

Community Trees

Power Lines and Trees

Introduction

Trees serve many purposes in urban and rural Iowa. Their effectiveness in screening unpleasant views, cooling the air, moderating noise, glare, and wind—as well as providing aesthetic and psychological benefits—are well known (Fig. 1). Unfortunately, hundreds of people throughout the United States are injured or killed each year when they climb or prune trees near power lines. Most high voltage lines are not insulated, and contact will result in electric shock. In addition, fires are caused when vegetation contacts and damages power lines. Property damage and personal injury have resulted from such fires in urban and suburban areas, as well as in forested and rural areas.

To assure safe and reliable electric service, trimming or removal of trees is sometimes necessary. Branches or stems that rub against power lines can cause short circuits, particularly when contact is made with more than one line. Broken branches and trees blown over in storms can cut the lines or pull them down. The resulting outages affect public safety by interrupting service to fire alarms, emergency medical equipment, and traffic lights. Commercial users may suffer business losses, while residential users, at the very least, are inconvenienced.



Figure 1. Trees provide aesthetic and psychological benefits.

Managing Problems

Any tree that has grown into power lines demands immediate attention (Fig. 2). Upon notification of an interfering tree, the utility company will arrange for a qualified arborist to prune or remove the tree, eliminating any electrical hazard.

Under no circumstances should home-owners attempt to prune trees close to power lines.

Iowans should learn to recognize the difference between proper and improper tree pruning methods. Trees pruned improperly are more difficult and expensive to maintain, and may



Figure 2. Grown into a power pole.

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become hazardous to people, pets, and property below.

Trees should never be sheared or topped (Fig. 3). Besides destroying the natural form of the tree, this destructive practice robs the tree of a considerable portion of its foodproducing capacity. Most trees respond to this extraordinary reduction in leaves and branches by producing an abundance of vigorous shoots that are weakly attached to the remaining stub and often break during wind, snow, or ice storms. Finally, topping renders the tree vulnerable to wood-rotting disease organisms. Homeowners should not entrust the care of their valuable trees to companies still offering this outdated service. More information about the hazards and risks associated with the practice of topping trees can be found in extension pamphlet Pm-1371, *Topping—Tree Care or Tree Abuse?*

Acceptable tree pruning techniques include the “V-shaped” and “side-trim” methods. The V-shaped pruning method is used on trees growing directly beneath power lines (Fig. 4). Entire branches are removed from the center of the tree while side branches are allowed to grow up and away from



Figure 3. Do not top trees.



Figure 4. V-shaped pruning method.

power lines. Side branches provide energy and suppress sprouting by shading the center of the tree.

The side-trim technique is used where trees are growing alongside power lines (Fig. 5).

Only those branches interfering with the lines are removed. Tipping—removing the ends of side branches—will cause excessive sprouting, and may



Figure 5. Side-trim pruning.

make it necessary for tree-pruning crews to revisit the same offending tree frequently (Fig. 6). Branches are properly removed at their point of origin or back to a side branch of sufficient size to assume dominance. Some trees pruned according to these guidelines may look somewhat unnatu-



Figure 6. Tipping causes excessive sprouting.

ral. Badly deformed trees should probably be removed rather than allowing them to remain as eyesores.

Those trees that are very old, structurally weak, or require frequent pruning should be removed. Such trees may interfere with power lines and cause personal injury or property damage.

Obviously, proper selection of trees for use under or near power lines, or maintaining “tree-free” zones below the lines, will reduce hazards and limit the need for frequent or drastic pruning measures (Fig. 7). If vegetation is required in the vicinity of power lines, low-growing trees should be chosen. A list of small trees appropriate for Iowa can be found in extension pamphlet Pm-1429d, *Low-Growing Trees for Urban and Rural Iowa*.



Figure 7. Choose appropriate trees under lines.

Prepared by Jeff Iles, Extension horticulturist, in conjunction with the Iowa Urban and Community Forestry Council.

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