Darwin A Basquial et al., Agrotechnology 2018, Volume 7
DOI: 10.4172/2168-9881-C4-039

Protected cultivation improves growth of 'Lollo Rosso' lettuce grown in chilling conditions in Benguet, Philippines

Darwin A Basquial and Constancio C De Guzman
Benguet State University, Philippines

A study was conducted in two sites (Paoay, Atok and Balili, La Trinidad) in Benguet Province, Philippines to investigate the growth and development of lettuce variety 'Lollo Rosso' through vegetative, biomass and yield, physiological and phytochemical parameters using low tunnel and mulch [black Polyethylene Plastic (PEP), alnus leaves and white PEP) as mitigation strategies against cold stress. The average temperature in Atok and La Trinidad was 15 and 21 °C, respectively. In Atok, andap or frost was experienced on February 15 and 16, 2017 with air temperature of 1.8 and 1.5 °C, respectively. Another andap occurred on March 8 and 19, 2017 having an ambient temperature of 3.3 and 3.9 °C, respectively. Performance of lettuce was better with the use of low tunnel compared to those grown without. Shoot length, root and shoot fresh weight, yield, shoot dry weight and total phenolic content of lettuce was increased with the use of plastic mulch. However, the use of alnus mulch against chilling stress was ineffective. In general, white PEP was advantageous when used in Atok, while black PEP was more beneficial when used in La Trinidad. In terms of combination effect, shoot fresh weight, yield, and root dry weight was highest in lettuce grown in Atok under white PEP and low tunnel. Lettuce grown in La Trinidad had the highest root and shoots dry weight and yield under black PEP and low tunnel.

Biography

Darwin A Basquial has completed his PhD in Horticulture, specialization in Crop Physiology from the University of the Philippines, Los Baños. He is currently working as an Assistant Professor at the Department of Horticulture, College of Agriculture and the Director of Horticulture Research and Training Institute, Benguet State University, Philippines.

dardz9980@gmail.com

Notes: