Hugh Phipps, Ruffner's assistant at Decatur, is a very meticulous fellow when it comes to setting up clothing displays.

By FORREST R. KYLE

Spaciousness, light and a well balanced accent on equipment and apparel displays are the principal attributes of the new pro shop at the CC of Decatur, Ill.

Built last summer and hooked onto the beautiful English-style clubhouse, the domain of Professional J. D. Ruffner is the last word in accommodation for members, and ease of operation. Wall-to-wall deep-pile carpeting, floor-to-ceiling windows, indirect lighting and natural brick interior walls are highlights of the shop which covers some 2,200 square feet.

In addition to the L-shaped display area, there is a private office for Ruffner, an adjoining lavatory, a storage room capable of handling up to 400 bags and yet another room to store new clubs and other stock.

In Better Location

So far as Ruffner is concerned, the main feature — above and beyond the modernistic furnishings and the eye catching displays — is the shop's proximity to the men's grill and lockerrooms. The old shop was some 100 yards across the parking lot from the clubhouse.

Ruffner naturally feels the closer he is to the grill and locker rooms, the better service he can give. "Formerly," he says, "being so far from the clubhouse, I never knew for sure who was at the club. Now I know. They either walk through the shop or around the outside and I can see them through those big windows. We know who's looking for a golf game. That's something we didn't know when the parking lot separated us from the clubhouse."

J. D. Ruffner
" . . . stay around in the winter!"

Studied Other Shops

Ruffner, a Kentucky native who came to Decatur 10 years ago from Errie Ball's staff at Oak Park CC (Ill.), visited several Chicagoland clubs to get ideas for his shop. He talked to professionals who were experts on display, traffic patterns and all other niceties which distinguish a well-run shop.

Now that the plans are a reality, Ruffner is satisfied he has an ideal spot. It wasn't opened until Aug. 1, 1962, but in the short time before Labor Day, Ruffner felt the shop lived up to expectations 100 per cent.

"We sold to people we hardly ever saw at the other place," he said. "Especially a lot of non-golfers."

Selling to non-golfers proved to Ruffner he was right in his philosophy of displaying merchandise. "They aren't in the market for equipment," he says, "but they'll buy apparel if you kind of push

Clubs and clothing are mingled in above displays on the theory that if the customer isn't interested in one he may be tempted by the other.

it toward them.

"In this new shop we have about 15 feet of wall space devoted to club display. Here I have six sets of irons and several sets of woods. This year I'm planning to use the center of this display for clothes. That will give us a two-way stretch."

Ruffner feels he should have all his wearing apparel out where it can be seen, instead of in cabinets and boxes.

"People must be able to see it and know what you've got. You can't go running to the back room to get a pair of shorts for Mrs. Brown or a shirt for Mrs. Smith. If either sees them on your rack and you've got the right size, you're going to make a sale.

Clubs Like Shirts

"It's good to have a wide display of clubs, especially putters, wedges and sand irons" J. D. says. "Just have them around, and in the limited space where members can swing them, sales will be boosted. They are sort of like shirts . . . there are all kinds and people like to see and handle them."

The wearing apparel Ruffner sells is the best. He regards quality as his biggest selling point. "The golf pro club can't compete with the merchant downtown," says Ruffner. "I mean on a mass basis. I can't buy like they can. I must try to get a top quality brand and stick with it.

(*Continued on page* 152)

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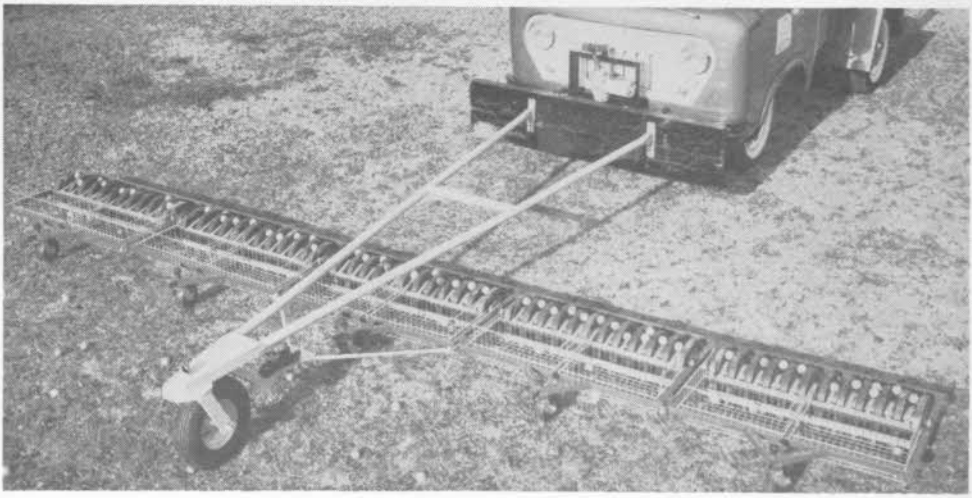

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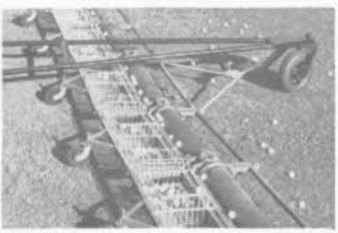

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GCSA Convention

SPEECHES

What Makes Plants Respond?

- *Natural Selection Is A Continuing Process*
- *Growth Depends on Daily Temperature Changes*
- *Winter Weather Reduces Disease Potential*
- *Grasses Require High Sunlight Intensity*

By Victor B. Youngner
University of California, Los Angeles

Plants and, in fact, all living organisms, react to their environment in many ways. In a sense every change occurring in the life of a plant is a response to environment. Various factors such as light, temperature, water supply, nutrients and many more, act upon the genetic or hereditary background of the plant to induce specific responses.

Plants do not necessarily react in the same way to the same set of environmental conditions. Different species and varieties, or even different plants of a variety, will often react quite differently.

During the millions of years which have passed since plants first appeared on the earth many evolutionary changes within the plant kingdom have taken place. As geological changes occurred on the earth, plants were forced to make adaptive changes in order to survive under the conditions of their particular environment.

These adaptive changes were heritable; i.e. passed on from generation to generation and are still taking place today. It is incorrect to assume these changes occur purposefully. Instead, it is purely a matter of natural selection. Heritable changes occur frequently in all organism and in several different ways — through mutations, gene recombinations and interspecific hybridization, for example. Some few of these changes may have survival value, permitting the plant to grow and reproduce itself better than others under a given set of conditions. Plants having a genetic makeup not favorable for growth and reproduction under these same conditions will be quickly lost — at least after a few generations. This in simple words is evolution — Darwin's natural selection through survival of the fittest.

Rise of Grasses

It is through this process that our higher plants have arisen and our numerous genera, species and varieties developed. It is in this manner that our warm and cool season grasses have come into being. Natural selection should not be thought of as a process which occurred in the past and has now ended. It is dynamic, still taking place. Man, through his agricultural endeavors has added some interesting complications to this picture, both consciously and unconsciously. The plant breeder selects naturally occurring heritable changes or manipulates his material by hybridization or induction of mutations to produce the changes he desires.

Supts. through turf management practices may be affecting a natural selection process. For example: Poa annua in greens is a big problem. Because they mow greens very closely, supts. are selecting types of poa peculiarly adapted to those conditions — types which would

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have poor survival value under most other conditions.

These are highly perennial, dense prostrate, sparse flowering and often even sterile strains. The perennial nature and prostrate growth habit are advantageous characteristics under these conditions. Low fertility is of little consequence. These strains are not able to compete with the taller growing heavy seed producing types in a different environment, as for example in a golf course rough.

Strong vs. Weak

This same selection process occurs with the highly variable seaside bent under putting green conditions. The mottled appearance, characteristic of old seaside, is caused by single plants, genetically better adapted to the particular environment of that green, spreading and overcoming the competition of more poorly adapted plants.

Can an individual plant, poorly adapted to an environment, itself become better adapted merely by being grown in this environment? For all practical purposes the answer is No. The genetic background of the plant will not be changed, hence it cannot become better adapted. There are such adaptations as the "hardening" of plants to cold or by changes in nutrition. But these are purely physiological changes in the plant tissue and of a temporary nature.

Let us look at some specific environmental responses, keeping in mind that the response of any given plant is predetermined by its genetic or hereditary constitution. One of the most obvious plant responses is that of growth to temperature. We all know that plants will not grow unless the weather is sufficiently warm. We also know that if it becomes too warm, growth will be slowed and eventually stopped.

Plants also have certain optimum temperatures, i.e., temperatures at which they will grow best. Why is heat necessary for plant growth? Heat is a form of energy which is necessary for the many chemical reactions and physiological changes which occur in the growing plant. For example, the rate of photosynthesis increases with increase in temperature to an optimum after which the rate declines. The rates of most chemical reactions increases with an increase in temperature, hence the rate of growth also increases.

Why growth rate declines as temperatures increase above the optimum is not thoroughly understood. It is in part a matter of the plant using the carbohydrate food supply more rapidly than it is able to synthesize it. It has been shown that the optimum temperature for photosynthesis is lower than the optimum for respiration. There may be actual destruction of certain complex organic chemicals in the chains of reactions bringing about growth, especially when temperatures are high enough to cause injury.

Aubrey Babson (l), president of the Northern Calif. GCSA, recently presented a check for $300 to John Madison, U. of California horticulture professor, to further the turf research work that is being carried on at the university.

Must Consider Range

The important concept to keep in mind is that various species and strains of plants do have rather specific and different minimum, optimum and maximum temperatures for growth. It is largely on this basis that we are able to delineate regions in which plants are adapted.

Many plants make their best growth under a rhythm of alternating day and night temperatures, rather than a constant temperature, day and night. This response has been called thermoperiodism. It has been shown that some plants make most of the growth at night and for these, at least, the night temperature is of critical importance.

Low temperatures are important in winter for the breaking of bud dormancy in some plants. Some of our cool season turf grasses, especially Kentucky blue, perform very poorly in Southern California, even in coastal areas. This poor performance occurs in spite of tempera-

(*Continued on page* 150)

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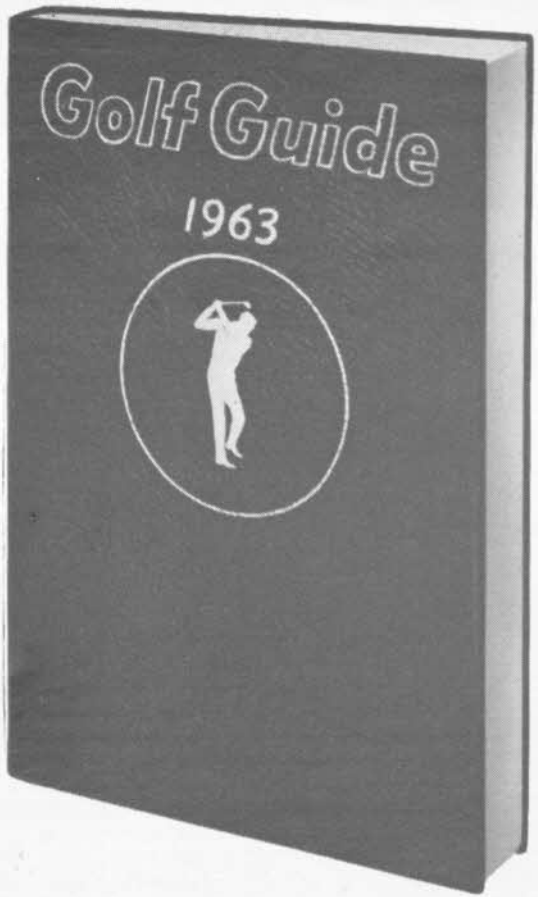

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GESA Convention Speech

Mechanical Planting of Fairways

- *Schmiesser's Invention Led to Economy*
- *Good Seedbed Preparation Is Essential*
- *Sparse Planting Rate Invites Weed Invasion*
- *Frequent Irrigation Gives Strong Stand*

By RAY JENSEN, Agronomist
Southern Turf Nurseries, Tifton, Ga.

The improved Tifton line of Bermudas are sterile hybrids and, consequently, do not produce viable seed. At first glance this seems to be a disadvantage (from the standpoint of propagation), but actually it is a blessing in disguise. This characteristic eliminates the possibility of contamination of greens and areas in other species through accidental distribution of seed. It also means that once the characteristics of the Tifton strains have been set through breeding, they cannot be changed by cross-pollination with common, or other types of Bermuda. In other words, these hybrid Bermudas will be exactly the same 50 years from now as they are at the present. Improved Bermudas, not producing seed, must be propagated vegetatively by sprigging.

Many methods of planting grass vegetatively have been tried. A number of these have been impractical, and some have actually been fantastic. The original method was simply hand sprigging. For small and delicate jobs, this method is still preferred. Using this method, one needs a minimum of planting material and can obtain almost 100 per cent survival. Obviously this is the slowest procedure. For this reason it is impractical where areas even as small as greens are to be planted, not to mention entire golf courses.

Had to be Improved

In 1956 the City of Fernandina Beach, Fla., contracted with us to plant its new course with hybrid Bermudas. This was a 9-hole course consisting of about 40 acres of fairways and 60,000 square feet of green surface. This huge job (for then) was undertaken primarily in an effort to perfect more efficient techniques. It was very doubtful that the job could have been completed within a reasonable period of time or with any semblance of economy. Other than the greens, the entire course was planted with a one-row tobacco transplanter and greens were sprigged by hand. It was learned that the one-row planter, hand sprigging, and other means available at that time were inefficient and uneconomical for vegetative plantings of hybrid grasses.

In 1957 one of our fellow members, Hans Schmiesser, designed a straight disc type planter, that with small modifications, was to make vegetative plantings economical. This planter was five feet wide, was tractor drawn, and consisted of a series of straight discs similar to coulters which simply pressed the sprigs into a soft seedbed. We used this machine to plant the Lakeland, Fla., Par 3 which was similar in size to the Fernandina Beach course. This job was completed in one-fourth the time and at about one-half the cost. The rate of coverage and smoothness of the seedbed was much better.

System Is Basic

This planting system has remained essentially basic. The implement has been improved on in a number of ways, and is now known as the Tifton Turf Planter. It consists of two sets of 12-inch straight discs welded four inches apart to 6-foot wide hollow center drums. One set is offset, trailing the other, so that the previously broadcast sprigs are planted about two inches apart. A 12-inch hollow roller, also 6-feet wide, filled with water for weight if needed, follows to

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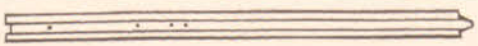
PAR 3 | PAR 4 | PAR 5 | 10" x 3" 80¢ ea.



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firm the soil around the newly planted sprigs. All is mounted upon a frame and connected by a three-point hitch to the tractor which pulls the implement and raises and lowers it by means of a hydraulic system. The implement is not patented.

An efficient group using the Turf Planter can plant an entire 18-hole course, including practice area, in about one week. One man is required to operate the tractor and eight men can be efficiently used to broadcast shredded sprigs ahead of the implement. Assuming an adequate irrigation system and properly prepared soil, up to 15 acres per day can be planted with only one machine. The object is to introduce a large amount of sprigs into the soil and to leave the planted area smooth and level. If the seedbed is properly prepared, this is accomplished with the straight disc machine. Even greens can be planted satisfactorily if the soil is properly prepared and the tractor operator proficient. If tracks remain, they can be smoothed without difficulty by topdressing or rolling.

Substitute Machine

If tracks become serious on greens due to the nature of the soil, self-propelled planters designed for greens are used. The principle is the same, but the machine does not leave any tracks. As many as 18 greens can be planted in a day with this implement. Mechanical broadcasters that operate in conjunction with the fairway planter have been devised and are proving satisfactory on large areas. Their cost is quite high, however.

The amount of grass used has much to do with the rate of coverage. Under good management and with proper temperatures, a planting rate of 200 bushels of sprigs per acre will develop adequate turf for play in five to eight weeks. Demand for quicker coverage is tending to increase planting rates. Rates as high as 400 bushels per acre are used on occasion and sometimes no more than 100 bushels per acre are used. A sparse rate of planting allows greater weed invasion and requires more water and fertilizer. This delayed coverage often results in a higher cost than using additional planting material.

Proper Management Needed

There is no substitute for proper management after the grass is planted. Sometimes a low planting rate will provide coverage sooner than a higher rate due to better maintenance. The two most important factors to consider if one plans to use hybrid Bermudas are soil preparation and provision for ample irrigation. The few failures that have occurred have invariably been traced to faulty soil preparation or inadequate irrigation.

Irrigate frequently, beginning immediately after planting. This is the most important single factor in getting a good stand, or survival. Even if the soil is moist, a light watering is necessary to seal the soil around the roots. Do not allow freshly planted grass to go more than two hours without water after planting and try to get the water to it as

(*Continued on page* 149)

New officers of the Iowa GCSA are: Front row (l to r) Harold McCullough, president and Dick Bruns, vp. (Second row) John Raher and Harold Kerr, directors, and Don Westfall, sec.-treas.

Jim Brandt (second left) of the GCSA presented turf scholarship awards to Joe Burris, Jerry Cheesman and Charles Laughlin at the short course held at the University of Iowa in March. Harlan Balma, another young man who received a scholarship, was unable to be present to get his award.