

**PENGARUH JARAK TANAM DAN LEVEL PUPUK TERHADAP KANDUNGAN NUTRIEN DAN KECERNAAN *IN VITRO* TANAMAN *Sorghum bicolor* L. VARIETAS SUPER 2 PADA RATUN KETIGA**

**Citra Indriastuti  
14/366616/PT/06743**

**INTISARI**

Sorghum merupakan tanaman pakan yang potensial dikembangkan di Indonesia. Penelitian ini bertujuan untuk mengetahui pengaruh jarak tanam dan level pupuk majemuk NPK (16-16-16) terhadap kandungan nutrien dan nilai kecernaan *in vitro* tanaman sorgum varietas Super 2 ratun ketiga. Penelitian ini menggunakan rancangan split blok dengan 2 faktor dan perbedaan antar rata-rata diuji dengan Duncan's Multiple Range Test (DMRT). Faktor utama yaitu jarak tanam yang terdiri dari J1 (90cm x 20cm), J2 (75cm x 25cm) dan J3 (60cm x 30cm). Faktor kedua yaitu level pupuk majemuk NPK (16-16-16) yang terdiri dari P1 (0 kg/ha), P2 (100 kg/ha), dan P3 (200 kg/ha). Masing-masing perlakuan dilakukan 3 ulangan. Hasil penelitian menunjukkan bahwa kandungan nutrien serta kecernaan *in vitro* bahan kering dan organik tidak dipengaruhi oleh jarak tanam. Kandungan protein kasar (PK), lemak kasar (LK), *total digestible nutrients* (TDN), kecernaan bahan kering (KcBK), dan kecernaan bahan organik (KcBO) dipengaruhi oleh pemberian pupuk majemuk NPK (16-16-16) ( $P < 0,05$ ), sedangkan kandungan bahan kering (BK), kandungan bahan organik (BO), serat kasar (SK), dan bahan ekstrak tanpa nitrogen (BETN) tidak berbeda nyata. Kandungan PK tertinggi pada perlakuan P3 (6,19%). Kandungan LK tertinggi pada perlakuan P3 (2,85%). Kandungan TDN tertinggi pada perlakuan P3 (56,07%). Hasil estimasi KcBK tertinggi pada perlakuan P3 yaitu 69,21%, sedangkan KcBO tertinggi pada perlakuan P2 dan P3 yaitu 68,89% dan 68,93%. Penggunaan jarak tanam 90cm x 20cm dan 75cm x 25 cm masing-masing dengan level pupuk majemuk NPK (16-16-16) 200 kg/ha menghasilkan nilai TDN tertinggi yaitu 57,53% dan 56,57%. Disimpulkan bahwa penggunaan pupuk majemuk NPK (16-16-16) sampai 200 kg/ha mampu meningkatkan kandungan PK, LK, TDN, serta nilai KcBK, dan KcBO.

(Kata kunci: Sorgum, Jarak tanam, Level pupuk majemuk, Kandungan nutrien, Kecernaan *in vitro*)

**EFFECT OF PLANT SPACINGS AND FERTILIZER LEVEL ON THE  
NUTRIENT CONTENTS AND *IN VITRO* DIGESTIBILITY  
OF *Sorghum bicolor* L. VARIETY SUPER 2  
ON THE THIRD RATOON**

**Citra Indriastuti  
14/366616/PT/06743**

**ABSTRACT**

Sorghum is a potential feed crop to be developed in Indonesia. The study was conducted to evaluate the effects of plant spacing and NPK (16-16-16) compound fertilizer application to the nutrient contents and *in vitro* digestibility of *Sorghum bicolor* L var. Super 2 on the third ratoon. This study was designed using split block model design and continued with Duncan's Multiple Range Test (DMRT). The main factor was plant spacing consisted of 3 level : J1 (90 x 20 cm), J2 (75 x 25 cm), and J3 (60 x 30 cm). The secondary factor was NPK (16-16-16) compound fertilizer that consisted of 3 level : P1 (0 kg/ha), P2 (100 kg/ha), and P3 (200 kg/ha). Each treatment was performed with 3 replications. The result showed that nutrient contents, dry and organic matter *in vitro* digestibility were not significantly influenced by plant spacings. The result also indicated that crude protein (CP), extract ether (EE), total digestible nutrients (TDN), dry matter *in vitro* digestibility (DMI<sub>VD</sub>), and organic matter *in vitro* digestibility (OMI<sub>VD</sub>) were significantly influenced by application of NPK (16-16-16) compound fertilizer ( $P < 0.05$ ), however the dry matter (DM), organic matter (OM), crude fiber (CF), and nitrogen free extract (NFE) were not significantly influenced. The highest content of CP was on P3 (6.19%). The highest content of EE was on P3 (2.85%). The highest content of TDN was on P3 (56.07%). The highest I<sub>VD</sub> was at P3 (69.21%) and the highest OMI<sub>VD</sub> was at P2 (68.89%) and P3 (68.93%). Plant spacing at 90cm x 20cm and 75cm x 25 cm with 200 kg/ha of compound fertilizer NPK (16-16-16) had highest total digestible nutrients (TDN) content (57.53% and 56.57%). The conclusion of the study was the application of NPK (16-16-16) compound fertilizer up to 200 kg/ha level can increase the content of CP, EE, TDN, I<sub>VD</sub>, and OMI<sub>VD</sub>.

(Keywords : *Sorghum bicolor*, Plant spacings, Level of compound fertilizer, Nutrient contents, *In vitro* digestibility)