

sound, decayed, or starting to decay. If the tree is sound, a maintenance program should be developed to keep it sound. If the tree is starting to decay, every effort should be made to increase the vigor of the tree by proper pruning, thinning, and fertilizing. If the tree is decayed, its possible hazard potential should be evaluated. If it is a hazard, it should be removed.

Using the meter, determine the condition of the wood behind wounds. A wound that looks serious may not be, while one that does not look serious may be associated with advanced decay. Use the meter to detect the depth of the compartment wall that surrounds a decay column. When filling the cavity, make certain not to break the compartment wall from the inside.

References

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ABSTRACT

Cathey, H. M., and L. E. Campbell. 1975. **Effectiveness of five vision-lighting sources on photo-regulation of 22 species of ornamental plants.** J. Amer. Soc. Hort. Sci. 100(1): 65-71.

One of the changes that is occurring in outdoor environment is increased installation of lighting for outdoor activities and security. High-intensity-discharge (HID) sources of light make possible acceptable visibility with less use of electricity than incandescent (INC) filament lamps. Illumination levels in outdoor lighting now are from about $\frac{1}{4}$ foot-candle (ft-c) to 5 ft-c along roadways, walkways in parks, and building surroundings. Both the amount of light per unit area (ft-c) and the total area lighted have increased. The HID lamps provide up to 6 times as much visible light as incandescent lamps (NC) for equal use of electricity. They also differ in color, providing a range from blue to yellow.

Three types of HID lamps are in use: mercury (Hg), metal-halide (MH), and high-pressure sodium (HPS). Mercury (Hg) was the main source of outdoor lighting through the "sixties." The original "clear" Hg lamps emit radiation that appears blue. Other Hg lamps with "improved color" emit radiation that appears bluish to greenish white. Metal-halide lamps emit radiation that appears white or slightly green. They are more efficient than Hg and have better color rendition. High-pressure sodium lamps emit radiation that appears intense yellow. They are more efficient than the other HID lamps and have a broad spectrum, peaking near 589 nm (yellow), with some radiation near red. Metalhalide lamps emit little red radiation, with peaks from 400 to 600 nm. Mercury lamps have higher peaks, near 400 to 500 nm, and essentially no red radiation.

We determined the effects of outdoor night light sources on 22 species of plants that are used in landscapes or grown in greenhouses. Preliminary tests were conducted at 1 ft-c, a level common in present lighting. Subsequent experiments were conducted at intensities up to 32 ft-c to determine if any of the lights could be used to control photoperiodic response as do incandescent-filament lamps. The interaction with night temperature was also investigated.