

1 **GOOD AERATION** on greens to stimulate grass growth and to give more uniform putting surface is essential. At the best this is still a difficult job, requiring considerable time and labor. There is need for aerating machines which can do the work quickly, economically and effectively. It is possible that several aerations during the season should be given each green. Until machinery becomes available for this work the problem will remain unsolved for the most part.

2 **FERTILIZER** is still applied on top of the soil instead of down where the roots can secure most rapid benefit from it. Lime for the most part penetrates downward slowly, as do phosphates. Since these are fixed near the surface upon application, it takes several years before the greens secure full benefit from such treatments. Ways and means of getting this fertilizer down into the soil need to be investigated.

3 **DISEASES** usually are rampant during a considerable part of the playing season. While effective fungicides are available today, a sure way of solving the problem is to develop disease resistant bent grass strains. Variations in this characteristic now exist in the available strains and plant selections. This field appears particularly promising from a plant breeding standpoint and some real progress may be made before long.

4 **SUB-SURFACE IRRIGATION** or watering would eliminate much overhead in terms of labor and effort and actually be ideal for grass growth. Water applied from below the grass roots would eliminate packing and pounding from surface irrigation while stimulating deep root penetration at the same time.

5 **WEEDS** on golf course greens still remain an unsolved problem, even though many broad-leaved weeds have been brought under easy control through the use of the new herbicide, 2,4-D. The only other method of control is through handweeding. This is an expensive, labor consuming item on many golf courses. Chemical control of weeds on close cut, bent grass surfaces is much to be desired.

6 **TRUE PUTTING SURFACES** are rare all too often. This is sometimes true because of the blend of bent grass used. The components produce an uneven texture because one strain lacks disease resistance or recovers less rapidly than does the other. Blends of bent grasses capable of producing a true putting surface throughout the growing season need to be found.

21

PROBLEMS TO TROUBLE THE GREENKEEPER

By **GILBERT H. AHLGREN**

(New Jersey State Agricultural
Experiment Station)

7 **THE BEST TOPDRESSING MATERIALS** for ready and effective results remain uncertain. A mixture of sand, silt, and organic matter is basic probably, but the proportion of each and the kind of organic matter may be very significant. Materials high in lignin appear to have real possibilities in terms of lasting qualities and for efficient absorption of plant nutrients and moisture.

8 **THE DAY HAS ARRIVED WHEN** power equipment is essential on golf courses. Labor is expensive and difficult to secure, and ways and means of obtaining short cuts are great helps. It would seem then that power mowers for cutting the greens and machine methods for spreading fertilizer or topdressing must come. For such purposes light equipment, built of aluminum or some other similar light weight material, is needed.

9 **GROWING A NURSERY** of bent grass suitable for resodding the green requires extra time and labor. Holding some good sod in reserve for replacing worn areas is just sound insurance against bad times. The elimination of this task depends upon the development of a fool-proof grass for the greens.

10 **ELIMINATING POA ANNUA** from the greens is a problem for which no easy solution has yet been developed. This winter annual grass often comes in heavily in the fall, grows luxuriantly in the early spring, and disappears during the summer months. Cultural practices help to a certain extent in checking it, but these are inadequate.

11 **MOWING PRACTICES ON FAIRWAYS** are, at present, in general, undesirable. This is true because the

golfer demands close cutting, and such treatment in time results in a thinning of the turf and invasion by undesirable weeds. There is no real way to bring the course superintendent and the golfer together on this issue unless a grass can be developed which will stand close cutting over long periods of time. A disease resistant bent grass would appear almost ideal for this purpose, the job being to develop such a strain.

12 **THE WASH-BOARD EFFECT** is another difficulty in fairway maintenance resulting from fast mowing. This probably is the fault of the machinery since it is not geared for rapid movement over the long expansions of grass. Investigation and research toward developing better fairway mowers might eliminate washboarding when the tractor operator drives at a rapid pace.

13 **FERTILIZING:** In spite of the fact that many fertilizer tests have been conducted over a long period of years, there is still uncertainty as to the best kind to use for maximum benefit to fairway grasses. The recommendations vary widely and probably will continue to do so, but ratio and formula could be more certain than at present. Perhaps plant tissue tests may help in arriving at a satisfactory solution.

14 **ERADICATING CLOVER AND WEEDS** by large scale efficient methods is being investigated. The 2,4-D weed killer is effective for doing this job, but equipment to apply it on an efficient and economical basis needs to be adapted to the golf course. Fairly large booms attached to power equipment probably is the best answer for large areas.

15 **LOW LYING WET AREAS** need to be drained or made into artificial ponds. Various methods of drainage exist. The one to use is not always too evident. Tile drainage appears practical where there is some place to lead the water away from the low spots. Ditching is also excellent providing the slope and removal points are satisfactory. If these conditions do not exist, it may be that low areas should be built into small lakes or that some type of subsoil drainage must be provided.

16 **THE GRASS MIXTURES** to use on fairways for different soil types continue to be somewhat of a puzzle. As many mixtures will be suggested as there are people who think about them. Few individuals agree on the proportion of one grass to the other to use, and sometimes don't even agree on the species to be included. Uniform tests conducted on a regional basis is one possible answer.

Over-All Problems

17 **THE INSECT PROBLEM** continues to be with most golf courses. The chinch bug has been particularly bad in the East during the last 3 or 4 hot, dry seasons. The Japanese and Asiatic beetles and their grubs are widespread in the eastern United States, and the June beetle and its relatives are in the mid-west. Economical and efficient insecticides are needed as well as methods for detecting injury promptly before large areas become infested with these insect pests. Lead arsenate will control grubs but it is expensive and poisonous. DDT or Sabadilla appear to be one answer to the chinch bug.

(Continued on Page 75)



New clubhouse of Oyster Harbors club, Cape Cod, Mass., is fine example of close cooperation of architect, manager and pro. John Barnard, Boston, is architect. John J. Fitzgerald, noted manager who is credited with making Oyster Harbors most popular vacation spot on the Cape, and Jean Anderson, the club's valued pro, teamed in helping make the new layout ideal from an operating standpoint. Building is on a hillside and adjacent to first tee. First floor is on fairway level and ground floor, which is above grade, is level with parking space in rear. Lockers are provided for 150 men and 100 women. Grill room is in knotty pine, Cape Cod fashion, with large fireplace and big bay window. Adjoining grill is terrace which commands view of course, especially 18th green. Opposite the grill is the pro shop. A caddy room, with recreation and toilet facilities for the kids, is on the lower level, apart from guest activities.

21 Troubles

(Continued from Page 32)

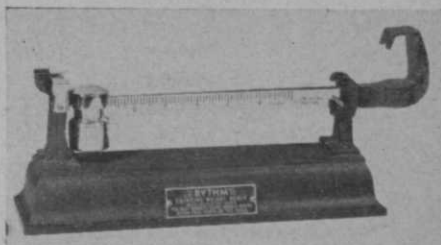
18 **MACHINERY MAINTENANCE** is an ever-persistent problem. Breakage occurs in spite of the best care and management, and prompt attention with adequate repair knowledge is required. Unfortunately, most of us are not mechanics, but the use of a wrench and an oil can will go a long way toward keeping machinery in a good state of repair. A knowledge of motors, electric wiring, mower sharpening, welding and other technical machine jobs is helpful.

19 **LABOR AND WAGES:** Not the least of the problems existing on the golf course are those caused by shortage of labor or inequalities existing in wages paid to golf course employees. It is often true that caddies, kitchen help or waiters make several times the income that do the regular golf course maintenance employees. Naturally this is reflected in worker attitudes, and it becomes a labor-management problem for the greens superintendent. Some method of equalizing wages for work of equivalent categories appears to be the only solution.

20 **PUBLIC RELATIONS:** The golf course superintendent often needs to be a diplomat when dealing with club members. Relationships and personalities should be studied carefully, and the course superintendent at all times should reflect his best behavior toward the club members. The ability to swallow a certain amount of pride is an excellent characteristic, irrespective of the type of work being done, and in the long run it is bound to pay dividends. The superintendent should, by all means, listen to complaints with an open mind and from time to time take these to his green-chairman for advice and counseling.

21 **KNOW-HOW and SUPERVISION.** Last, but not least, there is an ever continuing need for more education on subject matter, labor relationships, and human psychology. The golf course superintendent needs to be capable of developing projects which meet the needs of the golf course and which are acceptable to his green-chairman, and if need be, to the members of the club. In order to do this, he must be well fortified with factual information on the subject of the moment. In supervising employees he must be fair and honest with them and capable of appreciating and understanding their problems. He should take the time to evaluate employees at regular intervals, pointing out to them their good points as well as their faults. Frank evaluations mean better relationships all around.

Special Offering OF THE PATENTED LORYTHMIC SWINGING WEIGHT SCALE



Just a few prewar Lorythmic scales on hand. While they last, Pro shops may buy this \$30 scale for the special price of \$22.50. This scale is available only from Kenneth Smith. If you need a swinging weight scale, order now.

Ken SHOP SUPPLIES

Prepared Exclusively for Pros

FORM-A-COAT . . . Puts a professional finish on whippings. Forms a cap on ends of clubs.

GOLF GRIP CONDITIONER Keeps leather grips soft and tacky. Small bottles for resale.

GOLF CLUB ADHESIVE . . . Cements grips in place. A flexible all purpose adhesive for your shop. Fast drying.

GOLF CLUB LACQUER . . . Protects the finish on wood heads. Easy to apply. No equipment needed; not even a brush. Dries in an hour.

GOLF BAG DRESSING . . . Preserves all types of leather bags. Easy to apply. WHIPPING CORD, FINISHING AND BUFFING SUPPLIES

WRITE FOR HANDY ORDER CARD

Kenneth Smith
GOLF CLUBS
Hand made to fit You
BOX 41, KANSAS CITY 10, MO.

THE CLUB SITUATION: We are now filling orders for sets of woods and irons received many months ago. Sorry we can't give rush service.