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Determination of the correct harvesting age of rhizomes of ginger (*Zingiber officinale* Roscoe) as seed material based on vegetative growth

V.J Yatawatte^{1*}, A.J. Mohotti², and H.M.P.A. Subasinghe¹

¹Central Research Station, Department of Export Agriculture, Matale, Sri Lanka.

²Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka.

Abstract

Ginger (*Zingiber officinale* Roscoe) is known as one of the most valued crops in the world, because of its unique pungency, taste, and medicinal value. The harvesting age of rhizomes for seed purposes is considered as nine months after planting (MAP). However, adverse climatic conditions can cause early senescence of ginger starting from about 7th MAP onwards before the rhizome properly matures. This causes the use of immature, inferior quality seed rhizomes for planting, while increasing the cost of seed ginger. Further, there is no information available on the yield of ginger based on the maturity of the seed rhizome. Therefore, this study was conducted to determine the maturity and the best harvesting age of ginger rhizome, based on the vegetative growth of the plant, and to determine the sprouting as an indicator of rhizome maturity. Two experiments were conducted at the Central Research Station of the Department of Export Agriculture (DEA), Matale, during May 2019 - March 2020 with two types of cultivation methods. The first experiment was carried out using seed ginger 7, 8, 9 and 10 months old, but planted at the same time. In the second experiment, planting was done at the same time, but harvesting was done at 7, 8, 9 and 10 months after planting. Both experiments had three plots each as replicates, each plot consisting of forty-four plants. The number of leaves per plant and plant height were measured at the time of harvesting. The seed rhizomes harvested in the above two experiments were allowed to sprout in a shade house, using coir dust as the rooting medium, and the number of sprouted rhizomes were counted after 30 days and 45 days. The study showed that the best vegetative growth of ginger was obtained with the seed rhizomes of 8, 9 and 10 months, while growth with 7-month-old rhizomes was significantly inferior. Therefore, ginger seed rhizomes aged 8 months, 9 months or 10 months could be used for better vegetative growth with higher sprouting ability.

Keywords: Age, Harvesting, Rhizome Seed, Sprouting

***Corresponding Author:** yatawattevaruni@gmail.com