Proc. Fla. State Hort. Soc. 91:91-92. 1978.

THE TECHNIQUE OF APPRAISING ORNAMENTAL PLANT MATERIAL

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Additional index words. appraisals, landscape appraising.

Abstract. **Ornamental plant materials are appraised for the purpose of establishing realistic current values to be used in determining losses, values for sales and anticipated damages.**

Most appraisal work is done in the field. The actual factors involved in determining such values must be visually observed in most cases. Generally, the factors involved are: Size, Kind, Condition and Location.

Because of the complexities which occur in appraisal work, a special field has evolved in which certified work by specially trained plant material appraisers is desirable. Certain organizations which conduct continuing education programs in this field offer memberships.

The optimum timing for an ornamental plant appraisal is that period during which the damage in question can best be determined by the appraiser. This may vary considerably, depending on the nature of the damage. In cases where no damage has been incurred, but is anticipated, it is of special value to perform the appraisal prior to the damage.

Many opportunities for proper application of plant appraisal work are overlooked because of a general lack of understanding of the value of such service. There is a need for more understanding by the members of the plant industry and the general public, including the legal and insurance professions.

Appraising Ornamental Plants

With increasing frequency, ornamental plant appraisals are being used to establish current values which, in the view of trained appraisers, are realistic. These values are used for several reasons: determining casualty losses from storms, freezes or other acts of nature; or from vandalism; in many instances, measuring losses caused by careless use of construction equipment; establishing values of plant materials for the purpose of determining fair and equitable sale prices during liquidation proceedures; and finally to place values of plants which are threatened with anticipated damages from utility improvements, outside construction and other reuse of land.

Because most of the appraisal work involves a visual concern for the material under consideration, most of the work should be performed in the field where the actual plant(s) may be observed under current conditions. Occasionally, a situation requires the appraisal work to be done from evidence other than visual observation. In such instances, the deductions to be drawn can only be those which are supportable from obvious facts such as well defined pictures, affadavits and other supporting documentation.

Basic factors are firmly established in plant appraisals which become the basis for establishing values. These factors are the skeleton on which the "fleshing out" of the appraised value is hung. Size, kind, condition and location of the individual specimen plants are of primary importance.

A valuable tool in the work of appraising plants is a diameter tape or caliper instrument which is used for establishing the diameter of most trees. Those plant materials which are not ordinarily sized by caliper, such as shrubs, vines, ground covers, etc. are evaluated on the basis of height, spread and/or square footage.

The kind, species, or variety of the plant is of great importance in arriving at the evaluation, since many plants are considered to be in one or another strata of values. Depending somewhat on local useage, as well as on established listings, tree types, in particular, are subject to this type of differentiation. When such lists or differences are used, a percentage of basic value is put into practice which becomes one of the ingredients of the final formula.

The condition of the plant under observation is of great importance in establishing a current value. Regardless of the kind or size of the plant, it may have a greater or lesser value because of its physical condition. Deformed parts, whether due to crowding, storm damage, fire or insect or disease damage or any of a number of other causes will affect the condition value to some degree and need to be closely observed during the inspection.

Location of a plant is important in determining its value, especially when it is in close proximity to buildings, utility lines and other plants. The landscape use of plants often is a highly rated factor of values which can heavily weight the outcome of the appraisal.

Recognizing the above criteria for appraisals, one can sense the need for a special application of talent, based on training and experience, which is necessary for a satisfactory result in plant appraising. No longer is it adequate for one to say "I am a nurseryman" and automatically be qualified for many types of plant appraisal work. With the advent of environmental concerns, high urban development and sophisticated pollutants, to name a few of the concerns, one engaged in appraisal work faces a continuous educational process in an effort to keep pace with the problems in appraising. It is because of this need for continuing education, as well as the recognition of landscape appraisals as a viable science, that appraisal courses are now being conducted at special workshops and are being incorporated in college curricula at several institutions. Memberships in such professional societies as American Society of Consulting Arborists and American Society of Appraisers offer great opportunities for improvement in the field.

The ideal time for a plant appraisal based on a casualty occurrence is when the maximum damage from the occurrence is manifested. This is not always possible and many appraisals are conducted at times which are less than optimum insofar as desirability is concerned. Initial observation of apparent fire damage may be misleading, for example. The inroads of damage may be more severe after a period of time has elapsed. The trained eye of the appraiser must be able to judge, based on all of the evidence available, what the possible consequences might be. To have the privilege of waiting for a year or two, in order to make a final judgment, is not usually the case.

In the situation involving anticipated damages, the appraisal can often be conducted under more suitable circumstances. Here all of the factors which determine the value formula are readily discernible and a value judgment can be made which is based on all of the ingredients as seen on the site.

Perhaps the biggest challenge facing the plant appraisal field at this time is that of educating those who can best benefit from such service—the general public. This sector, including the legal and insurance professions, does not adequately recognize the value of such services. Not only does

this reflect on the appraisers as a group, but it more seriously reflects on the place which plants occupy in the mind of the public. If we were to be faced with the loss or destruction of our jewelry, antiques or house, there would be little or no delay about getting the value established and instituting a claim.

More often than we care to admit, the appraising profession experiences reactions from insurance and tax personnel which reflect a serious disregard for true plant values—values which are high in the minds of those who work with and purchase plants.

Confusion also exists in the minds of non-professional "evaluators" who tend to mix the sometimes adverse information concerning certain landscape plants with the otherwise aesthetic values which actually determine the appraisal values. A genuine landscape value for a tree species, for example, need not be lost because of otherwise detracting values in other areas of the growing range of the species. What is considered to be a possible liability in one extreme of a species growing range does not necessarily qualify that species for devaluation over its entire range.

The qualifications of a professional landscape appraiser might best be found in a combination of talents which include those of plant grower, landscape architect, steady student of horticultural practices and one who makes a conscious effort to blend those skills into an amalgam of common sense which is focused on the problem with the aid of a keen observation capability to discern *all the facts*. Not superman of horticulture—just the type of person we all like to think we are!

Proc. Fla. State Hort. Soc. 91:92-96. 1978.

VALUE OF LANDSCAPING FOR CONSERVING ENERGY IN RESIDENCES

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Additional index words. Energy conservation, shade effects.

Abstract. **The effectiveness of various: 1) shading levels on walls and roofs; 2) exterior colors of walls and roof; and 3) building orientations for conserving energy in comfort conditioning residential buildings is presented. The computer simulation results show that a typical Florida residence having walls and roof 2/3 shaded, light-colored walls and roof, and east-west orientation has an average heat extraction rate 27% less than the same building with no shade on dark-colored walls and roof with a north-south orientation for the summer design-day in Orlando, Florida.**

The computer simulation results are summarized by comparing the energy requirements for cooling and heating a specified "low energy" and "high energy" house. The "high energy" house is common construction, while the "low energy" house is one designed, constructed, and operated with energy conservation in mind. The heat extraction rate of the "low energy" house is 67% less than the "high energy" house; the heat addition rate for the winter design-day is 70% less in the "low energy" than the "high energy" house.

Tremendous amounts of energy are consumed in the United States each year for heating, cooling, and ventilating buildings. Space heating and cooling of buildings occupied by people amounts to approximately 20% of the total energy consumed in the United State (8). A more recent report (9) indicates that approximately 32% of the energy is consumed for heating and cooling those buildings occupied by people. Much energy can undoubtedly be saved in comfort conditioning buildings by incorporating energy conservation principles into the design, construction, maintenance, and operation of the system. Retrofitting existing buildings with insulation, weather-stripping, and periodic maintenance of mechanical equipment can potentially save 20 to 25% of the energy used for comfort conditioning buildings (6). Other researchers (7) estimate that 50 to 60% energy savings can be realized in new buildings that are properly designed, constructed, and operated with energy conservation as a major design criteria. These energy savings can be obtained with very little, if any, discomfort or inconvenience to the occupants of the building.

The environment around residences can be improved by landscaping to save energy and to increase comfort during both summer and winter. An excellent discussion of the types of trees, vines, and espaliered plants (plants trained to grow against walls) to use for protecting buildings from intense solar radiation is presented by Black (2). The wise selection and placement of plants around a house will lower the expenses for both heating and cooling, on the basis of solar radiation and wind protection provided by the plants. The value of plants for reducing energy expenditures for comfort conditioning is discussed in qualitative terms by many, such as (2, 5, 10).

The object of the reported research was to simulate with computer models the sensitivity of landscaping designs incorporating various shading levels, exterior colors, and orientations of residential buildings on the energy requirements for comfort conditioning residential buildings in Florida.

Methodology

Experiments to evaluate the effects of different landscaping designs on residential buildings would be prohibitively expensive and time consuming. The more feasible approach is to use a simulation model capable of determining the time-varying requirements for heating and cooling systems of buildings. The computer programming model used in this research was developed and refined to simulate the heat extraction and heat addition rates of residential buildings for both the summer and winter, respectively (4). The components of sensible and latent heat gain and loss in the building were.

1. conduction through walls, ceiling, floor, windows and doors;
2. infiltration, either by controlled ventilation or air leakage;
3. transmission of solar radiation through fenestration (window) areas;

Florida Agricultural Experiment Stations Journal Series No. 1495.