

## RINGKASAN

Penelitian ini dilaksanakan di Balai Penelitian Tanaman dan Sayur (BPTS) Tongkoh, Berastagi, Kabupaten Karo. Penelitian ini dilaksanakan pada Bulan Agustus 2022 sampai dengan Bulan Januari 2023. Penelitian ini bertujuan untuk mengetahui pemberian bahan organik dan jenis silika terhadap kehadiran penyakit dan karakteristik tanaman padi gogo di dataran tinggi. Penelitian ini menggunakan model Rancangan Acak Kelompok (RAK) faktorial dengan 2 faktor perlakuan, faktor pertama yaitu pemberian jerami padi dengan 4 taraf perlakuan yaitu  $J_0$  = kontrol,  $J_1$  = 8 kg/plot,  $J_2$  = 10 kg/plot dan  $J_3$  = 12 kg/plot. Faktor kedua yaitu jenis silika dengan 4 taraf perlakuan, yaitu:  $S_0$  = control,  $S_1$  = sekam bakar,  $S_2$  = silika granul dan  $S_3$  = silika cair. Parameter yang diamati adalah inventarisasi penyakit, intensitas serangan penyakit blas, jumlah anakan, jumlah malai, umur berbunga dan produksi GKG per plot.

Hasil penelitian menunjukkan bahwa pemberian jerami padi mampu meningkatkan ketahanan tanaman padi terhadap penyakit blas, dan mampu meningkatkan jumlah anakan, jumlah malai dan produksi GKG per plot. Secara umum pemberian jerami padi sebanyak 12 kg/plot ( $J_3$ ) merupakan perlakuan terbaik. Pemberian beberapa jenis silika mampu meningkatkan ketahanan tanaman padi terhadap penyakit blas, dan mampu meningkatkan jumlah anakan, jumlah malai dan produksi GKG per plot. Secara umum pemberian silika bersumber dari sekam bakar ( $S_1$ ) merupakan perlakuan terbaik. Interaksi antara pemberian jerami padi dan jenis silika berpengaruh meningkatkan ketahanan tanaman padi terhadap serangan penyakit blas, namun tidak berpengaruh terhadap jumlah anakan, jumlah malai, umur berbunga dan produksi GKG per plot.

*Kata Kunci : Tanaman Padi, Jerami, Jenis Silika*

## SUMMARY

This research was conducted at the Tongkoh Plant and Vegetable Research Institute (BPTS), Berastagi, Karo Regency. This research was carried out from August 2022 to January 2023. This study aims to determine the application of organic matter and types of silica to the presence of disease and the characteristics of upland rice plants in the highlands. This study used a factorial randomized block design (RBD) model with 2 treatment factors, the first factor was rice straw with 4 treatment levels, namely J0 = control, J1 = 8 kg/plot, J2 = 10 kg/plot and J3 = 12 kg/plot. plot. The second factor was the type of silica with 4 treatment levels, namely: S0 = control, S1 = roasted husk, S2 = silica granule and S3 = liquid silica. Parameters observed were disease inventory, blast attack intensity, number of tillers, number of panicles, flowering age and MPD production per plot.

The results showed that the application of rice straw was able to increase the resistance of rice plants to blast disease, and was able to increase the number of tillers, the number of panicles and the production of GKG per plot. In general, the application of rice straw as much as 12 kg/plot (J3) is the best treatment. Application of several types of silica can increase the resistance of rice plants to blast disease, and can increase the number of tillers, the number of panicles and the production of GKG per plot. In general, the provision of silica from fuel husks (S1) is the best treatment. The interaction between the application of rice straw and silica species increased the resistance of rice plants to blast disease, but had no effect on the number of tillers, number of panicles, flowering age and GKG production per plot.

***Keywords: Rice Plants, Straw, Silica Types***