RINGKASAN

Permasalahan utama pengembangan tomat organik adalah belum adanya paket teknologi rakitan budidaya tomat organik yang tidak menggunakan pupuk anorganik 100 % (*full organik*), namun produksinya tetap tinggi dan efisien. Oleh karena itu perlu penelitian untuk memperoleh paket teknologi rakitan budidaya tomat organik yang dapat mempertahankan produksi tetap tinggi, lebih efisien dan berkulitas tinggi.

Penelitian bertujuan untuk mengetahui pertumbuhan dan hasil tanaman tomat, pada berbagai paket teknologi rakitan budidaya tomat organik bebasis POC (Pupuk Organik Cair) dan arang sekam dan mengetahui dua paket teknologi rakitan yang terpilih terhadap pertumbuhan dan hasil tanaman tomat.

Penelitian dilaksanakan pada April sampai Agustus 2019 di Desa Tambaksari Kidul, Kecamatan Kembaran, Kabupaten Banyumas. Penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan 6 perlakuan paket teknologi rakitan dan 4 ulangan. Perlakuan terdiri dari: (A) Pupuk kandang (10 ton /Ha) + arang sekam (1 ton/Ha) + POC tanah (3 lt/Ha) + POC daun (3 lt/Ha) + metabolit sekunder *T.harzianum* + pestisida nabati (maja+gadung); (B) Pupuk kandang (10 ton/Ha) + arang sekam (1 ton/Ha) + POC tanah (3 lt/Ha) + POC daun (3 lt/Ha) + fosfat nabati + pestisida nabati (maja+gadung); (C) Pupuk kandang (10 ton/Ha) + arang sekam (1 ton/Ha) + POC tanah (3 lt/Ha) + POC daun (3 lt/Ha) + metabolit sekunder *T.harzianum* + pestisida nabati (maja+gadung) + PGPR + fosfat nabati; (D)Pupuk kandang (10 ton/Ha) + arang sekam (1 ton/Ha) + POC tanah (3 lt/Ha) + POC daun (3 lt/Ha); (E) Pupuk kandang (10 ton/Ha) + arang sekam (1 ton/Ha) + POC tanah (3 lt/Ha) + POC daun (3 lt/Ha) + metabolit sekunder *T.harzianum* + pestisida nabati (maja+gadung) + Mikoriza + pestisida nabati (maja+gadung) dan (F) Pupuk kandang (10 ton/Ha) + pupuk urea + ponska (sebagai pembanding). Variabel pengamatan meliputi tinggi tanaman, jumlah daun, luas daun, klorofil, bobot tanaman segar, bobot akar segar, bobot tanaman kering, bobot akar kering dan hasil panen. Hasil penelitian menunjukkan bahwa paket teknologi rakitan budidaya tomat organik berbasis POC dan arang sekam tidak berpengaruh nyata pada semua variabel pengamatan pertumbuhan, kecuali variabel hasil panen dan dua paket teknologi rakitan yang terpilih pada penelitian ini yaitu paket teknologi rakitan C dan D.

Kata Kunci: Rakitan**,** tomat, POC, arang sekam, PGPR.

SUMMARY

The main problem in the development of organic tomatoes is organic tomato cultivation technology assemblies that do not use 100% inorganic fertilizers (full organic), but their production remains high and efficient. Therefore research is needed to obtain an organic tomato cultivation technology assembly that can maintain high, more efficient and high-quality production.

This research aimed to know the growth and yield of tomato plants on various assemblies technology package organic tomato cultivation based on LOF (Liquid Organic Fertilizer) and husk charcoal, and find out the two assemblies technology package that selected for the growth and yield of tomato plants.

This research was conducted from April to August 2019 in Tambaksari Kidul Village, Kembaran District, Banyumas Regency. The research used Randomized Complete Block Design (RCBD) with 6 assembled technology packages and 4 replications. The treatments consist of (A) Manure (10 tons / Ha) + husk charcoal (1 ton / Ha) + soil LOF (3 lt / Ha) + leaf LOF (3 lt / Ha) + secondary metabolite T.harzianum + botanical pesticides (maja + intoxicating yam); (B) Manure (10 tons / Ha) + husk charcoal (1 ton / Ha) + soil LOF (3 lt / Ha) + leaf LOF (3 lt / Ha) + botanical phosphate + botanical pesticides (maja + intoxicating yam); (C) Manure (10 tons / Ha) + husk charcoal (1 ton / Ha) + soil LOF (3 lt / Ha) + leaf LOF (3 lt / Ha) + secondary metabolite T.harzianum + botanical pesticides (maja + intoxicating yam) + PGPR + botanical phosphate; (D) Manure (10 tons / Ha) + husk charcoal (1 ton / Ha) + soil LOF (3 lt / Ha) + leaf LOF (3 lt / Ha); (E) Manure (10 tons / Ha) + husk charcoal (1 ton / Ha) + soil LOF (3 lt / Ha) + leaf LOF (3 lt / Ha) + secondary metabolite T.harzianum + botanical pesticides (maja + intoxicating yam) + Mikoriza + botanical pesticides (maja + intoxicating yam); (F) Manure (10 tons / ha) + urea + ponska (control). The observation variables in this study are plant height, number of leaves, leaf area, chlorophyll, fresh plant weight, fresh root weights, dry plant weights, dry root weights and yields. The results showed that assemblies technology package organic tomato cultivation based on LOF and husk charcoal have no real effect on all growth observation variables, except yields variable, and the two best assemblies technology package in this research were assemblies technology C and D.

Keywords: Assembled, tomato, LOF, charcoal husk, PGPR.