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FEBRUARY 1972

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The British Golf Greenkeeper
The Perfect Golf Course?
The United States Golf Association has plans for its own golf course to stage the US Open periodically, and other championships between times. The site proposed is in New Jersey and extends to 224 acres. A panel of four golf architects elected by the American Society of Golf Architects will prepare route plans for the course and later the detailed specifications and plans.

Golf’s tribute to Ike
Two major golf associations have undertaken a scheme to honour the memory of General Dwight Eisenhower. The goal is to help finance two institutions in which Eisenhower was intensely interested: Eisenhower College in the East, and Eisenhower Medical Center in the West. The project has been named GOLF’S TRIBUTE TO IKE. The United States Golf Association and the Professional Golfers’ Association of America are seeking the help of every golfer in the United States. Contributions to the foundation are a means of expressing appreciation for the General’s great influence on the popularity of the game.

Hot news
Heated golf balls will travel about 30 per cent farther than balls at air temperature. Par Electronics of Panorama City, Calif., is capitalising on the fact by manufacturing Hot Balls, a battery-powered, rechargeable ball warmer that will keep three balls heated to the necessary 105°F for a complete game ($14.95). Note: Heating balls in the sun is no good, a Hot Balls spokesman claims. They have to be heated to the core.

The Editor

CANNOCK Grass Seeds
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Be Prepared

J. Perris, B.Sc., Advisory Officer, Sports Turf Research Institute, Bingley

At this less busy time in the calendar when the weather may have temporarily closed the course or may prevent outside work, some thought can be given to the coming months and growing season. Once spring growth is under way and the usual pressures return, time will be at a premium. Now is the moment for preparation and planning to make life easier and happier in the months ahead.

Present problems
Aim at completing the current jobs on hand as soon as possible and certainly before the spring rush begins. As well as outstanding drainage work, unfinished course alterations such as tee extensions, etc, should be the immediate concern when favourable weather allows. When really bad conditions stop outside work, however, do not neglect other essentials such as preparing compost. Lopping tree branches, hedging and fencing work may also be tasks to finish but in the meantime still keep an eye open for sudden problems such as an outbreak of Fusarium patch disease.

Machinery
A golf course that starts the growing season with machines out of commission is starting off on the wrong foot. Every machine on the course should be systematically inspected in the winter months to make sure that it is capable of working to maximum efficiency. Worn parts should be renewed, engines overhauled if necessary and if this means sending the machine away, insist that it is returned properly serviced in good time. Do not overlook the smallest detail and if experience has shown a component of a particular machine to be susceptible to breakdown it is worthwhile getting a spare in stock.

Course sundries such as hole cups, flagsticks, tee markers, etc, should all be examined and where necessary repaired and painted. Advantage should also be taken during any brief mild spells of weather to see that there are no faults with the watering system. Do not forget to check hoses and couplings which can sometimes perish after a few months storage.

Materials
Careful choosing of the right materials at the right price will please a lot of people in many ways. If there is any doubt about the suitability of a material for a particular purpose, e.g., selective weedkiller for use on the greens, etc, take expert advice.

Accurately calculate the exact needs before ordering so that you are not short at a crucial time in the summer. When the various materials are delivered make sure that they are stored under the conditions that the manufacturers specify. If, for example, it is advised that a tin of fungicide is best stored in a cool, dry cupboard, try and ensure that this is done. Careless storage is very frequently never discovered until the material is required, when it is then often found to have deteriorated to the point of...
worthlessness or, at the least, great inconvenience. Poisonous chemicals should, of course, be kept under lock and key and when such materials are used the recommended safety codes should be rigorously followed—remember careless mistakes could be fatal.

When samples of substances such as sand and soil are available, ask for them. You may find that the sand or soil is not really up to the standard you require.

Keep a check on all the materials bought and applied; such information may come in use next year. As well as having current greenkeeper's magazines or the back pages of *The Sports Turf Research Institute's Journal* at hand it is also wise to make out a list of your suppliers with telephone numbers, etc, so that should any emergency arise, an accurate bank of information is quickly available. Such recording is, of course, not only valuable and applicable to ordering materials but all other aspects of golf course maintenance work.

**Diary**

Besides checking machines, ordering materials, etc, there are many other small points about which some advance knowledge and preparation would be useful. Incidental such as checking with the Club Secretary on fixtures and important tournaments for the coming season often save tempers and embarrassment later. Another wise action at this stage is to make initial contact and tentative arrangements with any firms from whom you may hire machinery later in the year.

**Finally**

Despite the most thorough preparation and organising it is still possible that some unexpected problems will occur. In a way, it could be said that you must prepare yourself to accept this. Many greenkeepers have the confidence and ability to overcome such difficulties but if there are any gaps in your knowledge which could lead to a situation in which you would be a little uncertain what to do, now is the time to ask or read and find out.

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Winter Dormancy and Desiccation

Dr. Thomas Watschke

Knowing how grasses grow is essential for all turfgrass managers. Equally important, however, is to know something about how turfgrasses ‘rest’ (dormancy). As the winter months approach, day length, light intensity and temperatures (both day and night) decrease, causing many physiological changes in turfgrasses.

The first effect of these changes is a reduction in growth. Higher temperatures than those occurring in late autumn are required for the optimum functioning of metabolic processes responsible for rapid growth. Nitrogen metabolism slows, resulting in decreased protein synthesis. Carbohydrates accumulate in storage tissue (rhizomes, stolons, crowns) because the metabolic demand for carbon is reduced (less growth and lower respiration). As long as chlorophyll remains in the leaf, photosynthesis will continue even after temperatures become quite cool. The majority of the carbon dioxide fixed in late autumn is translocated as carbohydrate to storage tissues.

Once temperatures are cold enough to cause leaf chlorophyll degradation, photosynthesis is drastically curtailed and new foliar growth is almost non-existent. The leaf canopy of turf areas becomes a mottled green to light brown colour and dormancy prevails.

Late autumn is also the time when root sloughage begins. As much as 80 per cent of the root system of turf grasses is lost over the winter. The crown area, however, is very much alive and at the mercy of the elements.

We are indebted to The Keynoter, published by the Pennsylvania Turfgrass Council Inc., for allowing us to print these two timely articles from their November issue.

Mr. Frank Sirianni, superintendent of the Penn State University, has produced a useful check list of winter work, and Dr. Thomas Watschke, Assistant Professor of turfgrass science at Pennsylvania State University, writes on winter dormancy and that dangerous phenomenon—desiccation.

Because the grass is alive it transpires, respires, and at times fixes small amounts of CO$_2$ and consequently requires water. The inability of grasses to satisfy their water requirement results in a wilting phenomenon known to a turfgrass manager as ‘desiccation’.

Desiccation is probably the foremost cause of winter injury from the Great Plains to the Atlantic seaboard and is not restricted to cool season grasses. Desiccation occurs when the water supply is diminished to the point where the plant is unable to absorb water to replenish that transpired. Several winter days of snow cover, low humidity and wind will enhance the possibility of desiccation. Evaporation losses from the soil coupled with
The earlier you let us service your Atco this winter the happier you’ll be.

Every winter the Atco Service Organisation is snowed under with mowers waiting for their annual service.

This rush starts in early December and lasts all the way through to late March. And as each mower receives the personal attention of skilled mechanics each job takes a considerable amount of time. Consequently the queue of mowers waiting for service grows longer and longer. Obviously it’s best if you can get your machine to us before the rush.

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The same goes if you want a new machine. Order it before December and you can be sure of a swift delivery.

So contact your local Atco branch early this winter. We’d be happier if you did. And so will you.
losses by transpiration place unattainable demands for water on an already crippled root system. Often much of the soil water is frozen and unavailable for absorption. This further reduces the time for severe desiccation to occur. Winters with plenty of snow cover seldom result in desiccation damage except for exposed areas where snow is blown away. Most winters however, have bare ground periods when the potential for desiccation is high.

Many techniques are used for the prevention of desiccation with varying degrees of success. Organic and inorganic mulches, burlap, polyethylene sheeting, porous plastics covers, or erection of snow fence to increase the amount of snow accumulation, have all been used to alleviate desiccation. Hauling of water to greens, if irrigation cannot be turned on, is an expensive and inconvenient solution, but necessary to save desiccating turf. The very best control is to apply water through irrigation lines if possible and drain the lines the same day.

Snow mold generally is more of a problem when snow fence is used, and preventive fungicide applications are more essential. Covers are bulky and difficult to secure to the turf and condensation often occurs on sunny, warm winter days. Temperatures under various covers occasionally are elevated high enough to induce growth of *Poa annua*. Screen materials or porous plastic covers do allow air movement and reduce temperature fluctuations and are superior to solid tarpaulins.

Although desiccation does not occur every winter, turf managers should be alert to the environment conditions conducive for its appearance. Turf professionals must cultivate the ability to recognise conditions favourable for desiccation and take the proper precautions to minimise its effect. During snow-free winter periods the crown area of turfgrasses should be periodically checked for turgidity. Desiccating turf appears very dry, is brittle to the touch, and is easily pulled from the soil. Examination of the upper 1 1/2" of soil should also be made periodically, particularly during windy weather, as soil moisture can decline very rapidly during low humidity days (10-20 per cent relative humidity) which occur during the winter months.

Much continuous effort is expended for excellent turf during the growing season, and there is no reason for those efforts to go down the drain by losing grass to winter desiccation. Providing for the needs of dormant turf is every bit as important as the attention it receives during the growing season. Grass needs your attention 12 months of the year. Are you there?

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**Turf Manager’s Winter Check List**

Frank Sirianni

November is the month Superintendents and Turf-managers in Pennsylvania are making preparations for winterising their golf courses, sod farms and equipment. The following is a list of *musts* we use at the University Golf Course.

1. Protect turf from frost damage, either by water or by keeping golfers and traffic off until conditions are favourable.
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Golf, cricket, bowls, tennis, whatever the game, Suttons can supply the right mixture of grass seeds.

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2. Complete all outside work, save inside work for wet and cold days.

3. Drain all water lines, open drains where there is danger of freezing. Blow lines out with air if possible.

4. Store equipment that will no longer be used.

5. If course is left open for late play move cups to front of greens—take tee markers off and put in front of tee.

6. Add a few tablespoons of anti-freeze to water in ball washers if they are left out.

7. Use snow fence along entrance roads and near shops to protect areas that drift.

8. Keep leaves picked up.

9. Wrap and use guy wires on trees planted in fall.

10. Check radiators on vehicles that will be out and subject to freezing conditions.

11. Clean catch basins and drain boxes.

12. Spray greens for winter protection of winter kill, if budget permits spray tees and collars, etc.

13. If greens are exposed to winds and have been a problem, snowfence may help.

14. Spray evergreens if necessary.


16. Overhaul and sharpen machinery, check each machine for worn parts.

17. If course is new and not fully covered keep seed on hand for dormant seedling.

18. Store all liquids in heated area to protect from freezing.

19. Mark and label all materials, use shelf rotation.

20. Attend Turf conferences, equipment shows and schools.

21. As soon as snow cover is gone check course several times during winter months.

22. Look over last season’s records, make plans for next season’s improvements.