made for the purpose, designed by Markovich and his partners. Together they are 24 feet by 60 feet, enclosing 1,466 square feet. The two trailers are four feet longer than any mobile homes previously constructed.

They provide a dining area that seats 30, in addition to the kitchen and grill, two restrooms, the professional shop, a small office and ball supply for the practice ranges. An aluminum awning attached to one side covers another area of about 700 square feet for storing pull carts and for outdoor lounging and dining.

Air conditioning in the summer and forced air heating in the winter maintain an even indoor temperature. Large picture windows look out onto the golf course from both the professional shop and the dining area, and each has its own entry with a hallway connecting them.

Although players and visitors often remark about the spaciousness of the structures, Markovich admits that the quarters become a bit cramped after being there day after day. "It isn't fully adequate," he says, "but it's filling a need for us."



At Franklin Canyon (opposite) an awning creates lounging cart storage areas. Junior gotfer (below) shops among \$20,000 inventory at Walnut Creek's "pro shop." Golf cars (above) line up at temporary clubhouse at Heather Farms.

While awaiting construction of the permanent clubhouse Markovich makes the most of the mobile structures, wheels removed, set on a block foundation. The county planning commission granted permission to use the temporary structures for one year and then extended that permission for a second year. Partly because the two units are oversize and made to Franklin Canyon's specifications they were purchased instead of leased. But Markovich feels chances are good for selling them when they have outlived their usefulness. "Many other clubs want to do the same thing as they start," he says, "so I think we can sell them easily." The wheels can be attached and the units moved to another location on a moment's notice.

At Walnut Creek, Calif., a new municipal golf course was ready for play well ahead of the nearly \$1 million permanent clubhouse. Double mobile units were used for the professional shop, a restroom and lounging area. Food services were supplied by several vending machines grouped at one end of the complex.

A large window at the opposite end overlooked the first tee and gave professional LeRoy Silva and assistants Nick Andrakin and Al Weintz excellent observation from their office and counter area immediately under the window.

Although the trailers at Walnut Creek were made to allow two doorways on one side, only one was used because it simplified the traffic flow and allowed a longer expanse of wall space for merchandise display.

One disadvantage cited by Silva was the inadequate restroom facil(Continued)





Large windows in Franklin Canyon's dining area give members a view of the golf course.

ities. There was only one. "Once we had a gentleman and a lady headed that way at the same time -they worked out a priority system, fortunately." The restroom also doubled as a dressing room, but the ladies were hesitant to use it for trying on apparel, fearful that they might be keeping somebody else waiting.

Nevertheless, soft goods were an important part of the estimated \$20,000 inventory Silva carried in the temporary shop. He moved into the trailer during the first week of April, 1969, and settled into the permanent building in August. The mobile units came equipped with tile floors, so Silva purchased indoor-outdoor carpet at about \$2.75 per square yard and installed it

In addition to the carpet, Silva installed a burglar alarm system at his own expense-\$150 deposit and \$90 per month.

The City of Walnut Creek, which operates the golf facility, arranged for the two trailer units which provided space of 30 feet by 56 feet. The units were leased from a firm in Oakland, Calif., at about \$175 per month.

City Manager Ralph Snyder said service was a major consideration when the city chose the leasing firm. "Spikes can be very dam-

aging, and we insisted on maintenance that would overcome their effect." The trailer leasing firm supplied the step and hand rail for the doorway, everything but the hook-ups for lights and water. This unit, too, is heated and air conditioned.

Heather Farms is a nine-hole course also in Walnut Creek. Calif., where a double mobile home unit first housed the professional shop, office and restrooms. Merchandise was arranged in the professional shop to create diagonal aisles, which made the interior seem roomier. A large window midway in the unit flooded the inside with natural light to highlight the color of the soft goods. Fluorescent lighting supplemented.

The units at Heather Farms were leased. When the permanent clubhouse was completed in October, 1969, the units were moved out overnight and the merchandise and operations transferred.

Location is one of the major benefits of the mobile units. They can be placed precisely where they are needed, turned in exactly the right direction and semi-permanent additions made. Besides the awning which creates the outdoor lounging area and pull cart storage at Franklin Canyon, a slatted fence has been installed at the rear, making a yard and storage area off the "back" door leading to the kitchen.

Another use has been made of mobile homes at the Olympic Club in San Francisco where two specially equipped, small trailers are used as snack concessions, one on the Oceanside course and the other on the Lakeside.

Proprietor of these is Bill Parrish, an amiable San Francisco musician, who keeps his lip in proper playing condition by bringing his trumpet to the concession trailer to serenade golfers occasionally-but not on their back swings. Parrish's wife operates the concession in the trailer on the other course.

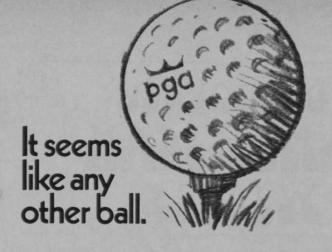
Parrish finds that the coldest and wettest weather can't penetrate the trailers, which are well-insulated against the elements. Small awnings shelter counters on the outside to make service to golfers more convenient.

Trailers such as Parrish operates are ideal for tournament concession stands. Small adjacent areas can be fenced easily to provide temporary storage for items such as drinks, which do not have to be covered or enclosed.

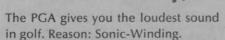
At the Bing Crosby tournament at Pebble Beach several of these trailers are used every year. All are specially equipped with drink dispensers, refrigerators, food storage space and counters inside and out. Large windows accommodate a number of customers at once, and the interior is large enough for three or more to work in relative comfort.

With the amazing growth of the mobile home market in recent years, manufacturers and distribution are within the reach of almost every golf operator. Special construction can be arranged easily. Transportation and placement of the units often is done by specialists on contract.

Even without wheels these mobile units have a lot going for them. For little more than a phone call you can have instant clubhouse.



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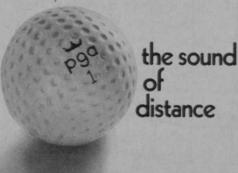


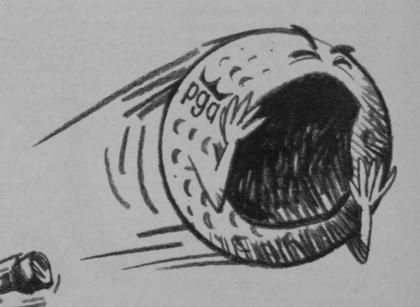
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By ROBERT SCHARFF

American wines have come of age, especially premium-quality wines. And club managers in the market for fine wines will be pleasantly surprised at what can be found in our "back yard"

MERICANS now consume over 200 million gallons of wine a year. Not only are they drinking more wines, they are showing an increasing preference for premium-quality American wines. These premium wines and Champagnes are the types country club patrons are inclined to order.

America, because of Prohibition, dropped out of the world of wines for 13 years. When she returned, she was greeted with a welcome tinctured, as might be expected, with skepticism.

Adding to the skepticism was the tendency of people to compare some American agricultural products to their foreign counterparts, which had their births hundreds of years before the founding of the United States. American grapes, wine, beer and cheese, for example, have long been regarded as "imitations." The American product was good in a way, but was unacceptable to a large segment of people who had come to regard the foreign product as the ultimate in taste, flavor and, of course, style.

America is one of the greatest natural grape growing areas in the world. Many species of grapes grow throughout the broad expanse of fertile land from the Atlantic to the Pacific and from Canada to the Gulf, but American wine is not, nor can it ever be, produced like some particular wine in a foreign country.

Wines are individuals and are



inseparable from the climates and soils that give them their character. For example, a wine can be of a type which has long since become generic, such as Port wine. It can be, however, different in its characteristics because of the varieties of of grapes used and the process of manufacture followed by its producer. Not all Port produced in America has the same taste, flavor and bouquet. Similarly, American Port is not the same as Port produced in Portugal (even the brands of producers in that country do not have exactly the same characteristics). This analogy holds true of other generic types of wine, such as Sherry, Sauterne, Burgundy and Champagne. In other words, wine growers of the United States produce distinct individual wines which other regions here or in Europe cannot reproduce. New York State wineries do not imitate wines of Europe or even of California. but produce wines "that were never known before."

The young American wine industry has long ago outpaced its foreign parents (Americans drink native wines at a ratio of about 15 to 1 to imported wines), but American wines continue to be compared to what are considered to be perfect models and all similar wines are still considered imitations. Glances of disdain and astonishment are still being directed down the long noses of self-styled wine authorities toward delicious American wines that have fine parentage and characteristics that would shame many foreign wines long considered the ultimate of centuries of wine growing.

Criticism is directed at the manner in which wine has been pro-

duced in America for the past hun- 3 dred years. Its production is centralized in wineries instead of in hundreds of thousands of grape growers' homes throughout the country, as is the case in many European wine-growing areas. True, American wineries broke tradition, but how else could the industry progress as far as it has in this young country? Skilled production results in uniform quality which depends on each winemaker's policy underlying the product he wishes to make or the market he is trying to attain. In other words, the myth that all imported wines are vastly superior to American wines is false. Premium-quality wines of Europe and the United States both have their enthusiastic supporters.

Incidentally, most French grapes are grown on American rootstock. Vitis riparia, the wild grape commonly seen in northern sections, is very resistent to the grape phylloxera, a small insect which feeds on the roots of the grapevines. It is the rootstock which was first sent to France and used to reconstitute the French vineyards after they had been wiped out by the phylloxera in the period from 1860 to 1885. Thus, there is a little bit of America even in French "imported" wines.

In the last few years, American vintners have shown greater determination to have their wines accepted on their own merits. For example, many of them are no longer using the generic names.

Actually, the period of naming American wines by European types is drawing to a close and certainly in the field of the fine wines, it is virtually over. In their places, are names such as Pinot Chardonnay, Baco Noir, Catawba, Sauvignon Blanc and Johannisberg Riesling. These are the names of the grape varieties represented in the world's finest wines. On bottles of American wines, these names tell the buyer the grape from which the preponderant wine is used in the blend. Or, as is more often the case, the grape from which 100 per cent of the wine is used.

It does, of course, impose obligations on the buyer. He must know a few of these grape and wine names, unfamiliar as they may be, if he is to get the best. And that he is not hidebound in his wine buying as some have supposed is evident from the statistics which show a steady trend toward familiarity with these labels.

Although dedication to qualify first and profits later is not universal enough in America to be called a rule (Is it in any wine growing country?), there is evidence enough that the quality urge has made itself felt in a very positive way in the market place, and not only in the fine wines. In brief, the less expensive American wines are better, for the price, than they have ever been.

Specifically, a gallon of American dinner wine at, say \$4 a gallon, will, when poured into screwcapped whiskey bottles for convenience and in innocent contravention of "Federal law forbids re-use of this bottle," yield five fifth-bottles of wine at 80 cents a fifth, or four quart bottles at one dollar a quart. This is still a good deal more than vin ordinaire costs in France, but it is also better than

(Continued on page 68)

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GETTING THE BUGS A relatively new species of inparticularly in the Northeast on Long Island and in Westchester County, New York, This small but upon

By R. SCOTT CAMERON

Those dried patches on tees, fairways, aprons and greens could have been caused by an insect called the turfgrass weevil. The author has come up with what he believes is a way of controlling the pest

relatively new species of insect pest is damaging turf, particularly in the Northeast on Long Island and in Westchester County, New York. This small weevil, known as the "turfgrass weevil," kills Poa annua late in the spring. Turf damage varies from vellow-brown spots about the size of a dime on greens to the dying out of large areas on greens, aprons, tees, fairways and grass tennis courts. Turfgrass weevil damage was first reported on Long Island's North Shore in 1957. Damage has now spread to numerous golf courses throughout Long Island and Westchester County and also in the states of Connecticut and Pennsylvania.

Full scale research studies on the weevil were started in 1968 when the New York State College of Agriculture at Cornell University, Ithaca, N.Y., received a grant from the Long Island Metropolitan Golf Course Superintendents' Research Foundation. The foundation was established in 1967 for the specific purpose of raising an \$18,000 research fund from concerned golf clubs, associations and commercial firms. For the last two years, this fund has supported research studies directed toward finding a means of controlling the turfgrass weevil.

The species of this new insect

pest has not been determined. Specimens from Long Island have been classified as both *Hyperodes anthracinus* and *H. maculicollis*, but upon close inspection it appears to be a new intermediate species or subspecies.

Like the Japanese beetle and the sod webworm, the turfgrass weevil has four stages of development, including egg, larva, pupa and adult. The larva varies from one millimeter when it first hatches from

The adult turfgrass weevil (above) grows to a size of 3.5 millimeters and can cause extensive damage (below) for example, this apron of a golf green on a course on Long Island, N.Y.



the egg to 4.5 millimeters (onesixth inch) when fully developed. The larva is legless, creamy-white and crescent shaped and it has a dark brown head capsule. The pupa is about 4.5 millimeters long, creamy-white and resembles the adult in form. The adult is oblong, about 3.5 millimeters (one-seventh inch) and the front of its head is elongated into a beak which has a pair of elbowed antennae attached near the tip. A young adult is soft and orange-brown, but it gradually hardens and darkens to a dull black. As the adult grows older, much of its tiny hairs and scales are worn off, leaving a shining black body.

Turfgrass weevil damage is difficult to distinguish from damage caused by other insects, diseases or wilt. Weevil damage has only been observed on *Poa annua* turf and it appears in late May and early June. Inspection of damaged stems often reveals U-shaped indentations at the bases where weevils have been feeding. The dead grass



in weevil damaged areas generally lies flat soon after being damaged. If damaged areas are observed when the grass stems first turn yellow, larvae can often be found in the thatch layer and inside grass stems. When patches of turf turn brown, larvae, pupae and young adults can be found in the soil just beneath the damaged turf.

Poa annua is a common and persistent weed problem on many golf courses. It invades the courses in the early spring with lush growth, but tends to die out in midsummer. Poa annua is prolific in the Northeast, especially on Long Island, where it often constitutes nearly 100 per cent of the grass on many fairways, tees and greens. Through necessity, many superintendents have resigned themselves to the difficult task of managing Poa annua. The turfgrass weevil is making this task more difficult.

Turfgrass weevils survive the winter as adults in tufts of fescue and among leaves and debris under bushes and trees. Early in the spring these adults migrate onto fairways, tees, aprons, greens and grass tennis courts where they feed, mate and deposit eggs between leaf sheaths in Poa annua stems. Some larvae begin feeding immediately upon hatching, while others emerge from the original stems and move to other feeding sites. Small larvae tunnel in and out of several grass stems. As the larvae approach maturity, they become more sedentary and establish burrows in the thatch and upper soil where they feed on surrounding grass stems.

When fully developed, larvae burrow about one-fourth inch into the soil where they form earthen cells and transform into non-feeding pupae. In about five days pupae transform into adults. Except when they emerge from the soil, adults spend most of the daylight hours among grass stems in the thatch. At dusk they become active and crawl to the tips of the grass blades to feed. With the aid of a strong light, adult weevils can often be spotted on the surfaces of greens at night. Adult feeding apparently causes little damage because they feed mostly on the leaves and upper stems of grass plants.

On Long Island, there is a complete spring generation and what appears to be a partial second generation. The spring generation has been observed on fairways, tees, greens and tennis courts, while the partial second generation has only been observed on greens and tennis courts. The spring generation causes significant damage whereas the second generation is most often overlooked.

Eggs of the first generation are laid throughout April and May. Larvae are numerous from mid-May through early June. Pupae and new adults are most numerous throughout June.

Initial efforts of golf course superintendents to control the turfgrass weevil were unsuccessful because chemicals were applied after most of the damage had been inflicted and the larvae had burrowed into the soil. The key to control was found in biological studies on this insect. Chemicals should be applied early in the spring and directed toward the adults before they lay their eggs or toward the young adults before they cause significant damage.

In order to determine which in-(Continued on page 50)



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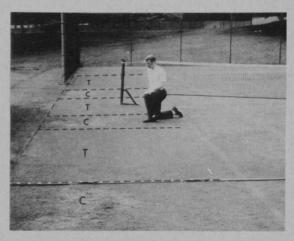


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(Continued from page 49) secticides might be effective in the field, 25 insecticides were tested on adult turfgrass weevils in laboratory experiments. Several organophosphate materials, including Guthion, Baytex, Supracide and Dursban, were most effective whereas several chlorinated hydrocarbon materials, including heptachlor and chlordane were the least effective.

granular diazinon applied in the early spring successfully controlled the turfgrass weevil.

To control the turfgrass weevil, granular diazinon at a rate of three to four pounds active ingredient per acre or Dursban emulsifiable concentrate at a rate of 1½ to two-pounds active ingredient per acre should be applied on suspected problem areas in mid-April and again in mid-May. Neither dia-



Field plots in 1969 show damaged grass in control plots (C) and healthy grass in treatment plots (T).

The materials which were most promising in the laboratory bioassay experiments were selected for field testing in 1969, along with Di-Syston, which looked promising in 1968 field tests; and diazinon, an insecticide commonly used against soil dwelling insects.

Nearly all the 1969 plots treated in both April and again in May were conspicuously healthier than their surrounding control plots. Dursban applied at a rate of 21/2pounds active ingredient per acre in April and again in May gave the best control. Diazinon applied at a rate of five pounds active ingredient per acre in April and May consistently gave good control, while diazinon applied at a rate of two pounds active ingredient per acre in April and May gave only fair control. The diazinon plots treated only once in mid-April showed considerable weevil damage.

Operational trials conducted by several golf course superintendents in 1968 and 1969 showed that zinon nor Dursban are registered for use against the turfgrass weevil, but both are registered for use against other turf insects.

Diazinon (14G) at a rate of 31/2pounds active ingredient per acre will cost the golf course superintendent approximately \$10 per acre for each application, a total of \$20 per acre per year. Dursban (2E) at a rate of 11/2-pounds active ingredient per acre will cost approximately \$18 per acre for each application, a total of \$36 per acre per year. More extensive field tests could prove that lower rates of application or one treatment per year would adequately control the turfgrass weevil.

Mr. Cameron is a candidate for a M.S. degree in entomology at Cornell University, Ithaca, N.Y. His research on the "turfgrass weevil" was reported to the delegates at the 23d Cornell Turfgrass Conference held last February.