Intisari

Tanaman bawang merah dari bahan tanam TSS memiliki umur panen lebih lama dibanding umbi dari bahan tanam bibit umbi. Selain itu, tanda-tanda panen pada tanaman bawang merah dari TSS tidak begitu terlihat seperti bawang merah dari umbi konsumsi, bahkan sampai umur 90 hst daun tanaman masih berwarna hijau. Oleh karena itu pemberian etilen diharapkan mampu meningkatkan produksi etilen pada tanaman maka dapat mempercepat senesen tanaman sehingga dapat mempercepat umur panen dan mampu meningkatkan hasil umbi bawang merah yang berasal dari benih TSS. Penelitian ini dilakukan untuk menentukan waktu aplikasi etilen yang paling efektif untuk pertumbuhan dan hasil bawang merah. Penelitian ini dilaksanakan di Desa Penjalin, Donomulyo, Nanggulan, Kulon Progo, Yogyakarta pada bulan Januari sampai Mei 2019. Bahan utama yang digunakan yaitu benih biji bawang merah kultivar Trisula dan etilen 240 ppm. Penelitian ini menggunakan metode Rancangan Acak Kelompok Lengkap (RAKL) dengan satu faktor perlakuan berupa waktu aplikasi etilen yang terdiri dari tiga waktu aplikasi etilen yaitu 6 MST, 7 MST dan 8 MST serta tanaman tanpa aplikasi etilen sebagai kontrol. Hasil penelitian menunjukkan bahwa aplikasi penyemprotan etilen pada tanaman bawang merah dari bahan tanam benih TSS untuk menghasilkan umbi konsumsi saat tanaman berumur 6 MST dapat menghambat tinggi tanaman, menghambat jumlah anakan, menghambat panjang akar terpanjang pada 63 hst, menurunkan bobot segar daun pada 63 hst, meningkatkan bobot segar umbi pada 63 hst, menurunkan bobot kering daun pada 63 hst, meningkatkan bobot kering oven umbi pada 63 hst, menurunkan kadar klorofil a, kadar klorofil b dan kadar klorofil total, meningkatkan indeks panen, umur panen yang dihasilkan delapan hari lebih cepat dari kontrol, menghambat jumlah umbi, meningkatkan bobot segar dan bobot kering jemur umbi per rumpun pada saat panen, meningkatkan produktivitas bobor segar dan produktivitas bobot kering jemur umbi pada saat panen serta meningkatkan diameter umbi. Dari hasil tersebut dapat disimpulkan bahwa aplikasi etilen saat tanaman berumur 6 MST mampu meningkatkan hasil umbi.

Kata Kunci: bawang merah, etilen, TSS, umur panen

Abstract

Shallot planted from true seed of shallot (TSS) showed harvest time longer than shallot planted from bulbs. When the shallot plants from bulbs were in 60 days, the plants showed symptons of harvest time such as leaves turned into yellow color and pseudo stem became soft and laid down. However, the shallot plants from TSS were in 90 days, no clear symptoms indicating harvest time of shallot bulbs. Therefore, the application of ethylene would be expected to increase concentration of ethylene in plants. That can accelerate the age of the harvest and increase the yield of shallot derived from TSS seeds. This research was conducted to determine optimum time of ethylene application for growth and yield of shallots. The research was carried out in Penjalin Village, Donomulyo, Nanggulan, Kulon Progo, Yogyakarta in January to May 2019. The main materials used were shallot seeds of Trisula cultivars and 240 ppm ethylene. This study used a Randomized Complete Block Design (RCBD) method with one treatment factor in the form of ethylene application time consisting of three times of ethylene application namely 6 weeks after planting, 7 weeks after planting and 8 weeks after planting and plants without the application of ethylene as a control. The results showed that application of ethylene at 6 weeks after planting had effects for high inhibition in growth and development of shallot plants, inhibition the number of tillers, inhibition the longest root length at 63 days after planting, decreasing the fresh weight of leaves at 63 days after planting, increasing the fresh weight of the bulbs at 63 days after planting, decreasing the dry weight of the leaves at 63 days after planting and increasing the dried bulbs oven weight on the 63 days after planting. Ethylene gave effects in decreasing of chlorophyll a, chlorophyll b and total chlorophyll, increasing the harvest index, harvest age of shallot produced eight days faster than control, inhibition the number of bulbs, increasing the fresh weight and dried bulbs dry weight of bulbs per groves, increasing the productivity of fresh bulbs fresh weight per groves, productivity of dry bulbs dry weight and increasing the bulbs diameter. It were concluded that application of ethylene at 6 weeks after planting increased of tuber yield.

Keywords: age of harvest, ethylene, shallot, TSS