

## Research Note

**A SURVEY OF LINE CLEARANCE OPERATIONS IN KANSAS<sup>1</sup>**by Larry McGillivray<sup>2</sup>, Steven Wiest<sup>3</sup>, and David Hensley<sup>4</sup>

Electric utilities require stringent pruning guidelines in order to deliver uninterrupted electrical service to customers, and for the safety of personnel and the public. Utility pruning operations are costly, reaching approximately one billion dollars annually in the U.S. (1). The objective of this study was to document operational aspects and needs of Kansas utility pruning programs.

**Methods**

A survey was created to obtain information from utility pruning personnel throughout Kansas. Questions concerned geographic responsibility, pruning operations, educational programs, customer response, and perceived problems. Respondents were encouraged to explain their answers.

The survey was sent to representatives of six Kansas utility companies in January 1991. The representatives selected to receive this survey were recommended by the Kansas Electric Utility Research Program Board (KEURP). These individuals are directly involved with pruning operations within their respective companies. Five of the six utility representatives responded.

**Results**

The geographical area represented by the responding utility companies covered all of Kansas except the western portion beyond Great Bend. Because of higher urban populations in central and eastern Kansas, the western portion of the state contributes only a small percentage of the utility pruning operations in Kansas.

All but one respondent indicated that the majority of their pruning operations are contracted, while two companies have in-house crews to facilitate local or emergency arborist operations. In all but one company, the person responding to the survey was also directly responsible for supervising pruning operations. The average distribution of pruning operations was 75% urban and 25% rural.

The most frequently encountered tree species were American elm (*Ulmus americana*) and Siberian elm (*Ulmus pumila*). Other commonly encountered taxa include silver maple (*Acer saccharinum*), oaks (*Quercus* spp.), eastern cottonwood (*Populus deltoides*), osage orange (*Maclura pomifera*), poplar (*Populus* spp.), and sycamore (*Plantanus* spp.). Taxa that were prominently considered to be problems were elm, poplar, sycamore, maple, mulberry (*Morus* spp.) and hackberry (*Celtis occidentalis*). This is due to the rapid growth, branch failure caused by wind and ice, sucker growth after pruning, and frequency of volunteer tree emergence of these species.

Utility pruning cycles in urban areas ranged from 2.5 to 5 years, with an average of 3 years. The 1990 annual pruning budgets of responding Kansas utility companies totaled \$13,380,000, with an average pruning cost per tree of \$18 to \$20.

No tree growth regulators were being used by the responding companies in 1991, but one respondent indicated that tree growth regulators may be incorporated in their management program in the future. Respondents cited concerns about

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inconsistent results, application techniques, and cost effectiveness.

Four respondents indicated small-scale tree replacement programs by their companies. Cost was the primary reason that tree replacement programs have not been actively developed and implemented.

Public educational materials are available from all but one company. One of the most popular publications is *The Right Tree for the Right Place* (2). Respondents indicated that problems involving property owners and adverse public image have lessened, a result of seeking and receiving owner permission to prune, and from using improved pruning techniques.

Residue disposal is not presently a problem because pruning residues are primarily deposited on utility-owned land. Public composting projects and increased use of wood mulch by the public has further reduced the wood residue disposal problem.

Utility companies with their own pruning crews offer safety and arborist training. For companies that exclusively contract prune, the contractors are responsible for training. Companies that conduct in-house pruning employ certified arborists, and

all contractors employ certified arborists. Many different sources for technical assistance to pruning supervisors were listed, including the International Society of Arboriculture, Utility Section; the Electric Power Research Institute; line clearance company foresters; local arborists and extension personnel; and the Kansas State Forestry Department. Four of the five representatives report they regularly attend arboricultural meetings.

#### **Literature Cited**

1. Ulrich, E.S. 1987. *Utility line clearance in our urban forests*. J. Arboric. 13: 62–64.
2. The National Arbor Day Foundation. *The right tree for the right place*. Tree City USA Bull. 4. Fazio, J.R. (ed.). Nebraska City, NE.

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