EFFECT OF DIFFERENT TYPES OF MULCH AND TEMPERATURE STRESS ON GROWTH AND YIELD OF RADISH (*Raphanus sativus*)

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Mulching is one of the important practices in crop cultivation. Mulching directly influenced on yield increments of crops. But Most of the farmers were not aware of selecting correct mulch for their cultivation due to the lack of knowledge. Therefore, this study was conducted to evaluate the effect of different types of mulching material on growth and yield of radish (*Raphanus sativus*) under temperature stress. The experimental design was Completely Randomized Block Design (CRD) with two factors. Factor one was temperature with two level as temperature stress (35–36 °C) (T1) and ambient temperature (32–33 °C) (T2). The second factor was different types of mulching materials with four levels as control (M1), coir dust (M2), gliricidia (M3) and straw (M4). Each treatment consisted of three replicates. Growth parameters such as number of leaves, fresh weight of leaves and yield parameters such as length of tuber and fresh weight, were measured. Statistical Analysis System (SAS) was used to analyze the data and multiple comparisons of the various means were tested at p = 0.05. According to the results of the study, both factors and the interaction effect were significantly influenced on growth and yield parameters of radish. All the treatments which were with mulch were shown better performances than the treatments which were not with mulch either at the temperature stress or ambient temperature. However, treatments at ambient temperature were shown higher growth and yield performances than the treatments at temperature stress. Treatment at ambient temperature with gliricidia mulch (T2M3) was shown the highest growth and yield performances. Treatment at ambient temperature with coir dust (T2M2) was the second-best treatment and it was not significantly different from the treatment at temperature stress with gliricidia mulch (T1M3). Significantly ($P < 0.05$) lowest growth and yield performances were shown by the treatment which was at temperature stress without mulch (T1M1). Therefore effect of temperature stress on growth and yield of radish could be minimized using gliricidia mulch.

Keywords: *Temperature, Mulch, Radish, Growth, Yield*