

## PART II

### Maintenance in Today's Economy - J. R. Watson

Labor and crew relationships play a vital role in attacking the largest single budgetary item - labor; hence, offer an opportunity to attain maximum results with reduced expenditures. It is estimated that labor represents approximately 70 percent of the maintenance budgets on most golf course and other turf facilities. These labor costs have been at this percentage level for some thirty to forty years! The number of people employed has dropped from twenty-five to thirty to ten or twelve. Yet, today turf facilities have a better quality turf than at any time in the past - and they are used more heavily and more intensively.

Improved maintenance equipment has certainly been one of the reasons. Knowledge gleaned from research and from experience and disseminated by many individuals and organizations has contributed substantially. Turfgrass conferences as well as regional and national get-togethers have also resulted in substantial improvement in turf quality.

But if we are to maintain and improve the quality levels of our turf areas in the face of the current economic environment, it seems to me there is a need to carefully review all aspects of turfgrass care and management not only from a current operating standpoint but also from a very basic standpoint. In this respect I will briefly outline the basic cultural practices associated with turfgrass management.

Turfgrass production has been defined as the product of three major factors:

1. The grass adapted to the prevailing climate and environment and suitable for the play and use conditions for which the turf area is grown.
2. A soil to support the growth requirements of the grass and modified to meet the requirements of play and use. Modification of physical properties is desirable only on intensively used sites whereas chemical properties must be modified on all sites to balance the nutrient requirements of the grass against the inherent nutrient supplies of the soil.
3. Cultural practices.

### CULTURAL PRACTICES

The cultural practices applied to turfgrass are the same irrespective of the type of turf area or its location. In point of fact from a basic standpoint they are the same as those applied to forage and pasture areas. They vary in the degree of intensity with which they are applied and in the timing of their application. For example, a putting green requires more frequent watering, mowing, fertilization and pest control measures than does a fairway, a park area or a cemetery plot; yet, all these cultural practices are necessary on each area. Similarly the timing of these cultural techniques on cool and warm season grass areas varies in accordance with the temperature response of each group of grass.

The cultural practices are presented in outline form with minimum comment.

1. Watering: How much, when and how applied.
2. Fertilization: Base application of phosphorous and potash needs on soil test, adjust pH, select and apply nitrogen based on the form (soluble or organic) and in accordance with growth and color needs.
3. Cultivation: Cultivate (cover, aerify, spike) to alleviate compacted or crusted soil condition, to improve water penetration and avoid runoff.

4. Mowing: Height of cut suitable for type of play and other use conditions, frequency - a function of height of cut in that the area should be mowed often enough so that no more than one third of leaf surface is removed at any one cutting. In today's economy, height of cut should be raised to maximum tolerated by players or users. Use sharp well adjusted equipment and study the sequence or routes of travel between cutting areas to arrive at maximum efficiency. Select large capacity equipment whenever possible.
5. Programs to control pests, thatch and soil compaction.

#### Pests

- a. Disease. Recognize that disease producing organisms are universally present, that turfgrass is a host for the organism and that where environmental conditions (particularly temperature and moisture) are optimum for growth of the organisms, disease will result. Identify the disease and select the appropriate fungicide.
- b. Insects. Identify nature of feeding habit - root or a leaf feeder. Know life cycle, choose the appropriate insecticide and apply it in accordance with the feeding habit of the insect.
- c. Weeds. Broadleaf versus grassy types. Choose the appropriate herbicide and apply it in accordance with manufacturers recommendations. Select pre or post emergence material based on type of weed, type of turf and time of year.

#### Thatch

Develop thatch prevention programs then eliminate the condition and control it by (a) mechanical means (verti-cutting lightly, combing, and good mowing practices), (b) chemical means (adjust fertilization practices) and (c) biological means (topdressing).

#### Soil Compaction

Cultivate when the grass is growing most actively, modify soil when possible - use material of a textural size that prevents compaction (sand), adjust traffic patterns, or, if a school ground or campus, place sidewalks of adequate capacity where students have developed paths.

#### SUMMARY

Maintenance of turfgrass in today's economy demands a careful review of all managerial responsibilities. Especially crucial are those items relating to budget control, personnel matters and turfgrass cultural practices. No organization should miss the opportunity to review and study these phases of their operation and all turfgrass managers should accept the challenge of producing comparable or better turfgrass in spite of today's economic difficulties.