

# LANDSCAPE WASTE: AN URBAN PROBLEM OR COMMUNITY RESOURCE?

by James S. Darling

The City of Urbana's 11,000 street trees and an estimated 44,000 private trees are considered one of its greatest assets. Urbana's commitment to nurturing its urban forest has earned this East Central Illinois community 13 TREE CITY USA Awards and the respect of the municipal forestry industry. But that commitment to urban forestation and beautification is not without its problems. Each year the community generates some 3,600 tons (15,600 cubic yards) of landscape waste from public and private sources.

The landscape waste generated in Urbana represents approximately 18 percent of the total waste stream and as much as 35 percent of the residential waste stream during the growing season. Nationally, landscape waste accounts for one of the largest single components of solid waste we generate and, in most communities, it is simply landfilled along with residential, commercial and industrial wastes. Throughout Illinois, 95 percent of all solid waste is landfilled, with only two percent being recycled and three percent being incinerated with or without energy recapture.

But Urbana is unique in that it is approaching a 50 percent recovery rate of landscape waste and is returning it to the community as a useful product. In the early 1970s, Urbana began composting its municipally collected leaves and made wood from its municipal tree removals available to the public. But with a growing concern for diminishing landfill space and the corresponding rise in disposal costs, the City began to explore other disposal techniques that would capture a larger percentage of all the landscape waste being generated.

In 1986, the City opened a regional Yard Waste Reclamation Facility by intergovernmental agreement with its neighboring municipality, Champaign and the surrounding county. The Reclamation Facility processes all privately and publicly generated landscape waste from its service population of 172,000. Located on a retired 20-acre section of the Urbana Municipal Landfill,

the Facility is operated as a division of the Public Works Department. This larger service area generates 11,400 tons (50,900 cubic yards) of landscape waste per year.

Materials are received at the site for a tipping fee of \$2.00 per cubic yard, regardless of the source and are segregated by the truckload into succulents (leaves and grass clippings); brush and cuttings; and heavy woods (excess of 6" diameter). All material must be free of foreign material such as metals, plastics, refuse and the like, and site crews observe the dumping of each and every load so as not to accept mixed loads.

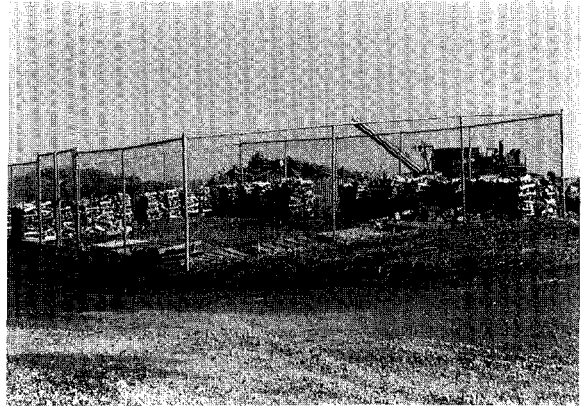
The succulents are windrowed and composted into a gardening mulch that is sold to commercial landscapers, municipalities and private parties for \$2.50/cubic yard. Windrows are approximately 300 feet in length and 6 feet in height and 12 feet in width so that they can be shredded and turned by a Wildcat compost turner. The shredding action and the constant introduction of air keeps the compost process aerobic and subsequently there is little if any odor. The processing time, which is governed by the frequency of turning, is a maximum of one year so as to provide a complete turnover of the processing area between leaf seasons.

The brush and cuttings received at the site are ground into wood chips which are sold for \$3.50 per cubic yard for ornamental landscaping applications. The material is ground in bulk in a WHO Tub Grinder at a rate of 15 tons/hour. The grinder was originally purchased for \$125,000 in 1987 and is in use 25 to 35 percent of the time, depending on quantities of material received. Loaded by a 90 horsepower crawler tractor outfitted with logging grapples the unit generates a wood chip that reduces the brush volume by 80 percent.

In that the tub grinder is limited to receiving material smaller than six inches in diameter, all larger woods, "heavy woods," are segregated for processing into firewood. Wood is stockpiled in windrows and made available to commercial

operators and the public for on-site cutting and splitting at no cost. To the extent that the City can obtain state and federally funded labor, convicted individuals having to serve community time or surplus labor, it cuts and splits firewood and sells it at or below market rates.

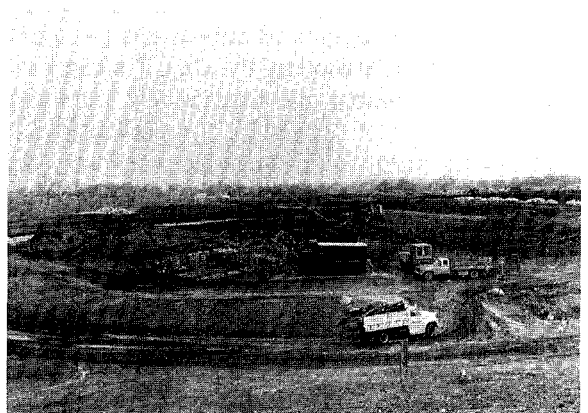
The Facility operates on an annual budget of \$144,700 and employs 2.8 full-time equivalent persons operating six days a week all year. In FY 88-89, the facility will receive \$60,000 in tipping fee revenues and material resale. The shortfall, projected to be \$84,700, is to be shared equally by the Cities of Urbana and Champaign, and Champaign County. Pricing at the facility is structured to increase so that within two years the



Firewood is cut and split from wood waste that exceeds 6 inches in diameter and is sold at below market rates.



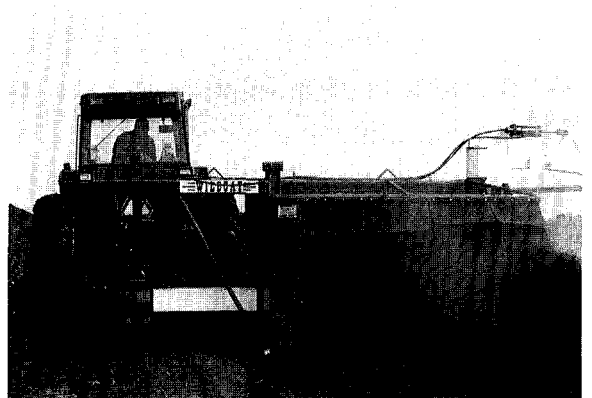
Brush and other woody material under 8 inches in diameter are ground into woodchips using a W.H.O. Tub Grinder.



The Urbana Yard Waste Reclamation Facility serves all of Champaign County, Illinois. It is located on a retired landfill site of 20 acres.



Leaves and grass clippings are windrowed and turned routinely with a Wildcat Compost Turner.



Leaf and grass based compost is sold for landscape applications or is used on site for erosion control.

municipal subsidy will no longer be necessary and the operation will be self-supporting. The subsidy period reflected in a lower tipping fee was created to allow an opportunity for the operation and concept to become institutionalized within the community and, in particular, the landscaping industry. Not included in the economic analysis, however, is the avoided cost of landfilling this material which amounts to some \$66,000/year.

Urbana not only operates a unique regional landscape waste reclamation facility, but also offers a landscape waste collection service to the community. Beginning in the Fall of 1988, the City expanded its existing traditional curbside recycling program to include landscape waste. Landscape waste generators can purchase degradable plastic bags, "U-Bags," and natural fiber brush ties, "U-Ties," at local retail outlets and set them at the curb for collection by the City. The price of the bags (\$.50/each) and the ties (\$2.99/each) include the cost of collection, the tipping fee at the Regional Yard Waste Reclamation Facility and their manufacturing costs. The program was created to assign the cost of collecting and disposing a particular waste to the generator on a volume basis. To date, the program has been well

received and some 750 cubic yards (compacted) of landscape waste have been collected separately in Urbana at the curb and ultimately reintroduced into the landscaping industry as a useful product.

This Regional Facility and unique collection program is an innovative approach to solving what is quickly becoming a major concern of communities across the country. By creating a closed cycle of growth, reclamation and reuse, the Illinois community has successfully addressed a large portion of its urban waste dilemma. This effort has not come too soon in that the State of Illinois has banned all landscape waste from landfilling effective July 1, 1990. This legislative action acknowledges the tremendous impact of landscape waste on our solid waste dilemma and the availability of disposal options such as those underway in Champaign County.

*Director of Public Works  
400 S. Vine St.  
P.O. Box 219  
Urbana, Illinois 61801*

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## Abstract

DAY, S. 1988. **Pruning: selecting the best tool for the job.** Colorado Green 3(4):6-8, 10, 12, 14, 40-41.

There are many kinds of pruning tools of varying quality available on the market. Choosing from among the various brands and hundreds of products is not unlike trying to differentiate quality and flexibility among, for example, leaf blowers or fertilizers. Many industry professionals ponder the decision of how to choose the highest quality, lowest priced hand tools, only to discover that in most cases high quality commands a high price. Unfortunately, it is impractical to include descriptions of more than just a few brands and models of pruning tools in a product analysis article. With the help of illustrations and tables you should have just enough information or desire to pursue your interest further with a qualified product dealer. For purposes of this article, the basics of tree and shrub pruning tools will be discussed for the following categories: hand pruners; hand saws; hand loppers; pole pruners; pole saws; chain saws; and pneumatic and hydraulic pruning systems.