

PENGARUH WAKTU PEMUPUKAN NITROGEN TERHADAP PRODUKSI DAN KUALITAS BIJI, SERTA PRODUKSI JERAMI SORGUM VARIETAS SUPER-2 PADA REGROWTH PERTAMA

Muhammad Fathin Hanif
16/399154/PT/07272

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh waktu pemupukan nitrogen terhadap produktivitas dan kualitas biji, serta produksi biomassa jerami sorgum varietas Super-2 pada *regrowth* pertama. Pemupukan nitrogen dengan level 200 kg urea/ha diberikan dengan 3 waktu pemupukan yang berbeda mengikuti Rancangan Acak Lengkap (RAL) pola searah, yaitu perlakuan pertama (P1) 200 kg urea diberikan sekali pada umur 8 pekan, perlakuan kedua (P2) 100 kg diberikan pada umur 8 pekan dan sisanya (100 kg) pada umur 9 pekan, dan perlakuan ketiga (P3), 100 kg diberikan pada umur 8 pekan dan sisanya (100 kg) pada umur 10 pekan. Variabel yang diamati adalah jumlah anakan (*tiller*), kandungan bahan kering (BK), bahan organik (BO), protein kasar (PK), produksi biomassa jerami, jumlah malai, jumlah cabang malai, jumlah biji per malai, produksi biji, berat 100 biji, kemurnian biji, dan viabilitas biji. Data penelitian dianalisis variansi menunjukkan bahwa waktu pemupukan berpengaruh tidak nyata terhadap jumlah anakan, jumlah malai, kemurnian biji, daya kecambah biji, kadar bahan kering, bahan organik dan protein kasar jerami sorgum Super-2. Jumlah cabang dan biji per malai pada P2 ($40,33 \pm 2,16$; $1113 \pm 54,60$) dan P1 ($39,67 \pm 2,88$; $1068 \pm 59,29$) lebih tinggi ($P < 0,05$) dibandingkan P3 ($36,50 \pm 2,17$; $909,5 \pm 42$),. Produksi biji pada P2 ($2,96 \pm 0,15$ ton/ha) paling tinggi diantara lainnya. Berat 100 biji pada pemupukan pada P2 menghasilkan berat 100 biji paling tinggi ($2,83 \pm 0,06$ g) diantara lainnya. Produksi BK dan BO pada P2 ($22,85 \pm 1,95$ ton/ha; $20,35 \pm 1,63$ ton/ha) lebih tinggi ($P < 0,05$) dibanding P3 ($18,66 \pm 1,07$ ton/ha; $16,66 \pm 0,96$ ton/ha, tetapi berbeda tidak nyata dengan P1 ($21,17 \pm 2,27$ ton/ha; $18,85 \pm 2,15$ ton/ha). Dari penelitian ini dapat disimpulkan bahwa tanaman sorgum super-2 sebagai penghasil biji yang dipupuk nitrogen 200kg urea per ha terbagi pada pekan 8 dan 9 meningkatkan berat dan produksi biji, serta biomassa jerami.

Kata kunci: Sorgum super-2, Waktu pemupukan, Pupuk nitrogen, Produksi biji, Kualitas biji, Produksi biomassa.

THE EFFECT OF NITROGEN FERTILIZING TIME ON SEED PRODUCTION AND QUALITY, AND STRAW PRODUCTION OF SORGUM SUPER-2 VARIETY AT THE FIRST REGROWTH

Muhammad Fathin Hanif
16/399154/PT/07272

ABSTRACT

The objective of this study was to understand the effect of nitrogen fertilizing time on seeds production and quality, and straw biomass production of sorghum super-2 straw on first regrowth. The treatment was nitrogen fertilizing time of 200 kg of urea/ha given at 3 different fertilizing times by following a Completely Randomized Design (CRD), first treatment (P1) urea was given once 8 weeks, second treatment (P2) was given half (100 kg/ha) at 8 weeks and half (100 kg/ha) was given at 9 weeks. The last treatment (P3) treatment was given half (100 kg/ha) at the age of 8 weeks and half (100 kg/ha) was given at 10 weeks. The variables observed were the number of tiller, straw biomass production, dry matter content (DM), organic matter (OM), crude protein (CP) of sorghum straw, panicle branch, seed, seed production, weight of 100 seed, seed viability and purity. The results showed that fertilization time did not affect the amount of tiller, panicle number, seed purity, seed germination power, dry matter, organic matter and crude protein content of Super-2 sorghum straw. The number of branches and seeds per panicle at P2 fertilization (40.33 ± 2.16 ; 1113 ± 54.60) and P1, (39.67 ± 2.88 ; 1068 ± 59.29) was higher than the fertilization at P3, ($36,50 \pm 2,17$; $909,5 \pm 42$). Seed production at fertilization P2 (2.96 ± 0.15 tons/ha) was the highest among others. Weight of 100 seeds in fertilization at P2 produced the highest weight of 100 seeds, (2.83 ± 0.06 g) among others. Production of DM and OM at P2 fertilization, (22.85 ± 1.95 tons/ha; 20.35 ± 1.63 tons / ha) were higher ($P < 0.05$) than P3, ($18,66 \pm 1.07$ tons/ha; 16.66 ± 0.96 tons/ha), but not significantly different from P1 ($21,17 \pm 2,27$ tons/ha; $18,85 \pm 2,15$ tons/ha). Based on the results, it can be concluded that the super-2 sorghum plant at first regrowth as seeds producer which was fertilized with 200kg/ha of urea as nitrogen fertilizer that was applied twice at week 8 and 9 increased seeds weight and production, and also straw biomass production

Keyword: Super-2 sorghum, Fertilizing time, Nitrogen fertilizer, Seed production, Seed quality, Biomass production.