



University of Zabol

Graduate school

Faculty of Agriculture

Department of Horticulture and Landscape

The Thesis Submitted for the Degree of M.Sc (in the field of  
Horticulture Science)

**Title:**

**Replacement of agricultural and industrial lignocellulosic compounds instead  
of cocopeat in industrial production of yellow bell pepper seedlings**

Supervisor:

Dr. M. Soluki

Dr. D. Ramezan

Advisors:

Dr. M. Aran

Dr. A. Rahimian Boogar

By:

F. Soltani

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## Abstract

Recycling and reuse of organic and industrial waste materials can be an effective way to reduce environmental risks and increase economic benefits. This research aims to investigate the possibility of replacing agricultural and industrial lignocellulosic compounds instead of cocopeat, which is an expensive shipping substrate and a lot of money is spent annually on its import, in the industrial production of yellow sweet pepper seedlings in the research greenhouse of Zabul University in 2019. Done. For this purpose, an experiment in the form of a completely randomized design with three replications with six treatments of cocopit + perlite (control) (80, 20), palm peat + perlite (80, 20), cocopit + palm peat + perlite (30, 50, 20) , cocopit + vermicompost + perlite (30, 50, 20), vermicompost + palmpit + perlite (30, 50, 20), sawdust + cocopit + vermicompost (40, 30, 30) were done. . The results showed that traits such as height (8.5 cm), root fresh weight (0.63 g), carotenoids (2.17 mg/g) were the highest in the fourth bed (30% cocopeat-50% vermicompost-20% perlite) and traits such as the number of leaves (9.97), stem diameter (2.41 mm), fresh weight of aerial parts (1.58 grams), dry weight of aerial parts (17 1.0 g), root dry weight (0.045 g), chlorophyll a (6.39 mg/g), chlorophyll b (2.38 mg/g) in the first bed (control) (80% cocopeat -20% perlite) and then in the fourth bed (30% cocopeat-50% vermicompost-20% perlite) had the highest yield among the cultivation beds. The results of this research proved that the use of cocopeat and vermicompost As a seedling planting substrate, due to its special physical and chemical characteristics, it improves the seedling growth environment and increases the ability of the plant to work. Therefore, the results of the research gave a positive response to the possibility of replacing vermicompost instead of cocopeat.

Keywords: Lignocellulosic compounds, Cocopeat, seadling, Bell pepper