

**PENGARUH PUPUK LENGKAP BERPELEPASAN HARA
LAMBAT (SLOW RELEASE) TERHADAP PERTUMBUHAN
VEGETATIF TANAMAN JERUK SIAM
(*Citrus nobilis* var. *microcarpa* Lour)**

Dwi Kurnila Sari¹, Sutopo², Slamet Supriyadi³, Kaswan Badami⁴

**1) Mahasiswi Prodi Agroteknologi, Fakultas Pertanian, Universitas
Trunojoyo Madura**

2) Peneliti Balai Penelitian Tanaman Jeruk dan Buah Subtropika Indonesia

**3) dan 4) Dosen Prodi Agroteknologi, Fakultas Pertanian Universitas
Trunojoyo Madura**

ABSTRAK

Jeruk siam (Citrus nobilis var. microcarpa Lour) merupakan salah satu komoditas yang memiliki nilai ekonomi dan gizi tinggi. Oleh karena itu, produksi jeruk siam perlu lebih ditingkatkan, salah satunya dengan memenuhi kebutuhan nutrisi. Petani umumnya menggunakan pupuk konvensional untuk menambahkan nutrisi pada tanaman. Permasalahannya pupuk konvensional memiliki efisiensi yang rendah terutama unsur N, karena kelarutannya tinggi sehingga cepat tersedia tetapi mudah hilang karena pelindian maupun penguapan. Aplikasi pupuk konvensional juga tidak praktis karena hanya mengandung satu atau beberapa unsur makro, sehingga memerlukan penambahan unsur mikro. Balai Penelitian Tanaman Jeruk dan Buah Subtropika (Balitjestro) merakit tiga jenis pupuk lengkap slow release (PUKAP JESTRO SR 1, 2, dan 3) yang memiliki kandungan unsur lengkap (makro dan mikro) dan mampu menekan kehilangan unsur sehingga meningkatkan efisiensi penggunaan unsur hara oleh tanaman. Penelitian ini dilakukan untuk membandingkan respon pertumbuhan tanaman serta kadar NPK daun jeruk siam akibat perlakuan pupuk konvensional dan PUKAP JESTRO SR 1, 2, dan 3. Penelitian dilakukan pada Oktober 2017 hingga Maret 2018 di Kebun Percobaan Punten, Balijestro, Malang. Penelitian menggunakan RAK dengan 3 ulangan dan 12 taraf meliputi T (campuran pupuk tunggal, dosis 100% N dari rekomendasi yaitu 81,81 g Urea; 58,78 g SP36; 36,36 g KCl), M1 (NPK 15-15-15, dosis 100% N dari rekomendasi), M2 (NPK 16-16-16, dosis 100 % N dari rekomendasi), J1A (PUKAP JESTRO SR 1, dosis 33% N dari rekomendasi), J1B (PUKAP JESTRO SR 1, dosis 66% N dari rekomendasi), J1C (PUKAP JESTRO SR 1, dosis 100% N dari rekomendasi), J2A (PUKAP JESTRO SR 2, dosis 33% N dari rekomendasi), J2B (PUKAP JESTRO SR 2, dosis 66% N dari rekomendasi), J2C (PUKAP JESTRO SR 2, dosis 100% N dari rekomendasi), J3A (PUKAP JESTRO SR 3, dosis 33% N dari rekomendasi), J3B (PUKAP JESTRO SR 3, dosis 66% N dari rekomendasi), J3C (PUKAP JESTRO SR 3, dosis 100% N dari rekomendasi). Analisis data menggunakan ANOVA aplikasi SPSS. Apabila terdapat pengaruh perlakuan yang nyata, maka analisis dilanjutkan dengan Metode Ortogonal Kontras (MOK) taraf α 5%. Data hasil analisis kandungan hara dalam jaringan daun diinterpretasikan menggunakan perbandingan Diagnosis and Recommendation Integrated System (DRIS). Hasil analisis respon pertumbuhan tanaman, perlakuan PUKAP JESTRO

SR memberikan pengaruh lebih baik daripada pupuk konvensional. PUKAP JESTRO SR dosis N 33% sudah mencukupi kebutuhan tanaman jeruk siam fase vegetatif umur 6 hingga 9 bulan dengan jenis 1 (granul dengan coating) dan 3 ($\pm$ 5.0 cm, noncoating) dapat menjadi pilihan. Kadar N daun jeruk siam yang dipupuk PUKAP JESTRO SR lebih tinggi daripada tanaman yang dipupuk dengan pupuk konvensional.

Kata Kunci: *Pertumbuhan, Jeruk Siam, Pupuk Konvensional, PUKAP JESTRO SR, Kadar N Daun.*

EFFECTS OF COMPLETE SLOW RELEASE FERTILIZER ON VEGETATIVE GROWTH OF CITRUS PLANT (*Citrus nobilis* var. *Microcarpa* Lour)

Dwi Kurnila Sari ¹, Sutopo ², Slamet Supriyadi ³, Kaswan Badami ⁴

1) Student of Agrotechnology of Trunojoyo University of Madura

**2) Researcher of Indonesian Citrus and Subtropical Fruit Research Institute
(ICSFRI)**

**3) and 4) Lecturer of Agricultural Faculty of Trunojoyo University of
Madura**

ABSTRACT

Tangerine (*Citrus nobilis* var. *microcarpa* Lour) is one of the agricultural commodities having high economic and nutritional value. Therefore, the production of Tangerine needs to be increased by means to fulfill the nutritional need. To do so, Farmers usually use conventional fertilizer. However, the fertilizer has low Nitrogen use efficiency (NUE) due to high N solubility and thereby it will lose due to leaching and/or volatilization. Such fertilizer also only contains limited number of macro elements, and thus needs the addition of other elements. Research Institute for Citrus and Subtropical Fruit Indonesia has produced three types of slow release complete fertilizer (PUKAP JESTRO SR 1, 2, and 3) having complete nutrient content (macro and micro nutrients) and capability of suppressing elemental loss and hence increasing nutrient use efficiency. This study was to compare plant growth and NPK content in citrus leaves due to application of conventional fertilizer and PUKAP JESTRO SR. The study was conducted from October to March 2018 at the Punten Experimental Garden, Research Institute for Citrus and Subtropical Fruit Indonesia, Malang. The research was arranged on Randomized Blok Design (RBD) with 12 treatments, consisting of T (single fertilizer mixture, 100% N dose from the recommendation that is 81,81 g Urea; 58,78 g SP36; 36,36 g KCl), M1 (NPK 15-15-15, 100% N dose of the recommendation), M2 (NPK 16-16-16, 100% N dose of the recommendation), J1A (PUKAP JESTRO SR 1, dose 33 % N of the recommendation), J1B (PUKAP JESTRO SR 1, dose 66 % N of the recommendations), J1C (PUKAP JESTRO SR 1, 100 % N dose of the recommendation), J2A (PUKAP JESTRO SR2, 33 % N dose of the recommendation), J2B (PUKAP JESTRO SR2, 66 % N dose of the recommendation), J2C (PUKAP JESTRO SR 2, dose 100 % N of the recommendation), J3A (PUKAP JESTRO SR 3, dose 33 % N of the recommendation), J3B (PUKAP JESTRO SR 3, 66 % N dose of the recommendation), J3C (PUKAP JESTRO SR 3, dose 100 % N of the recommendations). Each treatment was replicated for three times. Data were analysed using ANOVA from SPSS 14.0 Application for Windows Evaluation Version. Whenever there was a significant effect of treatment, subsequently Contrast Orthogonal Method (MOK) α 5% would be employed. Result of Leaf tissue analysis were interpreted by means of a Diagnostic and Recommendation Integrated System (DRIS). Result showed that citrus plant received by PUKAP JESTRO SR gave better vegetative growth than that of applied conventional

fertilizers. PUKAP JESTRO SR dose N 33% could fulfill the the nutrition needs for citrus plants from 6 to 9 months old, and the fertilizer type 1 (granule with coating) and 3 ($\pm$ 5.0 cm, non coating) can be as an option. Leaf N content of citrus plant under SR JESTRO PUKAP was higher than that of plant received conventional fertilizers.

Keywords: *Growth, Tangerine, Conventional Fertilizer, slow release fertilizer PUKAP JESTRO SR, Leaf N Content.*