Special Issue

Effect of Cover Materials on Greenhouse Microclimate

Message from the Guest Editor

Maintaining the microclimatic conditions favorable for plant growth is the most challenging problem in greenhouse management. The heating and cooling systems employed to regulate the climate inside greenhouses are responsible for the energy consumption, and the cost account for 50% of the entire production cost. Energy efficiency becomes a major factor in the development of greenhouses and their environmental and economic sustainability. Recent research suggests that plastic films and sheets used for covering the greenhouse plays a role in reducing the energy consumption of heating, ventilation, and air conditioning (HVAC) systems, thus increasing the overall performance of the system and its sustainability through its entire lifecycle. While feeding the increasing population is one of the most hard challenges for the new millennium, the design of more sustainable and efficient intensive production systems becomes a fundamental concern for a sustainable future. This SI aims to collect papers discussing how new additives should be incorporated into plastic films or how new cover materials can be employed in order to improve the energy performance of modern greenhouses.

Guest Editor

Dr. Giuseppe Aiello
Dipartimento di Ingegneria, University of Palermo, 90133 Palermo, PA, Italy

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Agronomy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
agronomy@mdpi.com

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Editor-in-Chief

Prof. Dr. Leslie A. Weston
Gulbali Centre for Agriculture, Water and Environment Research, Charles Sturt University, Wagga Wagga, NSW 2678, Australia

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