THE DUNLOP LINE of Maxfli Golf Balls is again in production.

And Professionals will once more be able to offer these famous balls to their customers during the Season of 1946.
PROPOSED new clubhouse of Gainesville (Fla.) G&CC, of which Sanford Goin is architect, abounds in features that show the postwar trends in smaller clubhouses. The building is two stories high on the south and west overlooking the golf course. The main upper floor opens out at ground level toward parking area and swimming pool on the north.

The somewhat unusual arrangement of stairways leading to dressing-rooms, is for permitting youngsters who use the swimming pool to have access to their dressing- and shower-rooms without entering adults’ locker-rooms.

Construction costs have been estimated at from $60,000 to $70,000.

Goin’s comment on some highlights of the plan:

“The view and the contour of the ground dictate the plan; hence the circle, providing the maximum in angle of vision and ventilation and an attractive transition between the irregular axes of the angular wings.
"The circular ballroom has marvelous possibilities of interior treatment with the dominating features consisting of the exposed king-post trussing and the glass area overlooking the links.

"The partial circle for the southwest exposure of the lounge below provides the same desirable characteristics of view for this room while the convergence of this angle toward the fireplace lends itself nicely to quiet from any noise incidental to the swimming pool.

"The design contemplates something in the character of the so-called Monterey style with the porch opening off the ballroom cantilevered to provide a cover for an open terrace opening off the lounge below.

"Generally speaking, the other features of the plan are self-explanatory and are based on the space requirements and normal functioning requirements of a club building of this kind.

"The plan arrangement of the bar gives privacy from the corridor and yet has smooth circulation from the ballroom, the corridor, and the porch.

"The materials suggested are masonry for the first or ground floor and frame or some lighter material for the main floor. The roof could preferably be of shingle tile but asbestos shingles would suffice."

**PLANS for medium size clubhouses in the**

*APRIL issue of GOLFDOM*
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FERTILIZER

Developments and Future Trends

THE outlook for adequate fertilizer supplies during the 1946 spring season was decidedly discouraging as this was written, late in January. The situation is reminiscent of the time in early 1943 when one couldn't buy a raw, boiled, baked or French fried potato in Washington and cigars were almost as scarce. When you can't buy potatoes, or a cigar to soothe the troubled spirit, it's only human to rise in righteous indignation if one thinks needed production of these items is being even faintly retarded by the diversion of needed fertilizers to golf courses and other ornamental plantings, no matter how pleasing to the eye. One can't eat a view. It might be worthwhile to look into the merit of the grass pills the writer gave Dr. Grau one day last fall, credited at last reports with prevention or cure of all ailments, including the greenkeeper's blues.

Having shared the responsibility of equitable fertilizer distribution during two of the critical war years and authored in part all of the wartime fertilizer control orders, the writer is not unfamiliar with complaints, both from those who got fertilizers but never as much as they wanted, and from those who got none. After returning to my normal work and seeing the quantities of scarce materials in many golf course barns, I can only conclude greenkeepers were blessed with plenty of foresight in 1942 before we imposed restrictions. Of course a little fertilizer may have been diverted from potatoes when we had to start making alcohol with the surplus of spuds later in 1943. What I don't understand now is why some enterprising greenkeeper didn't get a few cars of the surplus potatoes in late 1945 and build a compost pile with them, rather than have them all diverted to feeding the pigs. Someday a greenkeeper with a vivid imagination will sell the boys in AAA on the grand job of soil conservation work they do and the first thing we know their barns will be filled up with free lime and superphosphate and TVA ammonium nitrate. In such event the real subject of this article, specialty fertilizers, could be relegated to ancient history where some of our most advanced social minds would like to consign private enterprise.

Probably about 300,000 tons of mixed fertilizers and specific materials are sold annually to golf courses, cemeteries, schools, parks and private homes. A substantial portion of this tonnage is in the so-called specialty grades. Some will charge that the only difference between a specialty and a commercial grade of like analysis, is the more attractive package of the former. Admittedly, some unscrupulous manufacturers may take both from the same bin, but I believe them to be the exception rather than the rule. In most instances there are ingredients of added value in the specialty grades which warrant their higher price. Also the great bulk of this tonnage goes out to the consumer in small lots, often only a few bags, even to golf courses. The level of prices is largely governed by the amount purchased. More handling is involved before they reach the actual consumer and this requires more durable bags. Their purchase price in quantity is not unlike the price of premium tobacco grades of fertilizer or those compounded for other high value crops. A specialty fertilizer of known quality for turf use, sold in truck load lots in Connecticut at $64.00 per ton for instance, would certainly not compare unfavorably with a tobacco grade sold at $70.00 per ton in similar quantities.

Not infrequently the producers of specialty fertilizers render advisory service to their customers of a nature which can hardly be approached by many of our Agricultural Experiment Stations. The frequently over-worked Extension Agronomists of our experiment stations have so broad a field to cover they are unable to concentrate on a single subject. The practical advice of the agronomist who has specialized in the problems of sports turf

La/kin, pres., Golf and Lawn Supply Corp., golf supply dealers, was Chief, Fertilizer Order Section, War Food Administration from its inception until July, 1944. Prior to that he was in the Agricultural Chemical Unit of War Production Board.—Editor.
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would command a substantial fee on a professional basis but is cheerfully given by several firms having men of outstanding ability in their employ. Let me hasten to say this is no reflection on the excellent work of our experiment stations but indicates instead the failure of all interested in better turf to see that research work in this field is supported by adequate funds. Without a beautiful lawn any landscape planting loses character, yet no part of the home landscape is so neglected in research appropriations at both federal and state levels.

Beware Grade Limiting Laws

A popular feature of our wartime fertilizer regulations was the limitation on grades, which permitted only a minimum number of approved grades in each state. Agronomists and fertilizer control officials in many states are now moving toward a revision of their state fertilizer control laws, with a view toward making grade limitation a basic provision of such laws.

Sports turf, like certain crops, has likes and dislikes in fertilizers and many of our standard commercial grades are ill-adapted to use on fine turf. For that reason our wartime fertilizer orders permitted a certain flexibility in the analysis of mixed specialty fertilizers, altho we did try to raise their minimum plant food content within the limitations imposed by the materials available. Greenkeepers and others interested in special turf fertilizers, should convey to their state agronomists the necessity of permitting the formulation of grade suited to their specific needs.

A long treatise on wartime fertilizer practices and policies is of little interest now. Unfortunately the supply situation has not improved as would have been expected. Numerous factors account for present shortages, most important of which are:

1. The coal strike of last fall coupled with the steel strike, which have materially reduced sulphate of ammonia production.
2. Partial reversal of our historic role as importers of fertilizer materials, especially nitrogen and potash. We are now called on for heavy exports.
3. The continued dearth of organic nitrogenates and diversion of all edible organic materials into stock feed, also in very short supply.
4. Acute labor shortage in fertilizer plants which may grow worse in an industry of historically low wage rates; operating under ceiling prices which permit little advance in wages to attract labor. The specialty producer has been given some relief but is experiencing great difficulty in acquiring adequate supplies of basic materials.

No industry can remain static and the demands of war on the chemical industry has forced the fertilizer manufacturer to expedient improvising in grade formulation. But the impetus of war to the industry has brought new materials and better methods of utilizing them. Not many years ago a mixed fertilizer containing 16 units of available plant food was considered high grade. Today the average is well over 20 and going upward.

Better Application Needed

The methods of applying all our modern high analysis materials has hardly kept pace with their development. Modern application machinery has fallen behind the ingenuity of our chemical engineers. Equipment for row crop fertilizer application is well ahead of our means for broadcast distribution. Greenkeepers often improvize and find means of using high analysis materials to advantage as well as developing more efficient ways of using older conventional types. We don't know what the future holds for methods of distributing fertilizers to turf, but prophesy future developments of interest.

The plow sole method may readily find acceptance in the building of new courses and is conceivably one way of getting an abundant supply of phosphorous down deep where we would like lots of grass roots to be. Greenkeepers were among the first to make liquid applications of fertilizer and may give serious consideration to one proposal which was seriously offered to the government in the summer of 1943 when we had a temporary but substantial surplus of anhydrous ammonia.

The author of this proposal suggested we ship cars of anhydrous ammonia to central destinations and use our large surplus of gasoline tank trucks (remember gas rationing?) to haul a saturated ammonia solution out to the farms. The farmer was to hurriedly improvise some kind of a tank truck and boom with which it could be safely applied. Anyone who has accidentally cleaned their nasal passages with anhydrous ammonia as I once did along with my neighbor's chickens might look askance at the idea. Once my neighbor's rooster recovered from the sudden blitz he let out the most triumphant crow I ever heard, which I enjoyed even in my discomfort.

But there are several practical methods of handling liquid nitrogen and in fact anhydrous ammonia is widely used by trained crews in California and the far west, where it is introduced into irrigation water. Since nitrogen in solution is the most economical way to purchase this element, practical methods for its use in that form certainly will be developed. Even before the war we were using tomato starting solutions made with

(Continued on Page 69)
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Postwar Maintenance Picture

In general, those clubs which enjoyed a favorable position near population centers or could be reached by rail or bus transportation, were fortunate. Play on these courses was quite heavy. Those clubs which were highly mechanized found they were able to maintain their courses with skeleton crews—so bare a skeleton in fact that in prewar years they would have thrown up their hands in despair and declared it impossible.

Staring us in the face insofar as the immediate future is concerned is high-priced labor and for the present a shortage of equipment. The equipment situation may or may not be relieved by next summer. It is not believed that we will again have, at least for a good many years, low-priced labor.

The answer to the postwar maintenance problem lies in golf courses modernized and mechanized. By modernizing, I mean doing away with the steep slope on backs of greens, on bunkers and other hazards. In other words, reconstruction or rebuilding so that you can use a modern power mower on every area of the course. The hand mower, the hand sickle, hand scythe will prove too expensive tools to use to any great extent. Many golf courses constructed in recent prewar years have been designed with machine maintenance in mind. It is believed that courses so constructed are more popular with the average golfer than the old type.

With that in mind, let us consider the equipment that is available at the present time, that was available before the war or has been developed during the war. One of the chief items of expense is the mowing of the fairway and rough areas. Years ago the 3-gang mower was used, later supplanted by a 5-gang, the latter effecting better than a 50 percent saving in mowing time. These mowers were horse or tractor drawn; the 5-gangs being mostly tractor drawn, and had a cutting speed not to exceed 3 or 4 miles per hour. The 5-gang mower was succeeded by the 7-gang and one or two companies introduced 9-gang mowers. The cutting speed was increased up to 6 and 7 miles per hour, with the result that cutting cost and cutting time were cut another 50 percent. During the war, in answer to the need for cutting the large acreage of airports, still higher speed motors were developed. In discussing the application of these mowers to golf courses with a few of the dealers, the general consensus seems to be that this higher speed of cutting is not applicable to fairway mowing, and that in the immediate future no great or outstanding improvements in fairway mowing machinery can be expected. The higher speeds tend to create a washboard effect: this has been troublesome in the past. In all likelihood, there will be some increase in speed and some improvements.

High-speed Rough Mowing

These mowing machines which have been designed for airport work, however, are suitable for mowing rough areas. Many courses have been using fairway mowers set high for mowing rough, or in some instances, mowers designed especially for cutting rough. These new airport mowers are capable of much greater speed than mowers used heretofore and should result in a great saving in cutting costs for roughs and in better maintained rough areas. One company has advertised a mower with cutting speeds up to 25 miles per hour. It is very questionable, if this great a speed can be maintained on the average golf course due to the nature of the terrain, necessity of dodging trees and shrub beds, the condition of the rough areas, etc., and the nature of cut obtained. However, it is believed that cutting speeds of from 10 to 12 miles per hour can be maintained with satisfactory results. I have been informed that the mowers of the future will be lighter and more durable, taking advantage of the new alloys and new metals developed during the war.

Leaving the fairway mower and rough mowers designed for large areas, our selection of mowing units for the smaller areas is almost unlimited. Many fairway mowing units are so constructed that it is possible to operate them in gangs of 3, 5, 7, or 9 as the case may be, disconnecting the units in a minute's time. One of the greatest labor savers in the mowing field and one which was developed a few years prior to the war and on which a great many improvements will doubtless be made in the future, is the so-called...