plat will be ahead of the spring treated plat from the day the ground thaws. This condition is especially noticeable on the heavier soil types, which are commonly spoken of as cold or late soils, that is, soils which are slow in drying out in the spring. All soils, light or heavy, respond best to fall fertilization but it is most noticeable on the heavy types.

The reason for this quick reaction in the early spring of grass which has been fall-fertilized is due to the fact that fertilizer must have time to act. When applied in the late fall it is dissolved and carried into the soil by the fall rains so that by early spring it is down around the grass roots all ready for the grass to grab it and make a heavy green growth thereby. When fairway fertilization is delayed until spring the chemical must still be acted upon by the rains before it can get into the soil and be taken up by the grass roots. All this results in the loss of that early grass growth with the result that the heavy, green growth in the early spring is delayed.

In all probability many golf clubs fail to practice fertilization of the fairways in the fall due to the low condition of the club treasury at that period when the fiscal year is drawing to a close, whereas, on the contrary, flush condition of the exchequer in the early spring prompts the purchase of fertilizer at that time. It would be good business to reserve a certain amount of money at the beginning of the year for the purchase of fertilizer in the fall. Failing this I would even go to the extent of getting the stuff in the fall and trying to argue some one into taking a note due in three months.

Out of LEACH'S Mail-Bag

Tumble-Bug Treatment

Sir:

I am sending you some of the grubs found in our 17th green about a quarter of an inch (1/4) below the surface of the green where they seem to be feeding on the grass roots. Yellow spots were coming in the greens, especially the velvet bent was the first to be noticed.

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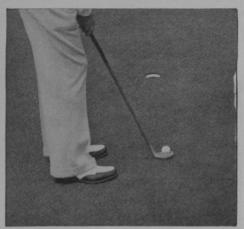
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I notice the grubs are more plentiful in greens situated in a low spot with trees on one side or another where there is poor air circulation.

At what rate would you advise putting on arsenate of lead to eliminate this grub? I would appreciate any information as to its species and habits.—J. M. (Pa.)

Ans.:

The adult beetle is a ground beetle which feeds on other insects and is therefore of no consequence as regards injury to turf. The grubs in alcohol, unless I am sadly mistaken, are the grub or larvae of a species of so-called tumble-bug or dung beetle. I have submitted these to one of the systematists in the department for positive determination, but unless you hear from me to the contrary it is the tumble-bug type of grub.

These grubs are not very serious destroyers of turf but they are known to do some feeding on grass roots. In view of the fact that your turf is largely velvet bent, I would apply the lead arsenate at the rate of 2½ pounds per thousand square feet and watch results over a period of a couple of weeks. If this checks the damage, I would stop with this one application, but if damage continues, would apply another 2½ pounds at the end of this time.—B. R. Leach.

Applying Arsenate

Sir

We are bothered this season with grubs which are working on the grass in fairways. We had good bluegrass fairways, but these grubs have ruined a lot of it. I have been told that arsenate of lead would do the work, mixed with water and sprayed on, but I do not know how strong to mix it. If you can give us any information on this we would appreciate it, and if you know of any other remedy that will do the work, we would be pleased to receive the same.—L. A. (III.)

Ans.:

I would not spray the arsenate of lead on the turf; it is better to mix it with a filler such as soil or organic fertilizer and apply same by broadcasting same with a lime spreader. For your information, I am enclosing a copy of our Circular No. 163 dealing with this question of lead arsenate applications to fine turf in which all these points brought out in your letter are fully dealt with.—B. R. Leach.

Sea Food Buying Pointers that Build Club Food Fame

By ROBERT E. LOVE

ISH forms one of the most important items on the club menu today. Fish is considered by many to be one of the best, cheapest, and most digestible of all foods. It is very easily masticated on account of the loose texture of the flesh and is very digestible, being readily dissolved in the stomach and absorbed in the blood. This fact of its ready decomposition accounts for the necessity of its being absolutely fresh, or else preserved by one of the several preservative processes—salted, smoked, or pickled in vinegar and spices.

In salted fish, which is a low-priced substitute for fresh fish, we have a higher protein content pound per pound, as some water is drawn out in the salting process, either dry salted (herring, cod, halibut, haddock) or brine salted (herring, salmon and mackerel). The salted fish must be freshened before use, which may be done by placing the fish fiesh side down in a large pan of water for 12 to 48 hours, according to taste and size and thickness. Thus the salt crystallized out on the flesh side dissolves, dropping to the bottom of the pan. Less freshening is required if fish is to be boiled.

The club steward should purchase the finest quality fish obtainable at all times. He cannot be too critical in the selection of fish because in my opinion there is nothing that will ruin a meal any easier than a tainted or spoiled fish plate. Always bear in mind that no matter how skillful the cook may be, he is unable to disguise a fish dish because the good and bad qualities are accentuated in the cooking.

There is such a wide variety of fresh and salt water fish available at all seasons of the year at fair and reasonable prices that there is really no excuse or reason to purchase a poorer quality of the higher priced ones. The market value of fish is affected by: (1) The waters from which the fish come; (2) the season taken; (3) food on which they have grown. The fresh fish usually come from clear, cold, deep waters with rocky or sandy bottoms.

The shad and salmon are the best during spawning.

Fish Buying Factors

The following factors govern the purchase of fresh and salt water fish:

- 1. The freshness, which can be ascertained by the bright red gills, the firm, elastic flesh slightly colored with blood vessels, muscular stiffness to a greater or less degree, and the eyes are clear and bulging.
- 2. The weight or size, depending upon the purpose for which they are purchased.
- 3. The type purchased, either scaled and dressed (entrails removed) or in the round, heads on or off.
- 4. The species or variety, depending in some cases upon the districts.

In the winter months four types of fish are offered: the fresh, both salt water and fresh, and winter-caught. This last mentioned variety refers to lake trout and whitefish, etc., which are caught mainly in the Canadian lakes and frozen upon the field. The pan frozen are fish frozen in the height of the season in the Great Lakes region; the frozen fillet of fresh water fish, which are cleaned, dressed and filleted out where they are caught and have a thin coating of ice over the entire surface, which is a patented method, I have been given to understand.

This method turns out a nice product which when leached out is almost as good as the fresh, retaining much of its firmness and original flavor. In regard to the four types of fish offered in the winter months, the fresh and the winter caught are probably the best, as the pan frozen tend to break up easily in broiling. The best quality frozen fish has the characteristics of fresh fish plus shiny skin, scales strongly adhering to the skin, and a fresh smell.

Selecting the Fish

A few pointers on the purchase of fish are now in order. Do not commit the error of ordering so many pounds of trout or

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Jewell Electric Chlorinator Sweet's Underwater Lighting Systems whitefish, etc., but know accurately the size you can use to most advantage. As for example, if you wish to serve two of the smaller variety, buy the three to a pound. The one-half to three-quarter pound fish usually goes very nicely for a la carte service. Likewise, test scores will clearly demonstrate the proper size to purchase of the other items. In some varieties the smaller size, such as the two pound, is not so desirable as the five to seven pound size for broiling, as they are quite thin and tend to dry out rapidly.

The finest whitefish are of the humpback variety, with a small soft pinkish nose and mouth, and are very white in color. They are quite fat with a fine flavored flesh of pinkish color, and average from one to eight pounds in weight. A peculiar fact in connection with the whitefish is that the farther north you go, you will discover that the shading on the skin is much darker and the flesh a little more The brook trout are sometimes known as the aristocrats of the fresh waters. They are scaleless and fairly soft, the unfortunate part being that they do not carry well and therefore must be very fresh. They are usually bought from onethird to one pound each.

Pike and Perch Keep Well

The firm fleshed lake trout have an excellent flavor, with the flesh slightly yellow in color. Perhaps the most desirable as well as the most profitable is the five to seven pound for a la carte service. blue pike and yellow perch are also very firm fleshed fish and boast an extra quality of storing very satisfactory. Of all the fresh water fish, they perhaps lose less flavor in cold storage than any of the others. The blue pike is a lean, slender fish, which are caught more frequently in the smaller size, the one-third to half pound proving the most profitable. are very low priced and have sometimes sold as low as eight cents per pound.

The yellow perch weighs a little more, averaging from one-third to two pounds. Because more of the smaller size are caught, there is a premium on the larger ones. They are distinguished from the salt water white perch by their deep yellow stripes. The yellow pike are perhaps one of the finest flavored fish caught in the Great Lakes but are somewhat wasty on account of their large fins and heads. The fresh water herring has as a chief objection the firm network of bone that is difficult to remove. They are sold more fre-

EVERSON SWIMMING POOLS

quently smoked, as the higher class trade seldom buys them fresh.

The codfish is a firm white fleshed fish with a very good flavor. The color of the flesh darkens according to the age. The big cod is quite wasty due to its large stomach walls and bones. The six to eight pound size is very desirable. The finest of the mackerel family is the Spanish, which is caught in the Southern waters and is a light silvery blue. It is marked from the fresh by its fin-like tail, which is almost perpendicular to its body.

The finest flavored scallops perhaps are the pearl scallops, which are quite small and not good for frying, but they cream very nicely and also can be used for scallops in coquille. In the buying of lobsters it is most important to secure them from the nearest point possible because when they are too long in transit there results a high shrinkage due to the dead and the bruised. The steward must also consider when he is given price quotations the express rates between points of purchase and delivery, and whether or not there are any carrying charges in addition to the express rates. In regard to oysters, the medium salt flavored is the most desirable for regular usage.

The large variety of clams or quohaugs are used for broth and chowders. The soft shell crabs are classified as to size and This division includes thereby priced. culls, medium, prime, and extra large. The hard shell crabs are very rarely shipped alive, being usually cooked at the point where they are caught. They are used for crab meat in the lump, flake and claw. The former is the finest, the flake is more or less shredded, and the claw meat is a little bit tougher and consequently priced lower than the other two grades. In conclusion, may I again emphasize that only the best quality fish foods should be purchased at all times.

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The first green at Inverness. The hole is 391 yards. No. 10 green is in the valley at the left.

What Makes a Greenkeeper Success in His Work?

Continuing the Observations of the Veteran

WM. J. ROCKEFELLER Greenkeeper, Inverness C. C., Toledo, Ohio

VERY now and then we will have a visitor from quite a good ways offthe president of a brand new club or chairman of some green-committee. The first thing the visitor wants to see is, of course, our grass nursery. We go over to the space back of the barn. (Oh, yes, we still have and foster the old white barn, made famous by O. B. Keeler.) There, Mrs. Number Ten's children are being brought up and developed to the point of going out to do a mature job wherever needed. We are particularly proud of that breeding ground with its area of perfected putting surface, sufficient to provide plugs for any spot in any green that might languish for one natural cause or another. The visitor usually asks what strain of bent grass we prefer. We come back at him with the question, "What have you?" We have previously noted that he said they had their greens nearly ready to play upon. Thereupon, he tells us, and if it is any one of the numerous good breeds, we will can idly tell him, "That is the kind to love and encourage."

Throughout this whole drama of the golf course it is truly said, "If you have

eighteen first-class putting greens, you have a golf course; otherwise you have not." Your greenkeeper must know his job. No man with a "pick up" experience and with little or no training concerning soils, plant life and the whole range of maintenance should assume such duties. If the man has egotism and stubbornness, coupled with his lack of both fundamental knowledge and experience, he is surely a costly experiment for the club. The old saying that "a little knowledge is a dangerous thing" has its worst example in such a greenkeeper. And yet, in these days of intensive golf course construction, the effort to keep pace with the demand for more and yet more golf courses for clubs and for public and semi-public fee courses has launched plenty of half-baked greenkeepers abroad in the land. It is one of the curious things about humans that these underdone chaps are nearly every one of the bull-headed breed I have mentioned.

Training the Greenkeeper

Now there is no need of any club, city government or company running any risk

of getting an incompetent greenkeeper today. They are not out to conduct kindergartens for the development of greenkeepers. Every big club has its veteran green-From his organization he is able keeper. to supply an experienced man who has, as a rule, grown up under his guidance. Such master greenkeepers "catch them young." Oftentimes as caddies who so love the open air life that they want to learn this highly useful profession of greenkeeping grow up in it.

Now schools also are giving a hand and providing valuable facilities for combining science with the practical lessons of work under men with long and successful experience.

What, after all, would the game of golf, its daily and hourly play, its countless events and its championships galore amount to without the greenkeeper's devoted labors? He sets the stage.

breaking of the dawn he and his assistants are here and there and everywhere in those broad acres doing the many needful things that the game may begin and go on. Each man who has a certain group of greens as his specialty is diligent in jealous rivalry of the friendly sort. His greens must be the best on the course, week in and week out. Such a man knows that there is no green that is good unless it is a clean green. So, if a little weed breaks through that otherwise perfect surface, he swoops down upon it and out it comes, roots and all. Likewise, every imperfect spot gets its plug. He must also give intelligent judgment to setting the The holes in a green, while being holes. located to bring out the sporting qualities of the greens surface, should never be placed in unfair or tricky places. Such bad judgment has, on occasions, wrecked a qualifying round in an important event.

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Golfing Greenkeepers

This brings out a point that is fundamental. Every greenkeeper should be a golf player. If he is not, there are enormous odds against him knowing where a hole should be set on any green and what a putting surface should be-besides all the rest of the playing conditions governing his work. There are, of course, a few greenkeepers who do not play and never have, maybe never will, but I have always believed that they are handicapped to just that extent. Surely it's a hard blow for one of them, when a putting surface looks all right to him and he sees the chairman of the green-committee coming along with his bunch, playing "syndicates" and everything-and missing a short putt. Wow! "Why, Doctor," the greenkeeper says, "I don't see how you missed that one-this is one of my best greens." Whereat "Doc" turns and says with a biting sarcasm, "What the hell do you know about it? You never putted a golf ball in your life."

It's just "too bad" that said greenkeeper never learned, at least, to putt. There are probably no better conditioned eighteen greens in all the Toledo district than those of a greenkeeper who can play any course in the United States in the seventies. He was practically born on a golf course, "teethed on a golf club"—was a caddy, a golf professional and, for many years, now, a greenkeeper. He loves his vocation.

Have you, as a green-chairman, ever attended a meeting of greenkeepers? If you haven't you have missed an impressive exhibition of men eager to add to their own knowledge and help their comrades with problems that have been solved by the knowledge and resourcefulness of some of the group. Such meetings and the regular routine of greenkeeping work always emphasize that there's no teacher like actual working experience. When a man has had that and really uses his brains, then he can rate as a real greenkeeper.

It's up to him then to have his course do his talking for him.





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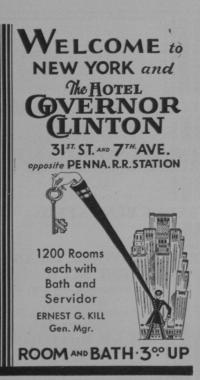
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