

tourists or those who are unable to arrange a regular game. A travelling salesman from New York was so pleased with the manner in which we were able to help him play on a crowded weekend that he wrote Kramer a letter after he returned home and said that the local pro was seriously considering setting up a new starting system modeled after ours.

Foursomes Only

Kramer's fourth step is aimed at boosting receipts and at the same time speeding up play once the golfers get off the first tee. Only foursomes can make reservations. This is the step that is hard on the golfers, since many of them cannot be sure of a game until late in the week, but we insist that this rule be followed to prevent twosomes from fouling up the steady flow of golfers. As the system progressed we overcame this, since there is usually someone hanging around the clubhouse who is willing to fill in a foursome. Instead of paying his green fees to the course he can reimburse the person who made the reservation and no one is hurt.

Our reservations system is extremely flexible. The hours during which reservations must be made can be adjusted to the needs of each course. At Bonneville we book the golfers from noon until 5 p.m. on Saturdays and from 6 a.m. until one on Sundays. At first our reservations ended at noon on Sundays, but increased play forced us to extend the time. The other two courses in Salt Lake City have different hours, but the basic rules are the same, and the results have been favorable.

This flexibility also enabled us to find a place for our ten-man team matches. For a long time these matches caused a lot of gripes, since the golfers did not like the idea of being held up while five foursomes teed off ahead of them. Under our present system we can make reservations for the team matches and no one feels that he is being deprived of a starting place. The same thing can be done for weekend tournaments, and you still will be able to handle your regular golfers.

When the system first went into effect Kramer felt that it might hurt his clubhouse concession, but after four years of reservations he has found that his business has increased considerably. Under the old system many golfers used to hang around the first tee and bother the starter in the hope they might get out a little earlier. Today they can stay in the clubhouse while waiting to be called. This gives Kramer an excellent chance to show the golfers some new equipment, or he can shoot the breeze about that hook or slice that is giving one of his customers some trouble.

There is one weak spot in the system we are using. Golfers with season tickets often try to sign the register two or three times

to help fill in a foursome for a friend. Occasionally we have to let a twosome leave the tee as a result of this, but most of the time we are able to fill in a foursome with stragglers. The only way to completely overcome this problem is to get more cooperation from season ticket holders. For the most part they have been cooperative on the Salt Lake City courses, and when they all begin to help us in this matter we will have conquered the whole problem of weekend congestion.

As you can see, it doesn't take much to carry out a smooth-working system of reservations. But it's up to you if you are to make a success of such an operation on your course. You will have to educate your golfers at first, but the system can work if you stick by the rules.

WHAT'LL YOU HAVE JOE; \$2,750?



Joe Kirkwood, Jr., gets the \$2,750 winner's check and the trophy for the Pabst Blue Ribbon Open at North Hills CC (Milwaukee) from Fred Pabst. The check and Mrs. Kirkwood, who is Cathy Downs, one of the sweetest and most talented kids in pictures, are in young Palooka's hold with a strong right.

BOOST GREENKEEPERS

Indiana sportswriters seem to have more of a habit of recognizing course superintendents' good work than sports scribes elsewhere. Recently Bill Fox, Jr. in Indianapolis News lauded job done by Jess Ashby of Anderson (Ind.) CC and Daniel W. Scism in Evansville (Ind.) Courier praised work done by Ernest Schneider at Evansville CC.



Golfers needing a sweater or cap quickly will be easily accommodated at Ralph Hutchison's golf shop at Saucon Valley Country Club in Bethlehem, Pa., during the 51st Amateur Championship of the U.S.G.A., Sept. 10-15. "Hutch" makes a point of providing extra comforts, besides a full line of golf supplies.

Sales Charm at Saucon Valley

At Saucon Valley CC, Bethlehem, Pa., those who visit this year's National Amateur championship will see in Ralph Hutchison's pro shop a fine example of a shop that fits the high character of the club.

The reason for a pro shop is convenient and attractive service to members. If a shop doesn't look up to the class of the club and isn't stocked so members can be reminded and supplied with everything that equipment can add to the player's comfort, enjoyment and scoring possibilities, then the shop is a handicap to the club and its professional.

Hutchinson's shop is bright. Floor covering, walls, ceiling, display fixtures, chair upholstery and lighting fixtures provide the live light that makes golf equipment look as it should to sell. Golf is played in the sunshine and to display golf equipment in dark surroundings is unattractive and motionless.

A shop like Hutchinson's requires careful

and constant attention in keeping it clean; but what good store doesn't?

You'll note that most of the merchandise behind glass is easy to reach. This arrangement of shelves and cases invites the shop visitor to slide the glass and pick out what interests him. The fireplace might have been a good architect's idea of making the place cozy, but in a pro shop its value is only for a merchandise display such as Hutchinson has arranged. That potted flower by the fireplace is a smart little touch that somehow makes customers feel as though they came in where friends are, instead of walking into someplace to be sold something that will cost them money. Such small details add to attractive atmosphere at a pro shop.

Observe, too, that umbrella displayed with a golf bag alongside clubs. That's a case of bringing associated merchandise close together so the buyers may be reminded to make their buying job complete.



New Approach to Control of Crabgrass and Poa Annua

By PAUL E. WEISS

Supt., Lehigh CC, Allentown, Pa.

Our method of crabgrass control at the Lehigh Country Club, using one pound of sodium arsenite per acre is a new approach to an old problem. All previous methods of crabgrass control were designed to kill the plant, before the seed developed. Our method is to treat the seed before it matures. We have used the phenol mercuries and potassium cyanate on greens and tees, but the cost of these materials on a large area, is prohibitive. There is no comparison between the phenols at 5 pints per acre and sodium arsenite at 25¢ per pound per acre.

Back in 1938, we sprayed several fairways with sodium arsenite at 4 lbs. per acre to control clover in good bluegrass turf, cut at one inch or higher. We had no crabgrass or Poa annua. We killed the clover all right, but from the howls of our golfers, I thought that we had killed some of them also. They objected to the burned turf. In 1945, I was requested to cut our good bluegrass fairways down to five-eighths of an inch because that is the way they were cut in the big tournaments. I refused. In 1946, I was told to cut them down or else, and we wound up with a turf composed of crabgrass, clover, Poa annua and a small amount of bluegrass and bent. One of our members remarked, "With clover hay at \$20 a ton, we could pay off the mortgage by allowing the fairways to grow into hay." He was right, but our golfers still liked them cut short, so we disked and seeded a colonial bent mixture at 25 lbs. per acre into fairways fertilized with Milorganite.

In 1947 we had developed a fair bent turf, but we had considerable crabgrass, Poa annua and clover. In our experiments we had observed that one pound of sodium arsenite per acre, applied when the seed is immature, would kill crabgrass seed. We all know that when you kill the seed of an annual plant, you also destroy next year's crop. We had also found that light, frequent applications would not discolor the existing turf and would reduce the howls of our members to a minimum.

We started to spray on August 18th, 1947 when one inch of crabgrass seed was exposed from the sheath, using a three hundred gallon sprayer with a twenty foot boom. One pound of sodium arsenite was applied per acre in 75 gallons of water at

75 lbs. pressure. The amount of water and the pressure are not too important and low gallonage sprayers work very well with 10 gallons or less of water per acre. The time of application is the vital factor and will vary in different sections of the country.

You must wait until one inch of seed is exposed. We like to spray when the grass is dry and when the soil is moist.

The second spray was applied on September 3rd, when the second inch of crabgrass seed was exposed. About ten days later a third application, at the one pound rate, was applied. In sections of the country having early frosts this third application may not be necessary.

Aerifies Fairways

Immediately after this third spray, the fairways were aerified several times, fertilized and seeded with a bent mixture at 10 lbs. per acre. We renovated six fairways in 1947 and the remainder in 1948. The results were so outstanding that even our own members commented favorably on the excellent fairways. They were forced to confine their complaints to the fact that several of our tees are not exactly level and that is a bad situation. A golfer should have an alibi for a poor shot or it takes a certain amount of pleasure from his game.

In 1949 and 1950 no seeding of fairways was done except in repairing divot holes. The fairways were aerified each year and sprayed one time each year, in September, just for the "hell of it". We are now spraying the rough, as we get around to it, on the theory that crabgrass in the rough will eventually re-infest the fairways. Clover and chickweed have been eliminated, as a problem, by the light sodium arsenite sprays and it has been proven that the residue of arsenicals in the soil will help to control grubs and earthworms.

We are now working on Poa annua in the Spring, when it is seeding profusely. I am convinced that sodium arsenite has the same effect on immature Poa annua seed as it has on crabgrass seed. We have collected Poa annua seed sprayed with one pound per acre of sodium arsenite and planted it in flats alongside of unsprayed seed. In each case, the treated seed did not germinate while the untreated seed grew vigorously. The Poa annua seed in the soil

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from years past, will germinate under optimum conditions. When this happens, spray it to prevent the seed on the plant from maturing and eventually, in theory at least, no more *Poa annua*. This thing seems so simple that it sounds unbelievable and probably is. At least sodium arsenite, at one pound per acre, does no harm to existing turf and the best way to find out how much good it does is to try it out for yourself on a small scale.

Let me repeat one warning which must be observed in the use of sodium arsenite. Never apply sodium arsenite when the soil is bone dry. Severe discoloration will result, even with the one pound method, although the turf will recover quickly when water is applied.

Research Boosts Seed Yields of Japanese Lawn Grass

Superior strains of Japanese lawn grass (*zoysia japonica*) can be managed to produce more than 500 pounds of seed an acre, report plant scientists of the U. S. Department of Agriculture and the U. S. Golf Association Greens Section.

This means that research has overcome a big obstacle to its use in this country — a shortage of planting material. Small amounts of seed are being released through commercial seed firms and will be available to the public as rapidly as it can be increased.

Widely adapted, the new selections are of special interest in the Crab Grass Belt — the Middle Atlantic States west through Missouri. They produce a slow-growing, dense, tough, springy turf that can hold its own against invasion by weed pests.

The current work on seed production was initiated at the Plant Industry Station, Beltsville, Md. in 1945 to improve turf species for the United States.

The Oriental zoysias — Japanese lawn grass and Manila grass — were among the species selected for study, says Dr. Fred V. Grau, in charge of the research, because of their ability to make a dense turf. Although they had been known in this country for many years, this was the first basic research work to be done on them from the standpoint of breeding and seed production.

Seed production on common Japanese lawn grass is low and unpredictable. One of the first studies at Beltsville was to find nutritional factors that increased seed production in the superior strains. Dr. Marvin H. Ferguson, plant scientist, found that high levels of nitrogen, required for grass production, are not necessarily conducive to seed production. His results indicated that boron, together with balanced feeding, holds the key to increased seed yields. On the basis of these findings the Beltsville plots receive a mixed fertilizer (10-6-4) and then a separate application of boron.

In studying seed yields the Beltsville re-

searchers have found some strains yield no seed at all, others may produce several hundred pounds to the acre. Cooperative studies are in progress in other parts of the country to determine seed production possibilities in other areas.

Zoysia Spreads Rapidly

Dr. Grau makes the point that a little zoysia seed goes a long way. He estimates that an ounce of seed of the superior new strains will produce enough seedlings — spaced at 2 feet intervals — to plant 6 acres. Once established, the zoysia spreads rapidly. Experimental plantings at various locations across the country show that a square inch of turf will give full coverage over a square foot of soil within two years.

Other studies at Beltsville have shown that mechanical hulling or chemical treatment speeds up seed germination and that fungicidal seed treatments increase the emergence of seedlings.

Although zoysia makes a thick turf in shade and in sun, it has one marked disadvantage. A warm season grass, it turns brown during cold weather, becomes green again when the temperatures rise. For an attractive year-round lawn, the plant scientists say zoysia should be teamed with blue grass, fescues, or other cool-season species that remain green in fall and winter.

The scientists believe that continued research will produce zoysias that stay green over a longer period and have other good qualities. But that will take several years. Meanwhile, the superior strains now being increased on small plots at Beltsville promise valuable planting material for lawns, parks, athletic fields, golf course fairways, and cemeteries.

USGA Green Section Turf Field Days, Oct. 7-9

The 1951 National Turf Field Days will be held October 7, 8 and 9.

Sunday evening will be devoted to progress reports by Turf Research workers and graduate students and a discussion of plans for further research to meet current needs.

Monday will be the big day, during which visitors will see the experimental plots at Beltsville as well as practical demonstrations of new grasses and new practices at a local golf course. Monday evening again will be devoted to a dinner and talks by leading turf authorities.

Tuesday, October 9, will be a "free" day for anyone's choice.

Reservations for rooms should be made directly. Tourist cabins near the Plant Industry Station include:

Del-Haven White House Cottages, Berwyn, Md., Canary Cottages, Beltsville, Md., Stewart Cottages, Beltsville, Md. and downtown hotels, are available.

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New clubhouse at the University of Michigan golf course built with funds from the athletic department has huge basement for year 'round indoor practice facilities.

Univ. of Michigan Builds New \$300,000 Clubhouse

By BERT KATZENMEYER

The announcement at the beginning of the Spring quarter that the University of Michigan had added a full one hour credit course in the Theory and Practice of Golf to the undergraduate professional curriculum required of men students majoring in physical education focused attention on the university's whole golf program and the facilities that make it possible.

Although our 18-hole course does not compare in size with the 36-hole layouts of our neighboring schools, Ohio State and Purdue Univ., we are justly proud of our recently completed clubhouse which we consider the finest plant of its kind. Built primarily to provide every convenience and accommodation for the students and faculty of the university who practice, play and study golf, the 11 bedrooms, showers, toilet facilities and training room on the second floor of the clubhouse serve the dual purpose of housing the Wolverine football team on pre-game nights. Kitchen and dining facilities are also used by the team for their pre-game breakfast and luncheon prior to going to the stadium.

Construction of the new clubhouse was financed with funds from the athletic department and represents a total outlay of

approximately \$300,000. Architectural fees, contractors fees, cost of material, labor, etc. totals \$257,945.65. Cost of furniture, fixtures and kitchen equipment now total \$21,419.48 so that by the time basement rooms are completely furnished and all expenditures are taken care of the total cost will be near \$300,000.

The building is of brick construction throughout with a copper roof. Along the course side of the building is a long wide patio with flagstone flooring and an extended roof supported by brick columns. New porch furniture adds to the handsomeness of the patio and makes a very highly desirable place to rest the weary bones.

The interior throughout the entire building is finished in pastel shades. Incorporated in the main lounge is the pro shop. Here every attempt has been made to lend to the informality of the setting. We have tried to do away with the old stereotype pro shop and yet be able to set up a central control zone so that everyone entering and leaving the building has to pass by the pro shop and registration counter. Our club display is conveniently open and inviting to the prospective buyer. Display counters are in a horseshoe arrangement with plenty



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Looking from snack bar through combination lounge and pro shop where open club displays and merchandise display counter are conveniently located for anyone entering or leaving the clubhouse.

of space to do an adequate job of merchandising.

The lounge, even though the pro shop is a part of it, gives the air of complete informality. It is furnished with sectional leather furniture and some occasional chairs and there is a fireplace to add to the homey atmosphere.

Adjoining the lounge is a snack bar large enough to seat approximately 80 people with a counter and stools for an additional 14. The lounge and snack bar give the appearance of one long room, however, there are folding doors which can be drawn to provide privacy for either room.

Locker-rooms and showers for both men and women are also on the main floor with facilities to take care of 187 men and 74 women. We are especially proud of our locker-room arrangement for here again we have tried to carry out the idea of informality in keeping with the rest of the clubhouse. We have done away with the old row upon row of lockers so generally used. Instead we have groupings of lockers set up in small sections within the large room. We have a team locker-room section, a faculty locker-room section, a section for the students and one for the transient

(Continued on page 66)



This large basement room of the new clubhouse is 75 by 130 ft. At the far end are four practice driving nets and floor to the left is made of special composition material used for practice putting surface. It's big enough for plenty of free swinging when the chill winter winds blow.