## Machinery for Turf BY MICHAEL BLADON BY MICHAEL BLADON BY MICHAEL BLADON BY MICHAEL BLADON

ollers are useful in turf establishment and maintenance operations in the following ways:1) in soil preparation for seeding or sodding; 2) for firming and leveling newly seeded or sodded areas and 3) in established areas to counteract heaving caused by freezing and thawing.

In seedbed and sodbed preparation, the roller is useful in establishing proper grades and levels. Alternate raking or harrowing and rolling will serve to "iron out" minor depressions and the rolling serves to provide the desirable firm seedbed that is essential to permit capillary water to rise to the seeded or sodded surface. For the same reason, rolling after seeding or sodding is desirable under most circumstances. Rolling the heavier types of soils prior to and after seeding and sodding operations must be done with extreme caution since puddling and compaction may result. Seedlings and sod roots have great difficulty in penetrating the compacted layer of over-rolled clay soil.

In established turf, rolling is necessary once and only once a year; this in the early spring after the frost has left the ground. The purpose of this rolling is to counteract soil and plant heaving caused by frost action. This rolling should be carried out at a time when the soil is dry enough that the roller does not cause puddling and yet still moist enough to permit the roller to accomplish its purpose. Heaving is seldom a problem in sandy soils.

Rolling is all too frequently carried out to the detriment of turf. The classic example of this is the bowling green. It appears that the majority of lawn bowlers believe that daily rolling with a heavily weighted roller is essential to the maintenance of a true bowling surface. Nothing could be further from the truth. All that such rolling accomplishes is a heavily compacted surface that makes maintenance almost impossible. When these circumstances are encountered, advice concerning rolling may take three forms: 1) drop the roller in the nearest deep body of water; 2) chain it to a substantial post on the property and have the greenskeeper retain the key (if the greenskeeper doesn't roll the greens the members often will!), or 3) if the members absolutely insist that the greens be rolled daily, have the greenskeeper use an empty roller while appearing that he is pushing a heavily weighted one; this appears to have the necessary psychological effect on the players without extreme compaction to the green.

Most rollers now available are of the water-weighted type whether they be hand-propelled or motor-driven. These consist of steel drums that hold water and can be weighted to suit soil conditions, the weight being determined by the quantity of water put in the roller. Such rollers may be hand-propelled, selfpropelled or tractor drawn. Rather than the long, single type formerly used with tractors, tractor drawn rollers now consist of three or more smaller rollers hitched in tandem. Some have table tops to permit the addition of extra weight.

Most power rollers for turf are self-propelled units of varying size. A typical example consists of two rollers, one following the other. Another consists of a 30 to 36" front roller and followed by two smaller rollers. On the frame joining the front and rear rollers is a riding seat. In the latter the engine is mounted directly over the front roller and drives a chain fitted onto a sprocket at the side of the front roller. Front and rear rollers are easily detached and the front one may be used as a single powerdriven unit for steep slopes with the operator walking behind. Other models are driven by the engine fitted by chain drive to the rear roller. Most rollers have scraper bars that prevent sod, soil or paving materials sticking to the rollers thus assuring a smooth finish.



