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AN ECONOMIC ANALYSIS

*John Van Dam**

Rising costs demand competent allocation of resources because as costs have increased, budgets have become more restrictive. This has placed upon the turfgrass managers the need to plan effectively to maintain the established quality of the turfgrasscs without incurring additional costs. To accomplish this the turfgrass manager must rely upon his own extensive knowledge, expand it and continually refine the planning and the allocation of the resources available to him.

OWNERSHIP GOALS ESTABLISH COSTS

A logical starting point for a turfgrass manager is to put the situation into the context of ownership goals.

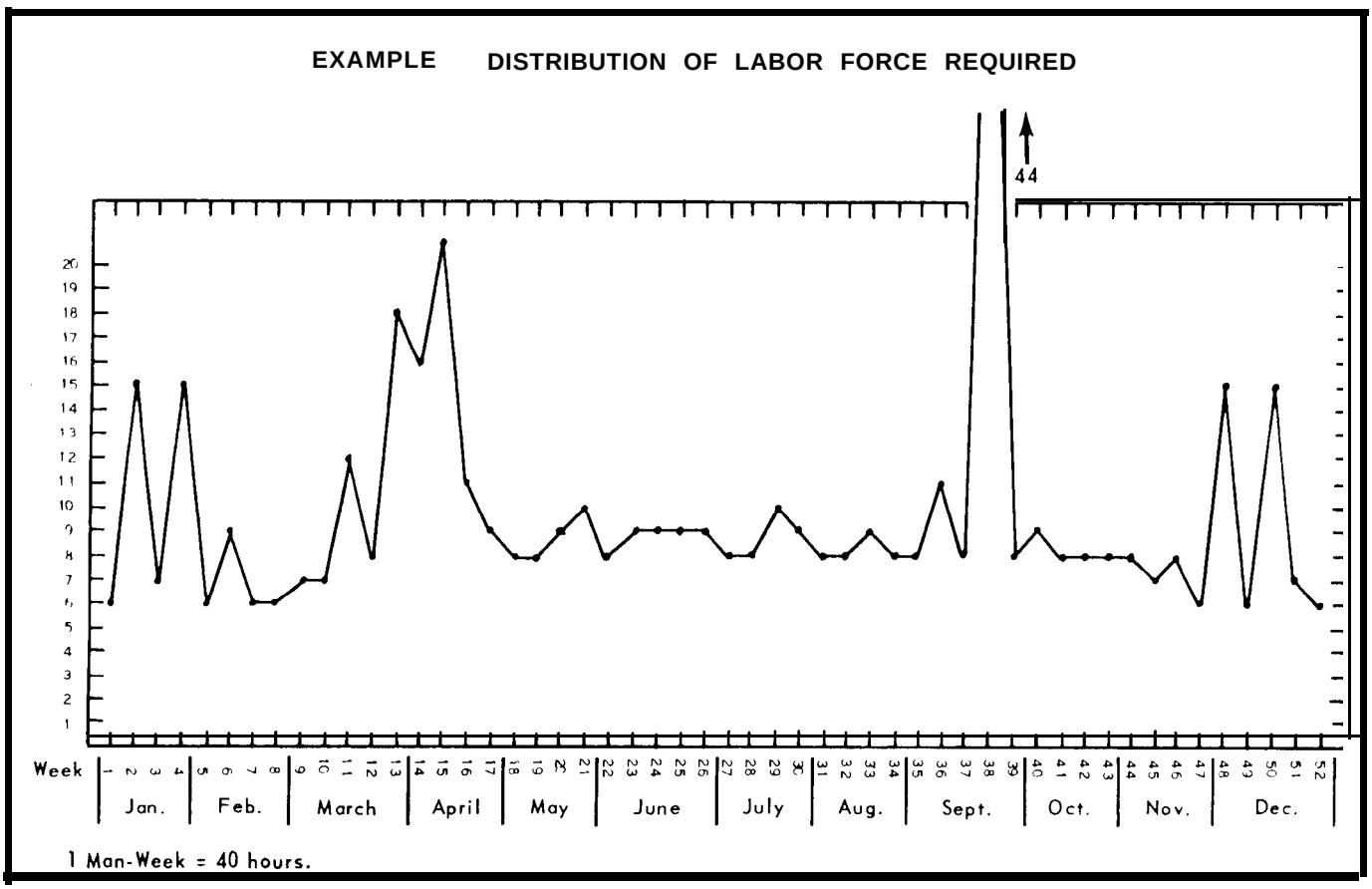
The goals are those objectives the owners had in mind when the project was conceived and facilities were constructed. Ownership goals were established in answer to questions similar to: What clients are to be served? Do they want the best? Would they settle for less? If so, how much less? Will there be monies available and if so, how much or how little?

The goals establish the levels of quality for a facility. All operations subsequently performed must strive to conform to those levels. Knowing the levels, the skilled manager can then define the operational tasks and their frequencies thereby meeting the level of quality demanded by management.

Operational costs are calculated on known performance carried out by mutual agreement of priorities and quality levels. Operational tasks arc those physical inputs performed a given number of times, thereby accumulating a determinable number of man-hours. The extension of those man-hours by a current monetary rate determines the labor costs. With the addition of hourly machine costs for equipment plus material costs, total costs meaningful to management can be obtained for the maintenancc of the quality level established through the ownership goals. Simultaneously, management's predetermined objectives and goals are met.

The turfgrass manager can then plan decisively. Such considerations preclude a hit-and-miss operational ap-

*Farm Advisor, University of California Cooperative Extension, Los Angeles.



proach. The planned program avoids vacillating decisions or rescinded work orders. The result is an efficient work schedule from which effective work can be issued quickly.

Each day the manager juggles three important considerations. One is a priority decision. This is the determination whether any unplanned operational function has come about that takes precedence over those already scheduled. The second decision is to determine what work tasks are correct for the priority job scheduled. The third is to decide upon the manner in which each selected task can be most effectively performed.

The three considerations can be illustrated by a situation brought about by an unscheduled event. If top priority is given the unscheduled event, decisions quickly follow as to tasks involved, their sequence and finally who in maintenance can most effectively do the required tasks. With a preplanned program, the manager's decision process is simplified as the substitution, postponement or elimination of tasks is quite self-evident.

However, planning must embrace the many aspects of management that include the supervision of materials, scheduling of operational tasks, dctemrination of their individual frequencies, keeping of records, and the supervision of employees and safety. Only when these have been coordinated has effective planning been performed.

UNIl' COS'l' DETERMINATION AND USE

Management coordination by the turfgrass manager is helped measurably by classification. For the progressive manager it means classifying the various sectors that make up the turfgrass facility. What, for instance, is its size, and shape? How many linear feet of cart paths or walkways, the square feet of flower beds and the number, kind and location of trees, shrubs and other plants under the manager's care. Such sector classification simplifies the assignment of appropriate operational tasks, the determination of needed materials, and machine and labor hours per sector.

A classification of the labor force provides the manager with a working knowledge of the range and magnitude of labor skills. Available labor can thus be matched appropriately with available cquipmcnt and task ncccls. Such information arms the manager with documcntcd data helpful in budget dctcrminations, preparation and analysis. Further, the data provides a sound basis for maintenance, personnel, cquipmcnt and material decisions. Application of the cost data can thus be made relevant to labor effectiveness, job rcquiremcnts and equipment efficiencies.

RECORDS — TYPES AND USE

Many managers have a natural dislike for record keeping. Records nevertheless provide nceded data and are an integral part of good management. A dislike for keeping records can be curbed somewhat by the maintenance of only those that provide neccessary information for effective and efficient management. These include those that pertain to equipment, materials, labor and operational tasks. The other type of records, those necessary for financial and tax reporting are not generally of major or primary concern of the turfgrass manager.

The equipment record indicates hours of machine use and can be kept by a machine time card. Designed for simplicity, it provides basic information helpful in recording repairs, down-time, computing operational costs and evaluating equipment replacement. The data helps in determination of whether a piece of equipment is to be owned outright, leased, rented or the work contracted.

In much the same way an inventory record can be kept of materials procured, on hand, how used, where and in what quantities. Material shortages or overages can be avoided and determinations made as to amount to be kept on hand and for what specific times of the year.

The personnel records show labor distribution and requirements on a man-hour basis as well as the operational tasks performed, equipment used and the areas worked. Also indicated are payroll needs, absenteeism, sick leave, vacation periods and listing of injuries as required by safety regulations.

Essential as the foregoing records may be the turfgrass manager's basic source of reference are those records that schedule the operational tasks performed. They indicate the quality level of maintenance as demanded by ownership goals. They compute costs, document management decisions, and project budget requirements.

APPROACHING AN ECONOMIC ANALYSIS

Through records, an economic analysis of the operations can bc made. If an analysis is contemplated, three approaches can be considered. One is the standard comparison approach using the records to determine the average time taken to do a task, how often it was done, how it was clone, the equipment and material used, the kind and amount of each and the personnel involved. An evaluation of the method as compared to a known standard follows and a determination made. The disadvantage of this method is that there are just not enough good standards.

A second approach is to select an area that has been consistently a high cost maintenance sector; carefully analyze it and clctcrnminc what can bc clone to reduce its high level of maintenance. Available alternatives are then evaluated and sclcction made that would reduce the high maintenance without lowering quality beyond an acccptablc level.

The third approach is essentially a building-block approach. Realizing that just so many things can be done during any time period, even with unlimited resources, the manager constructs a maintenance program that could ideally provide the ultimate in quality. Every individual input is carefully considered and an ideal working model thus constructed. It in essence represents the epitome of an ideal maintenance program. To this ideal the actual program is then compared. Decisions follow based on the resources available to the manager. Consideration is given to what can actually be done, what limitations exist and why do they exist. Are there material shortages, labor shortages, lack of equipment, budget restrictions or unavailable skilled labor? What is it impeding the establishment, of the ideal maintenance model? In the process of making the analysis areas of concern are identified, costs computed, evaluations made and decisions rendered.

This was the approach used by Dr. Wm. W. Wood, Jr., University of California Extension Economist and

myself in the Cooperative Extension Manual 73, "Allocating Resources for Golf Course Maintenance — an economic analysis." The manual illustrates a use that could be adapted to the analysis of most turfgrass facilities. It summarized the material, equipment and labor used and the maintenance operational tasks for an 18-hole golf course representative of those found in Southern California.

The study establishes a basis for the substitution of capital for labor in the planning and scheduling of operational tasks for each classified work area. (The publication can be obtained for $1.00 directly from the Public Service Office, 90 University Hall, University of California, Berkely, CA 94720.)

OTHER CONSIDERATIONS

When an economic analysis is undertaken, the goals and objectives of the analysis must be predetermined. Restraints must be identified before a meaningful analysis can follow. All parties must agree on priorities and whether the analysis sought is one of better maintenance for the same money or the same maintenance for less money. Results may have little comparison with those in the analysis of other supposedly similar operations. All figures basically are plus or minus figures. They pertain to a particular operation and become meaningful to another only when both arc identical in all respects. A manager's greatest concern is the firm conviction that his allocation of the resources available to him are optimum for the conditions under which he must operate. If they are, then his figures as revealed by an analysis are valid indeed. Of little concern is the fact they may exceed or do not meet those of other analysis. His recorded and documented figures, based on established and agreed upon ownership goals, substantiated by operations carefully recorded, scrutinized and evaluated, stand and are valid regardless how well they may or may not compare with other operations.

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The California Turfgrass Culture, formerly Southern California Turfgrass Culture, has been in print for twenty-four years and, during that time, a wealth of turfgrass literature has been presented. To aid with the classification of this material into a workable source of information, a subject matter index has been prepared.

The twelve designated subject areas have been further divided into alphabetized subheadings; each sub-heading contains the appropriate article(s) , author(s), volume, number and page. Cross references have been provided as needed.

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