Research Seeks Answers to Winter Hardiness

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W. C. White and C. J. Weiser of the University of Minnesota's Department of Horticulture are seeking

basic answers to the question "What makes some plants able to withstand low winter temperatures while others are easily winter killed?"

Desiccation is the common answer given in the past. They have found that rapid change in temperature is more likely the answer. They have found the leaf temperature of arborvitae may drop as much as 15 to 20 degrees within a minute when the sun goes behind an object during winter. These rapid changes, in the laboratory, killed arborvitae taken from outdoors.

Why are evergreens hardier on the north side of buildings? They aren't. They get just as cold, but their temperature changes gradually. To bring your less hardy plants through the winter with a minimum of injury--shade them from the sun.

White and Weiser are experimenting with various flocking materials that may be sprayed on to protect plants from the winter sun to reduce their rate of temperature change.

Recent Research

Wesenberg, B. G., and G. E. Beck, University of Wisconsin, Madison, Wisconsin. Influence of production environment and other factors on the longevity of flowers on potted chrysanthemums.

Immature chrysanthemum flowers ceased development when placed in the low intensity light conditions of the 75° storage room. Mature flowers exceeded the longevity of immature ones, thus, the newly matured flowers were more desirable commercial retail products than those which were immature or partially open. Flower longevity was not affected appreciably by the method of fertilizer application or by the lack of weekly fertilizer applications during the last half of the production period. Flowers of plants grown in sand-peat medium as compared to those in soil medium did not have shorter longevity. Sand-peat was associated with decreased plant height and an average 3 day delay in flower maturation. Treatment with phosphon-D resulted in an average longevity increase of only 0.6 day. The 75°F night temperature did not decrease longevity unless light intensity was reduced. Shading consistently decreased flower longevity. Cultivar, phosphon-D and N^6-benzyladenine also influenced flower longevity.

Your editor

W D Holley

COLORADO FLOWER GROWERS ASSOCIATION, INC.
OFFICE OF EDITOR
W. D. HOLLEY
Colorado State University
Fort Collins, Colorado 80521

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