

SOIL SCIENCE

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ABSTRACT

Maximizing the Use of Micro-Climate. JAMES E. NEWMAN.—Maximizing the use of favorable micro-climate can only be accomplished through a working concept of its causes, its dimensions, how it varies in time and space, plus some knowledge of possible controls. Micro-climates are caused by changes in methods of energy transfer associated with soil and plant surfaces. For this reason micro-climates always exist near any surface that intercepts radiant energy within the open environment. They vary according to changes in energy levels and forms through time; that is, from day to night and from summer to winter. Finally, control can only be accomplished through changes in energy balances and gradients. To accomplish a desirable control a favorable change in energy balance must be created. Such a goal can only be created through a rather complete understanding of the energy changes within the micro-climate profile associated with a given radiating surface. Each radiating surface, whether it be a soil or some vegetative surface has an associated micro-climatic profile. This profile extends some distances in both vertical directions from the receptive radiating surface. These vertical dimensions depend on the physical properties of the underlying soil as well as the physical dimensions and arrangement of the vegetative cover. For these reasons, micro-climates can be identified and classified according to physical characteristics. Therefore, it is possible to generalize from one similar set of micro-climatic conditions to another.