RINGKASAN

Penelitian ini dilaksanakan di Desa Gonting Malaha, Kecamatan Bandar Pulau, Kabupaten Asahan Penelitian ini akan dilaksanakan pada bulan Desember 2024 sampai dengan bulan April 2025. Penelitian ini bertujuan untuk mengevaluasi perbandingan dosis pupuk kandang dengan pupuk NPK dan penggunaan mulsa plastik terhadap produktivitas cabai merah. Penelitian ini menggunakan model Rancangan Acak Kelompok (RPT) faktorial dengan petak utama yaitu : Mulsa plastik dengan 3 taraf perlakuan, terdiri atas: M_1 = tanpa mulsa, M_2 = mulsa plastik hitam dan M_3 = mulsa plastik hitam perak dan anak petak yaitu perbandingan pupuk kandang sapi dengan pupuk NPK dengan 4 taraf perlakuan terdiri atas P_1 = Pupuk Kandang Sapi (sesuai rekomendasi = 10 ton/ha = 1 kg/plot), P_2 = $\frac{2}{3}$ Rekomendasi Pupuk Kandang Sapi (0.67 kg/plot = 666.67 g/plot) : $\frac{1}{3}$ Rekomendasi Pupuk NPK (8.33 g/plot), P_3 = $\frac{1}{3}$ Rekomendasi Pupuk Kandang Sapi (0.33 kg/plot = 333.33 g/plot) : $\frac{2}{3}$ Rekomendasi Pupuk NPK (16.67 g/plot) dan P_4 = Pupuk NPK (sesuai rekomendasi =250 kg/ha = 25 g/plot). Parameter yang diamati adalah tinggi tanaman, umur berbunga, jumlah cabang produktif, bobot buah per tanaman dan produksi per plot.

Hasil penelitian menunjukkan bahwa Perbedaan jenis mulsa plastik memberikan pengaruh yang signifikan terhadap jumlah cabang produktif, bobot buah per tanaman, dan produksi per plot. Penggunaan mulsa plastik hitam perak memberikan hasil yang terbaik karena mampu menjaga kelembaban tanah, menekan pertumbuhan gulma, dan meningkatkan efisiensi fotosintesis. Perbandingan dosis pupuk kandang sapi dan pupuk NPK berpengaruh signifikan terhadap beberapa parameter pertumbuhan dan hasil tanaman cabai merah, seperti jumlah cabang produktif, bobot buah per tanaman, dan produksi per plot. Kombinasi pupuk kandang sapi dan pupuk NPK dalam dosis yang tepat mampu meningkatkan produktivitas tanaman secara optimal dibandingkan pemberian pupuk tunggal. Parameter umur keluar bunga tidak menunjukkan perbedaan yang signifikan baik pada perlakuan pupuk maupun jenis mulsa, yang diduga karena faktor genetik tanaman lebih dominan dibanding pengaruh perlakuan lingkungan pada fase inisiasi generatif. Interaksi antara perbandingan pupuk kandang sapi dengan pupuk NPK dan penggunaan jenis mulsa plastik tidak berpengaruh nyata terhadap parameter yang diamati.

Kata Kunci : Tanaman Cabai Merah, Pupuk Kandang Sapi, Pupuk NPK, Mulsa Plastik

SUMMARY

This research was conducted in Gonting Malaha Village, Bandar Pulau District, Asahan Regency. This research will be conducted from December 2024 to April 2025. This research aims to evaluate the comparison of manure doses with NPK fertilizers and the use of plastic mulch on red chili productivity. This study used a factorial Randomized Block Design (RBD) model with the main plots, namely: Plastic mulch with 3 treatment levels, consisting of: M_1 = without mulch, M_2 = black plastic mulch and M_3 = black silver plastic mulch and sub-plots, namely the ratio of cow manure to NPK fertilizer with 4 treatment levels consisting of P_1 = Cow Manure (according to recommendations = 10 tons / ha = 1 kg / plot), P_2 = 2/3 Recommendation of Cow Manure (0.67 kg / plot = 666.67 g / plot): 1/3 Recommendation of NPK Fertilizer (8.33 g / plot), P_3 = 1/3 Recommendation of Cow Manure (0.33 kg / plot = 333.33 g / plot): 2/3 Recommendation of NPK Fertilizer (16.67 g / plot) and P_4 = NPK Fertilizer (according to recommendations = 250 kg / ha = 25 g / plot). The parameters observed were plant height, flowering age, number of productive branches, fruit weight per plant and production per plot.

The results showed that the difference in the type of plastic mulch had a significant effect on the number of productive branches, fruit weight per plant, and production per plot. The use of black silver plastic mulch gave the best results because it was able to maintain soil moisture, suppress weed growth, and increase photosynthesis efficiency. The comparison of the doses of cow manure and NPK fertilizer had a significant effect on several parameters of growth and yield of red chili plants, such as the number of productive branches, fruit weight per plant, and production per plot. The combination of cow manure and NPK fertilizer in the right dose was able to increase plant productivity optimally compared to single fertilizer application. The flower age parameter did not show a significant difference in either fertilizer treatment or mulch type, which is thought to be because plant genetic factors are more dominant than the influence of environmental treatment in the generative initiation phase. The interaction between the comparison of cow manure and NPK fertilizer and the use of plastic mulch types did not significantly affect the observed parameters.

Keywords: Red Chili Plants, Cow Manure, NPK Fertilizer, Plastic Mulch