

**PENGARUH JARAK TANAM DAN LEVEL PUPUK TERHADAP  
PERTUMBUHAN DAN PRODUKSI *Sorghum bicolor* L.  
VARIETAS KAWALI PADA RATUN KEDUA**

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**INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh jarak tanam dan level pupuk NPK terhadap pertumbuhan dan produksi tanaman *Sorghum bicolor* L. varietas kawali pada ratun kedua. Penelitian menggunakan rancangan split blok dengan 2 faktor. Blok utama yaitu jarak tanam (J) yang terdiri dari J1 (90 X 20 cm), J2 (75 x 25 cm) dan J3 (60 x 30 cm). Blok sub yaitu level pupuk NPK yang terdiri dari P1 (0 kg/ha), P2 (100 kg/ha) dan P3 (200 kg/ha). Masing-masing perlakuan dilakukan 3 ulangan. Apabila terjadi perbedaan yang nyata dilanjutkan dengan uji Duncan's Multiple Range Test (DMRT). Data dianalisis variansi, sehingga hasil penelitian menunjukkan bahwa jarak tanam berpengaruh nyata ( $P < 0,05$ ) pada tinggi tanaman, jumlah daun dan kadar bahan kering. Tinggi tanaman tertinggi pada perlakuan J3 (131,11 cm), jumlah daun tertinggi pada perlakuan J2 (10,49 helai) dan J3 (10,00 helai), dan kadar bahan kering tertinggi pada perlakuan J2 (22,64%) dan J3 (24,52%). Pemberian level pupuk majemuk NPK berpengaruh nyata ( $P < 0,05$ ) pada jumlah daun, produksi segar, bahan kering, dan produksi bahan organik. Jumlah daun P2 (10,49 helai) dan P3 (10,00 helai) lebih tinggi dari P1 (9,11 helai). Produksi segar tertinggi pada P3 (5,07 ton/ha). Produksi bahan kering tertinggi pada P3 (1,16 ton/ha). Disimpulkan bahwa penggunaan jarak tanam 60 x 30 cm mampu meningkatkan tinggi tanaman, jumlah daun dan kadar bahan kering. Penggunaan pupuk NPK pada level 200 kg/ha mampu meningkatkan jumlah daun, produksi segar, produksi bahan kering, dan bahan organik.

**Kata Kunci:** Jarak tanam, Level pupuk, Pertumbuhan, Produksi, Sorgum.

## EFFECT OF PLANT SPACING AND FERTILIZER LEVEL ON THE GROWTH AND PLANTS PRODUCTION OF *Sorghum bicolor* L. VARIETIES KAWALI THE SECOND RATOON

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### ABSTRACT

This study aimed to determine the effects of plant spacing and compound fertilizer NPK application on the growth and production of *Sorghum bicolor* L. kawali varieties on the second ratoon. This study was designed in split block model design with 2 factors. The main block was plant spacing (J) consisted of 3 levels: J1 (90 x 20 cm), J2 (75 x 25 cm), and J3 (60 x 30 cm). The sub block was the level of compound fertilizer NPK that consisted of 3 levels: P1 (0 kg/ha), P2 (100 kg/ha), and P3 (200 kg/ha). Every treatment performed 3 replications, if there ther differences is significant could be continued by Duncan's Multiple Range Test (DMRT). The analicys of variance of two factors results showed that plant spacing had significantly ( $P < 0.05$ ) effect on plant height, number of leaves and dry matter persentage. The heighest of height plant was on J3 (131.11 cm). The heighest number of leaves was on J2 (10.49 leaves) and J3 (10,00 leaves). The application of fertilizer NPK level had significantly ( $P < 0.05$ ) effect on number of leaves, fresh production, dry matter production, and organic matter production. The highest number of leaves was on P2 (10.04 leaves) and P3 (10.67 leaves). Fresh production was on P3 (5.07 ton/ha). The highest dry matter production was on P3 (1.16 ton/ha). The conclution of the study was the application of plant spacing on 60 x 30 cm can increase height of plant, number of leaves, and dry matter percentage on *Sorghum bicolor* L. kawali's variety on second ratoon. Application of fertilizer NPK level on 200 kg/ha can increase number of leaves, fresh production, dry matter production, and organic matter production.

**Keyword:** Plant spacing, Fertilizer level, Growth, Production, Sorghum.