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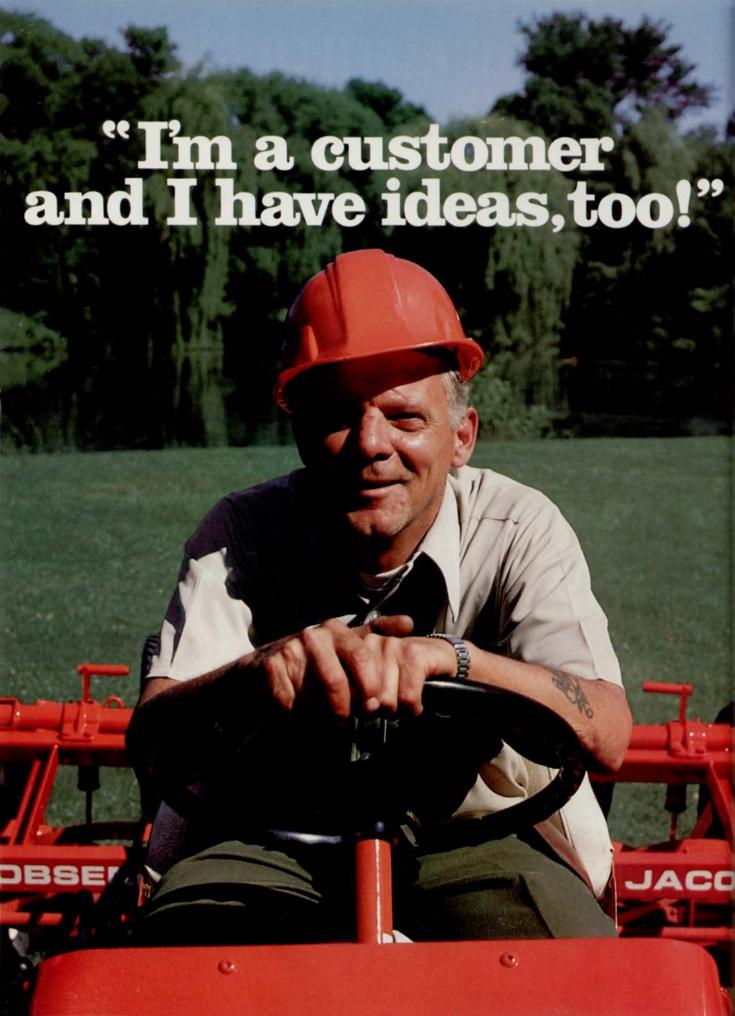


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### HOW TO APPRAISE TREES AND PLANTS FOR TAX AND INSURANCE PURPOSES



This article has been derived from a soon-to-bereleased audio visual program by the Council of
Tree and Landscape Appraisers. The Council is a
cooperative venture by five major professional
organizations to promote the importance of the
landscape contractor, arborist, and nurseryman in
establishing plant values for tax and insurance
causes. The five organizations are The American
Society of Consulting Arborists, the International
Society of Arboriculture, the Associated Landscape Contractors of America, the National Arborist Association, and the American Association
of Nurserymen. Special thanks goes to F. R. Micha,
a member of the Council for his help in preparing
this article.

The book mentioned in the article, "The Guide for Establishing Tree and Plant Values" will be released in February by the International Society of Arboriculture. The audio/visual program, designed actually for homeowners and insurance agents, will be available in late January. All inquiries should go to the Council (address at end of article).

Row of hedges provides privacy. A mature hedge like the one pictured would take years to replace in the case of damage.

Shade trees and other landscape plants have traditionally been considered important for their aesthetic qualities. They also play important roles in air purification, temperature control, noise abatement, control of wind and erosion, and privacy.

Considering these various benefits of plants in a landscape, the need to assign a financial value becomes obvious.

How this value is determined and what it means to a property owner in tax and insurance matters are just two reasons why plant appraisal is best performed by skilled professionals.

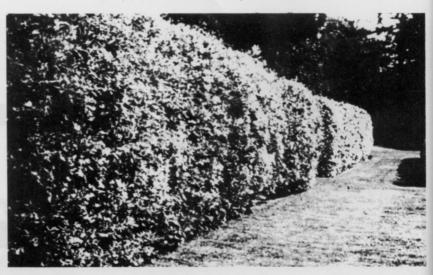
The U.S. Forest Service reports that trees can add as much as 20 percent to the value of property. Real estate studies show that smart landscaping can add up to 30 percent to the sale price. When a tree or landscape plant is damaged or destroyed, the value of property is reduced.

If the damaged plant is small enough to be replaced readily, the professional has little difficulty establishing a realistic value because he is familiar with replacement costs.

Trees up to 12 inches in diameter and most shrubs and evergreens are in this "transplantable" category.

The Internal Revenue Service will usually accept replacement costs as a tax loss. Treasury regulations provide that normally the casualty loss should be measured by "competent appraisal." They also provide that the "cost of repair" is acceptable as evidence of the loss with the conditions that the repairs were necessary, reasonable in amount, don't go beyond the damage incurred, and don't raise the property value above its precasualty level.

Trees larger than 12 inches in diameter present a significantly more complex set of determinations. These criteria are published in a book, "The Guide to Establishing Tree and Plant Values," by the International Society of Arboriculture.



Basically, the value of trees ranging from 13 to 40 inches in trunk diameter is determined by multiplying the area (in square inches) of a cross section of the trunk at a height of four-and-a-half feet by \$15.

Once this figure is obtained, three other factors must be considered. They are the kind of plant, condition and location. Each of these are judged on a percentage basis (100 percent being highest) and multiplied by the cross section value.

It is the job of assigning a percentage value for type, condition, and location that most requires the knowledge of a professional plant appraiser.

Recently during a workshop on establishing tree values sponsored by the American Society of Consulting Arborists at the National Arboretum in Washington, D.C., 100 tree and landscape plant specialists judged a selected variety of plants for value and damage incurred.

One of the trees judged had been damaged, probably beyond repair by a fire resulting from a workman's accident. A value for the oak was needed to file a damage claim.

The oak measured 32 inches in diameter at four-and-a-half feet above the ground. The area of the cross section is approximately 800 sq. in. (pi x radius<sup>2</sup> or 3.14 x 16<sup>2</sup>). Multiplying 800 by \$15, a value of \$12,000 is obtained.

The Guide contains tables which list area and value for many sizes of plants.

Next to consider is the type of tree. Oaks are hardy trees, fairly insect and disease resistant, with important environmental contributions. They are therefore rated high on a percentage scale. The 100 professionals assigned a 90 percent value. The value is accordingly reduced, \$12,000 x 90 percent, or \$10,800.

The location of the tree was good as an integral part of a landscape. The appraisers assigned a 90 percent value for location. Therefore, the value was again reduced, \$10,800 x 90 percent, or \$9,720.



**Fred Micha** (right), member of The Council of Tree and Landscape Appraisers, chats with fellow arborists L. Martin (left) and A. Sandstrom (center).

Finally, the condition of the tree was judged. The condition of the tree before the fire was difficult to judge since no photographs of the tree before damage existed. The appraisers had to consider the age of the tree, its life expectancy under normal conditions, buds emerging in spite of the damage, and branches not touched by the fire. All these factors led the appraisers to rate the preaccident condition at 60 percent. The final reduction (\$9,720 x 60 percent) results in a precasualty value of \$5,832. This is the amount that should be listed in the insurance claim.

A second tree appraised by the group was a Korean pine, an evergreen. Rather than measure the diameter, the professional bases the beginning of his formula on the height of the tree.

The Guide includes a table of basic values for evergreen trees and shrubs at various heights.



Estate pictured could suffer tremendous losses in the case of a severe ice storm. The owner would be wise to have plants appraised periodically to guard against low appraisal in case of damage.

### Condition guide for shade trees

Once a nontransplantable plant is damaged, its precasualty condition is the hardest factor to judge. Only on rare occasions is there a photo or appraisal on hand to document precasualty value.

Like jewelry or anything else of value, an owner should keep updated records on value. Homeowners and other property owners should periodically have valuable plants appraised by a professional plant appraiser. An appraiser can estimate precasualty condition after a loss based upon evidence, but the most accurate figure comes from periodic appraisal before damage takes place.

Bruce L. Webster, urban forester for the Nebraska Forest Service in Lincoln, has reported a point system for the condition of shade trees. This system was published in the Nov. 1978 issue of the Journal of Arboriculture.

It is a formula utilizing five factors; trunk, growth rate, structure, insects and diseases, crown development, and life expectancy. Each factor is assigned a point value and these are added together for an overall condition rating.

#### Guide for judging the condition of a shade tree.

A. Trunk condition	n	
Sound & Solid	Sections of	extensive
5	bark missing	decay & hollow
the same on	anima alad	Cantibaca Isma
B. Growth rate (c	the contract of the contract o	Land the second
more than 6" twig elongation	2-6" twig elongation	less than 2" twig elongation
3	2	1
C. Structure		
	one major/several	2 or more
Sound		major limbs broken,
5	broken, missing	dead, missing
The part of the second	rolessional bases	e diameter, the p
D. Insect & disea No pests present	THE RESERVE OF THE PERSON OF T	2 or more
No pesis present	i pesi present	pests present
3	2	1
E. Crown develo	pment	
	ant november auch	unbalanced &
Full & Balanced	full but unbalanced	lacking a full
		0
5	3	crown 1
5 F. Life expectance	3	0
	3 2 <b>y</b> 15-20 years	0
F. Life expectano	,	crown 1
F. Life expectand over 30 years 5 Condition Class:	15-20 years 3 Percent	crown 1 less than 5 years 1 Rating
F. Life expectand over 30 years 5 Condition Class: Excellent:	15-20 years 3 Percent 80-100%	crown 1 less than 5 years 1 Rating 26-23
F. Life expectand over 30 years 5 Condition Class:	15-20 years 3 Percent 80-100% 60-80%	crown 1 less than 5 years 1 Rating 26-23 22-19
F. Life expectand over 30 years 5 Condition Class: Excellent: Good:	15-20 years 3 Percent 80-100%	crown 1 less than 5 years 1 Rating 26-23
F. Life expectant over 30 years 5 Condition Class: Excellent: Good: Fair:	15-20 years 3 Percent 80-100% 60-80% 40-60%	crown 1  less than 5 years 1  Rating 26-23 22-19 18-14

The percent figure (center column above) can be used for the condition percentage in the standard appraisal equation for nontransplantable trees. A Korean pine is practically irreplaceable since there are only a few in this country. Arriving at a real dollar value for a rare tree, especially if no precedent exists for assigning a value, is very difficult.

The tree was in a prominent place and helped screen the view of a parking lot behind it. However, it was planted too near an oak tree which was crowding the pine. A location value of 70 percent was selected.

There is another kind of challenge in appraising plants, multi-stemmed trees such as Crepe Myrtle. There are three ways to calculate values for multi-stemmed plants.

One is to determine replacement costs, if it is transplantable. Another is to base the appraisal on the value of a single-stem tree that would give the same tree canopy. The third is more complex.

In the third method, the value is based upon the diameter measurement of the largest stem, plus 50 to 70 percent of the combined diameters of the remaining stems. After arriving at this figure, standard reductions for type, location and condition are made.

Crepe Myrtle is subject to winter damage. Because of this, its type rating is lower than some plants. In determining a precasualty value for a Crepe Myrtle, the severity of previous winters would have to be considered.

Such plant characteristics are just part of the knowledge an appraiser must have to make an accurate value determination. Only trained and experienced professionals know all the factors that must be considered in plant appraisal.

The five member associations of the Council of Tree and Landscape Appraisal are the correct source for individuals with the proper training in plant characteristics and appraisal.

#### Addresses

Council of Tree and Landscape Appraisers Attn: Paul Dawson 232 Southern Bldg. Washington, D.C. 20005 (202) 347-8219

American Association of Nurserymen 230 Southern Bldg. Washington, D.C. 20005 (202) 737-4060

National Arborist Association 3537 Stratford Rd. Wantagh, NY 11793 (516) 221-3082

International Society of Arboriculture E. C. Bundy P.O. Box 71 Urbana, IL 61801 (217) 328-2032

American Society of Consulting Arborists 12 Lakeview Ave. Miltown, NJ 08850 (201) 821-8948

Associated Landscape Contractors of America 1750 Old Meadow Rd. McLean VA 22101 (703) 893-5440



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## PARK MAINTENANCE PLANNING BEGINS WITH GOOD DESIGN

By Theodore J. Haskell, Professor Department of Park and Recreation Resources Michigan State University East Lansing, Michigan



Heavily used picnic area (above). Note compaction and loss of ground cover and small trees. Stationary tables (below) and concrete pad make high use area easier to maintain and less damaging to nearby vegetation.



Whether we need a park bench or a park system, we must design for maintenance and then, maintain the design. Far too often new park and recreation areas are developed without adequate understanding of future maintenance costs, and often the potential of a good design is not realized because of lack of appreciation and enthusiasm in the maintenance crews.

Design and maintenance are both tools used to meet the needs of the public. These tools are so closely related that each is only marginally effective without the other.

The key to effective use of these tools is human use. Human use justifies designs and determines the level of maintenance. At the "wilderness" end of the management yardstick we may have an area like Isle Royale National Park. There is a little civilization at boat landings and miles of ecologically balanced forest trees, moose, wolves and beavers in between. This sort of facility has a very low level of development, relatively few visitors, and simple sorts of maintenance operations. At the other end we find the "formal gardens," at Niagara Falls, Golden Gate Park in San Francisco, or a theme park like Disneyland. These are highly developed, serve many visitors, and utilize a complicated system of maintenance planning that has virtually every blade of grass under the eye of a trained gardner. All the other recreation and leisure facilities will fall somewhere in hetween

As the human use increases we must increase the level of maintenance or "human erosion" will destroy the very qualities that gave it value in the beginning.

Park operators today are trying to achieve two goals:

- Provide a safe and satisfying recreational experience, and
- 2. Protect the resource.

While these may seem almost contradictory, we can achieve substantial progress through consideration of two questions: the design question, "how do we predict use?", and the maintenance question, "what does use imply?"

#### The design question

How do we predict use? The answer always starts with some concept of need, some general statement of policy or set of standards, and then becomes a more specific application as we apply it to concrete situations.

Harold Horowitz, an architect, defines a successful design as "one that translates the needs of the user, as expressed in the program, into a significant physical form."

Dan Kiley, landscape architect, warns that we tend to design in only two dimensions, without concern for the human values of the people who must use the area. C. M. Deasey stresses that design goals should improve personal relationships and ease strain. He suggests that the design of an area





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Path from community center to tennis courts is free flowing but direct and hard surfaced to take wear. Note play equipment island with sand. Park is located in Fort Mill, South Carolina.

should (1) maintain the value of the product, (2) maintain control, (3) function efficiently, that is, allow everyone to adapt their individual goals to those of the group.

Our designs must function. They must do what they are supposed to do. We must design for use and for the maintenance that use implies. For example, there must be paths where many people will wish to walk and these paths must be kept clear of litter, mud, ice and snow, fallen tree limbs, and there must be access for maintenance crews and equipment to get in and out in an efficient and economical manner.

How well do our current designs measure up? Not too well in many cases. Some cities have newly constructed facilities that are beautiful, creative, and imaginative; facilities that win awards for the designers, and give the maintenance men grey hair and ulcers.

We find that expensive hand maintenance is often the only answer. Usually the problems of steps, narrow openings, high maintenance plant materials, exposed plumbing and lighting fixtures, and wall surfaces that invite graffiti, do not individually create much delay or extra maintenance work, but the collective time required each year, year after year, can be frightening to an administrator trying to stretch a budget in inflationary times.

When we plan a building or outdoor facility we tend to think of the initial costs, often making the decision to use a cheaper material to reduce the initial investment. However, a Pennsylvania planner estimated the initial construction costs of a facility may represent only 5% or 10% of the funds spent over the life of the facility to operate and maintain it

"People-use" is the desired result. If we don't trim, paint, light, heat, cool, oil, clean, and so on the people won't use the facility. Poor maintenance is a powerful dissatisfier.

At the other extreme we have designs that are little more than "rubber-stamp" solutions. Monuments to yesterday's successful designs. Minimum budget answers that offer a cafeteria of facilities instead of getting community input.

#### Impact of Change And Growth

Even if a park design does fit the precise needs of its community when it is first developed, we must allow for growth and change of the community around it. Designers should remember the advice of a famous planner who said, "It is better to be approximately right than exactly wrong, since the future will never develop precisely as we expect."

A park design must be defensible in the face of change or capable of modification. The extent to which a park will be defended, kept stable or modified through redesign, will be a policy decision, but the designers and maintenance planners must be aware of the implications for design as the use-patterns change over time.

One of the most common of these changes is crowding. As more and more people wish to use the park the relationships between "community" (being with others) and "privacy" (being alone) change. Researchers and other thoughtful people