

GROWTH RESPONSE AND LETTUCE PLANT RESULT WITH VARIOUS COMPOSITION OF MEDIA AND NUTRITION WITH HYDROPONIC METHOD SUBSTRATE

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ABSTRACT

Lettuce (*Lactuca sativa* L.) one of vegetables that is currently cultivated hydroponically. Growth and plant yields are influenced by hydroponics by media and nutrition. This study aims to determine the composition of the plant media (substrate) and various nutrients on growth and plant yield of lettuce by hydroponic substrate. The study was conducted from July to August 2020. The research method was a completely randomized group design (RAKL) with the *Split Plot* experimental design. The first factor is the kind of nutrition as *Main Plot* and the second factor of growth media composition as *Sub Plot*. The nutrients consist of: N1 = AB mix, N2 = rice washing water, N3 = AB mix + rice washing water. The composition of the growth media consists of M1 = malang sand : cocopeat (1: 1), M2 = malang sand : husk charcoal (1: 1), M3 = malang sand : cocopeat : husk charcoal (1: 1: 2), M4 = malang sand: cocopeat: husk charcoal (1: 2: 1). Data were analyzed using Analysis of Variance (ANOVA), continued with the Duncan Multiple Range Test (DMRT) at test level of 5%. The study results showed the composition of the growth media on (M3) malang sand : cocopeat: husk charcoal (1: 1: 2) and (M4) malang sand : cocopeat: husk charcoal (1: 2: 1) relatively better on plant height parameters. Giving a combination of various nutrition (N1) AB mix and (N3) AB Mix + rice washing water showed relative results better on the parameters of fresh weight, plant economic weight, and root volume. There is no interaction between the composition of the growth media with the various nutrients of lettuce plant growth.

Key words: hydroponic substrate, lettuce, rice washing water, AB Mix