperoleh pertumbuhan serta hasil bawang merah dan cabai yang maksimal. Penelitian dirancang dengan rancangan petak terbagi. Petak utama yaitu bawang merah monokultur, dan tumpangsari tanaman bawang merah-cabai merah. Anak petak yaitu penurunan takaran pupuk yang terdiri dari 3 taraf takaran pupuk: 100% takaran petani, penurunan takaran pupuk 50%, dan penurunan takaran pupuk 25%. Hasil penelitian menunjukkan bahwa penerapan sistem tanam tumpangsari meningkatkan kandungan klorofil a bawang merah pada 3 minggu setelah tanam (MST), penurunan takaran pupuk anorganik meningkatkan aktivitas nitrat reduktase, dan penurunan 50% meningkatkan klorofil a pada umur 3 MST, namun menurunkan ukuran diameter umbi, bobot per umbi dan produktivitas bawang merah. Terdapat interaksi pengaruh perlakuan sistem tanam dan penurunan takaran pupuk pada variabel jumlah daun pada 5 MST, aktivitas nitrat reduktase 6 MST, jumlah anakan 3 MST, berat kering daun pada 9 MST dan indeks panen bawang merah. Jumlah daun bawang merah terbanyak dihasilkan pada sistem tumpangsari dengan takaran pupuk 50%, aktivitas nitrat reduktase tertinggi dihasilkan pada sistem tanam monokultur dengan takaran pupuk 100% dan sistem tanam tumpangsari dengan takaran pupuk 25%, jumlah anakan terbanyak dihasilkan pada sistem tanam tumpangsari dengan takaran pupuk 50%, berat kering daun 9 MST terkecil dihasilkan pada sistem tanam tumpangsari dengan takaran pupuk 100%, indeks panen terbesar dihasilkan pada sistem tanam tumpangsari dengan takaran pupuk 100%. Sistem tanam monokultur menghasilkan produktivitas bawang merah tertinggi (6,2 ton/ha) bila takaran pupuk yang diberikan sebesar 76,67%. Sistem tanam tumpangsari produktivitas bawang merah tertinggi (5,2 ton/ha) diperoleh bila takaran pupuk yang diberikan sebesar 66,33%, produktivitas cabai tertinggi (326,72 kg/ha) diperoleh bila takaran pupuk yang diberikan sebesar 67,24% dari takaran yang diterapkan petani.

Kata kunci : Pemupukan, Sistem Tanam, Bawang Merah, Cabai

EFFECT OF INCREASING FERTILIZER RATES OF NPK, ZA AND KCL ON THE GROWTH AND YIELD OF SHALLOT (*Allium cepa* L. *Aggregatum* group) AND CHILLI (*Capsicum annum* L.) UNDER MULTIPLE CROPPING SYSTEM

Karsidi

15/388560/PPN/03955

ABSTRACT

Sustainability of shallot production and enhancing farmer's income may be obtained by applying multiple cropping system and optimum dosage of inorganic fertilizer. This research was aimed to (1) determine the interaction between cropping system and reduced dosage of inorganic fertilizer on growth and yield of shallot; (2) determine the optimum dosage of inorganic fertilizer to achieve maximum growth and yield of shallot and chilli. The research was arranged in split plot design. The main plot was cropping system that consist of monoculture (shallot) and multiple cropping system (shallot – chilli). The subplot was fertilizer dosage application, consist of 100 % fertilizer dosage application as control, 50 % of control and 25 % of control. The results showed that cropping system increased chlorophyll a of shallot on 3 weeks after treatment (WAT). Reducing dosage inorganic fertilizer by 50 % of control increased chlorophyll a content, while it decreased the diameter of bulb, the weight of bulb, and productivity of shallot on 3 WAT. There was interaction between treatments on the number of leaf of shallot on 5 WAT, the activity of nitrate reductase of shallot on 6 WAT, the number of bulb of shallot on 3 WAT, the weight of leaf drymass of shallot on 9 WAT, and the harvest index of shallot on 9 WAT. The highest number of leaves was obtained in multiple cropping system with reducing dosage inorganic fertilizer by 50 % of control. In monoculture cropping system, the highest activity of nitrate reductase was showed in 100 % dosage of inorganic fertilizer treatment. However, In multiple cropping system, the highest activity of nitrate reductase was showed in applying 25 % dosage of control. The highest number of bulb was obtained in multiple cropping system with reducing dosage by 50 % of control. The lowest weight of leaf drymass of shallot on 9 WAT was obtained on multiple cropping system with 100 % dosage of inorganic fertilizer. The highest of harvest index of shallot was obtained in multiple cropping system with 100 % dosage of inorganic fertilizer. In monoculture, the highest of productivity of shallot (6,2 tonnes.ha⁻¹) would be obtained, if the rate of inorganic fertilizer applied was 76,67 % of control. Meanwhile, in multiple cropping system, the highest productivity of shallot (5,2 ton/ha) would be obtained, if the rate of inorganic fertilizer applied was 66,33 % of control. The highest productivity of chilli (326,72 kg/ha) would be obtained, if the rate of inorganic fertilizer applied was 67,24% of control.

Keywords : Inorganic Fertilizer, Cropping system, Shallot, Chilli