Impact of Shading and Forced-Air Ventilation on Greenhouse Climate Control in Mid-Country Intermediate Zone of Sri Lanka

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Greenhouse crop production is becoming popular in Sri Lanka because of it applicability to most problems in horticulture sub-sector. However the local greenhouse growers face challenges due to unfavorable effects of high temperatures in greenhouses during daytime as in most other tropical countries. An experiment was conducted to evaluate the effectiveness of the selected temperature reduction strategies, namely shading and forced-air exhaust in Matale (WM3B). A commercial greenhouse of dimensions 10m x 20m with UV resistant polythene roofing and insect-proof side net covers was tested under mild winds. Both shade nets and forced-air exhaust reduced the mean internal temperature of the greenhouse by 3.1 ^{o}C. Relative humidity (RH) under shade nets was 7.7% higher than the out side (64.3%) whereas the use of exhaust fans resulted in the lowest humidity level of 63.7%.

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