enough to put the pretensions and claims of the quack to the test. Remember that a golf club has no income to offset losses arising from the acts of suckers, and that time wasted is gone forever.

We are for birth control as applied to suckers and quacks. We are for the p.ohibiticn  $\epsilon f$  quacks, both within and outside the three-mile limit. We are "agin" them hard.

# Seeds and Seeding for New Greens and New Fairways: What the Green Section Recommends

C. V. PIPER, R. A. OAKLEY AND LYMAN CARRIER

As there still seems to be some lack of understanding in regard to the Green Section's recommendations on seeds and seeding methods for golf courses, it is deemed desirable to present these as clearly and concisely as possible. The accompanying maps show the areas to which each grass is adapted.

Good preparation of the soil as well as good treatment of the young grass is presupposed. With poor preparation of the soil or poor treatment afterwards, no rate of seeding, however great, will make much difference. The rates of seeding that are to be indicated will insure success so far as the amount of seed is a factor. Indeed, the amount of seed advised is heavy seeding. Heavier rates of seeding than those indicated a. e never justifiable and will not increase the chances of getting a perfect stand.

### SEEDING NEW PUTTING GREENS

GERMAN MIXED BENT OR RHODE ISLAND BENT FOR NEW PUTTING GREENS.—Sow preferably between August 15 and September 1, using not more than 5 pounds of good quality of seed per 1,000 square feet. The bents are the best of all putting-green grasses in the area to which they are adapted.

When bent seed is scarce or too expensive for a club, economy can be secured by sowing 2 pounds of redtop and 3 pounds of bent per 1,000 square feet. The redtop will mostly disappear after two years, by which time the bent should occupy the whole surface.

RED FESCUE.—This seed is sold under various trade names, as Chewings' fescue, New Zealand red fescue, and European red fescue. While there are sometimes wide variations in quality, and especially in germination, of red fcscue seed from different sources, we fail to find any distinctive differences in the character of the turfs produced. There have probably been more putting greens seeded to red fescue, either alone, or as is more commonly the case mixed with redtop, in the past six or seven years than to all other grasses in the same period put together. The results are very disappointing. Greens more than two years old that show an appreciable amount of red fescue are quite rare in this country. Apparently the fescue on most soils will not withstand the close cutting usually given greens or even fairways. It persists on bunkers and in the rough even as far south as Washington. There does not appear to be anything gained by mixing other grass seed with red feacue when seeding. In fact, a pure stand, so far as we have been able to observe; gives better results than does a mixture. Sow between August 15 and September 1, using not more than 10 pounds of good quality of seed per 1,000 square feet.







MAP II. BENT GRASSES AND RED FESCUE. The double-hatched area is that in which creeping, velvet, and Rhode Island bents, and red fescue succeed well; the single-hatched area, that in which they need good care to succeed, although red fescue rarely succeeds south of the double-hatched area.

#### June 21, 1923

PERMANENT PUTTING GREENS IN THE SOUTH.—In nearly all of the Bermuda grass area, this grass is the only one at present recommended for permanent greens. Such greens are usually planted vegetatively, and the Atlanta strain of Bermuda grass is the best of all.

If seed is used it may be sown any time from May 1 to August 1, using 3 pounds of seed per 1,000 square feet.



MAP 111. BERMUDA GRASS. The double-hatched area is that in which Bermuda grass succeeds best; the single-hatched, that in which it competes with blue grass and other grasses.



MAP IV. CARPET GRASS. The hatched area is that in which carpet grass is adapted.

WINTER PUTTING GREENS IN THE SOUTH.—For winter greens, to be used from about December to May, various grasses have been used, including Italian rye-grass, redtop, and Kentucky bluegrass. All these should be sown in October, and heavy seeding is advised, as the putting green turf will be seedling turf. Italian rye-grass and redtop are subject to brownpatch, while bluegrass is immune. For each 1,000 square feet of green use 15 pounds of Italian rye-grass, or 5 pounds of recleaned redtop, or 15 pounds of bluegrass. Mixtures of any of these are not advisable in the light of present information.

### SEEDING NEW FAIRWAYS

NEW FAIRWAYS IN THE NORTH.—Sow between August 15 and September 1, a mixture consisting of 4 pounds of Kentucky bluegrass and 1 pound of recleaned redtop, using 150 pounds of seed per acre. The acre seeding would therefore consist of 120 pounds of bluegrass and 30 pounds of redtop.

If bent seed is not deemed too expensive it can well be added, using bent in place of half of the redtop. In New England, especially, Rhode Island bent will in time replace most of the bluegrass, and the same tendency is more or less conspicuous in most of the bluegrass areas.

NEW FAIRWAYS IN THE SOUTH.—In the carpet-grass area, on low, flat lands sow carpet-grass seed between May 1 and August 1, at the rate of 40 pounds per acre.

Outside of the carpet-grass area and on high lands in that area, use Bermuda grass. If seed be used, sow between May 1 and August 1, using 20 pounds of seed per acre. The vegetative method is however surer and not much more expensive.

# New Member Clubs of the Green Section

Mississauga Golf and Country Club, Port Credit, Ontario. York Downs Golf Club, Toronto, Ontario. Thornhill Golf and Country Club, Thornhill, Ontario. Highland Golf Club, London, Ontario. Oheka Golf Club, Woodbury, New York. Friendship Golf Club, Washington, D. C. Twin Lakes Golf Club, Kent, Ohio. Trumbull Country Club, Warren, Ohio. Kirtland Country Club, Willoughby, Ohio. Brainerd Country Club, Brainerd, Minnesota. Red Hill Country Club, Upland, California.

Feed cutter for preparing bent stolons.—An inquiry has been received as to the size and model of feed cutter best adapted for preparing creeping bent stolons for planting putting greens. We generally use whatever make and type of machine is available. We have had very satisfactory results with ordinary hand fodder cutters with the throat eight or more inches wide. If a revolving cylinder type is used, all of the knives except one should be removed.—EDITORS.