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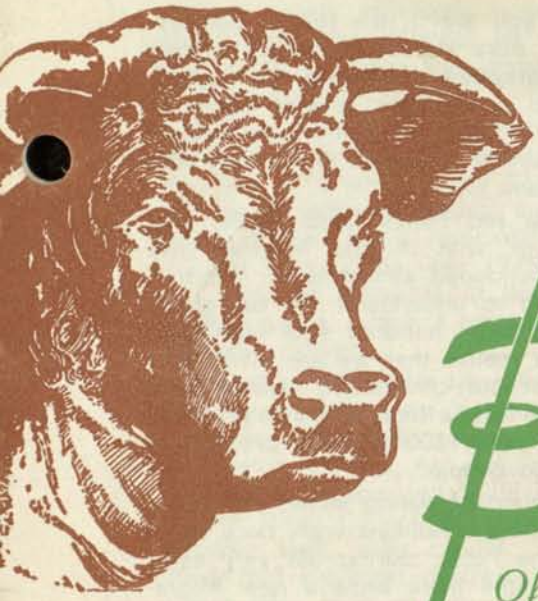


The Bull Sheet

Official Bulletin
Midwest Association of Golf Course Superintendents

BILL STUPPLE
2nd Vice President

APRIL MEETING

BRAE LOCH COUNTRY CLUB

MONDAY, APRIL 6, 1964

EDUCATIONAL PROGRAM

WEED CONTROLS

THE BULL SHEET, official publication of THE MIDWEST ASSOCIATION OF GOLF COURSE SUPERINTENDENTS.

TED WOEHRLE, Editor,
8700 So. Western Avenue
Chicago 20, Illinois

THE PRESIDENT'S MESSAGE

The Turquoise Curtain — A Change

In our wanderings, West of the Pecos, we wished to see just one of man's recent efforts to help his fellowman along the road to a better life. Thus, after our visit to Betatakin Indian Ruin, we traveled North on U.S. 89 to see Glen Canyon Dam and the man-made, Lake Powell.

Glen Canyon Dam has a threefold purpose. Water for irrigation of Navajo lands will make them more self-sufficient, power for improving the lot of the vast, undeveloped area and, when filled, the great recreational potential of Lake Powell, with its eighteen hundred miles of shore line.

In discussions with the Public Information Officer at the Bureau of Reclaimation office near the dam, I inquired if a golf course was being considered as a part of the facilities of the area which will be administseerd by the National Park System. Much to my surprise, I learned that a nine hole course has existed for five years just below the dam on the mighty Colorado. As I followed his directions to the club, I wondered how a turf establishment could exist on this barren piece of earth, known geologically as Navajo Sandstone.

So, on this Saturday morning, January 25th, I had the pleasure of meeting the founding president of Glen Canyon Country Club, Mr. V. M. Haight and current president, Mr. Ferris. Over coffee and through further introdutions to other members, I learned of the struggle to establish their nine hole course on this plateau desert country; of how, during the second year, they lost seven of the nine greens because of cut worms before anyone knew what was happening. Of how it was necessary to keep snow fence erected between fairways to slow the movement of the blowing sand during the windy season which occurs during March and April. Also, of the time when the seeded Bermuda fairways had just germinated and along came one of the localized and very fierce desert storms and covered up about half of the seedlings to the extent that they had to bring in the graders and start all over again. Fortunately, water for the irrigation system is in abundance as it would be wasted from the sewerage system. If you are in the 'rough', believe me you are in the rough. Outcroppings of sandstone, pure red sand, typical dresert growth and sheep droppings comprise the 'rough'. Yet, the Navajo still retain their grazing rights to this area. This 'do it yourself' golf course project has brought many days of recreation to the men who built Glen Canyon Dam.

After viewing the red man's hand made, five storied Betatakin Ruin, with its one hundred fifty rooms which was abandoned almost seven hundred years ago and trying to understand the full scope of our super giant, seven hundred foot high dam at Glen Canyon, you realize that we are living in a progressive period of our civilization. Going back for a moment, let us take a look at the intervening period between the year 1300 and the present, in relation to the Navajo people.

The Tree Ring Method of dating shows our scientists that normal moisture conditions were once again available West of The Pecos, during the very early 1300's. About this time there came a new migration of red skinned people from the north, seeking food and perhaps a much warmer climate. They were hunters and wanderers, foraging off the land, caring little if the life of a foe was taken in the procurement of his food or possessions. These people are said to be distant relatives of those who had preceded them years before and had fled because of the Great Drouth.

It is this segment of the Navajo tribe that occupied the area we know today as the Four Corners region of Colorado, New Mexico, Arizona and Utah at the time of the westward migration of people of European descent — the white man. The story of the white man, with his long rifle versus the red man and his bow and arrow is an oft told tale, one of much controversy and still being adjusted in the courts of justice today.

Integration of these First Americans into white man's society has been a long and ardous task. It was only natural that a deep seated resentment should occur when game, the red man considered his was slaughtered either by necessity but more often for the sport of it. He was forever forced to seek food elsewhere until there came a day when the new hunting grounds no longer existed. After many wars and broken treaties on both sides, the reservation system for red man control gave the bureaucrats in Washington a real field day.

The Navajo of Northern Arizona were no exception to this general confusion and misunderstanding on what to do with the red man. So they, like most other tribes had before them, fought for their existence. In 1863 Colonel Kit Carson, whose life was already replete with adventure, was to guide the army into the Navajo country, there to round every red man, woman and child that he could find and march them off to a life of complete regimentation near Ft. Sumner, New Mexico. His scorched earth policy netted him over eight thousand people. By 1868, after a million dollars and one thousand dead Navajos, the government and the various chiefs signed a new treaty which set up the present Navajo reservation where they reside today. In our modern vernacular, this 25,000 square miles of reservation has come to be known as the Turquoise Curtain.

While many of their ancient customs are still practiced, the integration of these people into our

modern society continues, more recently at a very accelerated pace because the younger generations have come to realize that education is the key word to this adjustment period.

With revenue from oil and uranium right on their lands to work with, the Tribal Council has retained the firm of Chambers and Campbell, business consultants of Albuquerque, to survey the tourism potential of their scenic reservation. Plans for investing millions through the year 1975 have been projected and reported favorably in the Navajo Times, their weekly paper, which I receive and read with considerable interest.

A part of this dollar spending to attract the white man tourist will have a direct relationship to our profession. Our golf course superintendent friends in Phoenix, Arizona, Art and Jack Snyder, have been retained to design and build a golf course by the Navajo Tribal Council on their reservation north of Window Rock, their capitol. This will be in the 7000 foot elevation of their Ponderosa Pine forest where they have a one million dollar sawmill in operation. Dumb Indians? No longer, for their young people are attending the various colleges throughout the country. Yes, today they are after the white man's dollar, not his scalp.

Warren Bidwell, President

SAY YOU SAW IT IN THE "BULL SHEET"

The Woehrle's Have Number Three!

Ted Woehrle and his wife Mary are the proud parents of a son born March the 22nd. This is the third child. They have another son and a daughter. Mother and son are doing fine. Ted will pass out ciars at the next meeting.*

* Between 9:00 A.M. and 9:30 A.M.

NEXT MEETING

The April Meeting of the Midwest Association of Golf Course Superintendents will be held at the Braeloch Country Club on Monday, April 6, 1964. Harry Neilsen will be our host. If the weather is cooperating on that day there will be golf. Harry promises us a fine home style meal. The Educational Program will consist of a speaker from the Stauffer Chemical Company on weed controls.

NOTICE

If there is sickness or death in the immediate family of any one of our members please contact Al Johnson, Chairman of the Benevolence Committee, at TA 5-3809 or TA 3-8682. Al will take the appropriate steps to notify the membership, or send flowers, whichever is necessary. The success of this program depends on the entire membership.

LAST MEETING

The March Meeting of the Midwest Association of Golf Course Superintendents was held at the Flying Carpet Motel on March 16, 1964. There were 81 in attendance. Several of the hardier members ventured out to the sporty short course and played golf during the afternoon. The Flying Carpet has a nine hole par three course in conjunction with the Motel. Andy Voykin is the Superintendent. The temperature was warm and the wind was strong, but the golfers enjoyed it.

After a delicious buffet style meal we held our monthly business meeting, President Warren Bidwell presiding. Various Committee Reports were read including the report from our National Delegate and the report from the delegates of the Advisory Committee meeting in Philadelphia. During New Business President Bidwell appointed Dudley Smith and Al Johnson as the delegates to the Advisory Committee at the National Meeting in Cleveland next year. It is adviced that all members of the National should keep this in mind, and present any comments that they might have concerning the National Association.

The Educational portion of the program consisted of a panel of Superintendents that discussed their fairway fertilizer programs. The panel was made up of Dudley Smith and Don Gerber on unwatered fairways and Ted Woehrle on watered fairways. All three men readily admitted that they are still looking for the ideal program and that they are still working on theories. Urea Formaldehyde fertilizers are definitely being considered for the future.

GROW YOUR OWN WILT PROBLEM!

The above comment or statement was made at the Educational Conference in Philadelphia in conjunction with the 35th International Turf Conference and Show. It was made by Harry W. Meusel, Superintendent of the Yale Golf Course, New Haven, Conn. Mr. Meusel is one of our more learned Superintendents in our Association. You might call him an expert on wilt problems and what causes them.

When he made the above statement many of us in the audience were shaken to say the least. Some of us were surprised. It was the first time that someone actually blamed wilt on Superintendents. Wilt is directly related to fertilizer practices and water management. However, in many cases these two practices are not directly responsible for wilt because Mother Nature often times causes us to suffer from too much rain or not enough rain.

Extensive studies involving the number of stomatal openings and the number of Epidermal Cells were presented and it was shown how the relationship varies with the watering program, provided Mother Nature does not interfere.

Three kinds of wilt were discussed and explained. These were: Dry Wilt, Wet Wilt, and Cloudy Days Wilt. Light intensity was also mentioned as a factor in Wilt.

After thoroughly discussing the Wilt problem, Mr. Meusel discussed some good controls for Wilt.

If you will take time out to read and digest his article in the latest issue of the Reporter, I am sure that you too will be surprised and shaken by some of the findings that he presents in his fine artice called, "What Makes Grass Wilt," found on page 24 of the March issue of **The Golf Course Reporter.**

LOCAL NEWS

Oscar Borgmeier Doing Well

It was reported by George Davis that Oscar is feeling much better and that he is in contact with him. He has recently returned to his home and is anxious to get out. Oscar thanks the membership for the get well cards and the many fine letters that he received while in the hospital in Florida.

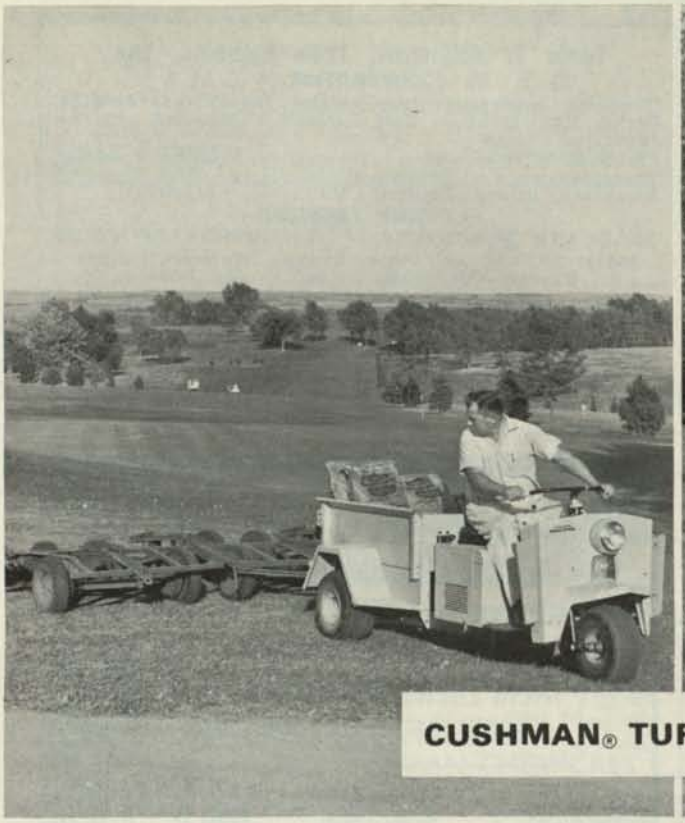
Ed Braunsky, Superintendent of Hickory Hills Country Club reports that they will be building a new maintenance shop in the near future. The site will be away from the street. He feels that a new location will help provide more security.

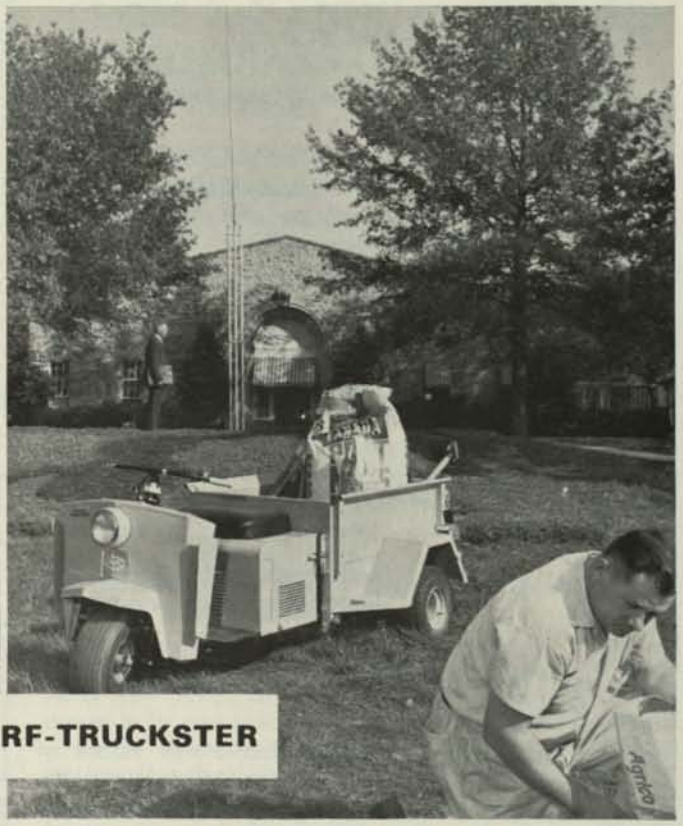
Chicago Area Superintendents and Their Wives Support National Attendance Figures

There were 89 Superintendents and 37 of their wives in attendance at the National Turfgrass Conference and Show in Philadelphia. This surpasses any other attendance record of the past for the Midwest Chapter. Of course this should be expected because attendance records were smashed in all catagories.

World Flower Show Success

Dudley Smith reported at the last meeting that the participation in manning the Illinois Turfgrass Booth at the World Flower Show in McCormick Place was outstanding. Over 30 Superintendents worked in the booth during the nine days of the show. There were over 100,000 booklets and pamphlets passed out to interested homeowners. This is one of the many ways that Superintendents can help to establish our profession in the minds of the public. Many of the Superintendents wore their green jackets which also helped to draw attention to our Association. The work in the booth helps to stimulate your mind. There are many questions that the average homeowner has concerning turf that we are not aware of. You have to be on your toes at all times. All in all it was a lot of fun.





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Use it as a TRACTOR...or as a TRUCK COSTS LESS THAN EITHER!

Its versatility is one of the reasons why the new Cushman Turf-Truckster is becoming so popular with grounds maintenance men.

Its lugging power is remarkable. With the heavy-duty 9.50 x 8 traction-type tires the Cushman Turf-Truckster is ideal for pulling gang mowers, for example, or for towing sprayers or other heavy equipment on trailers.

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Turf-Truckster has 18 hp OMC air-cooled engine with 6-speed dual-range drive which gives you the proper speed and power for every job. Variable-speed fast-acting governor allows Turf-Truckster to respond to any load change.

A tractor is just a tractor; a truck is just a truck; but a Cushman Turf-Truckster is both. And *both* for less than the price of either one! Call your Cushman Dealer for a free demonstration or write for details.

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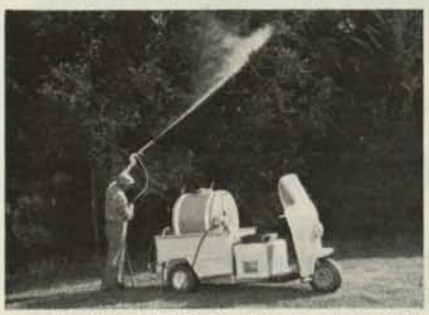

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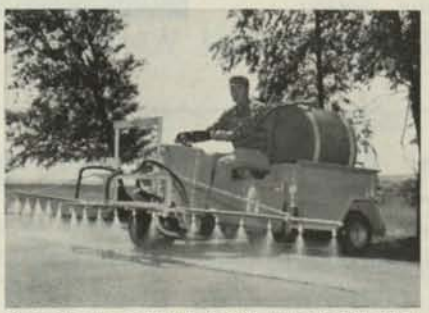

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THANK YOU

March 16, 1964

Dear Members of the Midwest Association of Golf Course Superintendents:

On behalf of the Illinois Turfgrass Foundation I would like to thank all the members of the Midwest Association of Golf Course Superintendents that participated in the World Flower Show. Without your support it would have been impossible to man the booth for the nine days of the Show.

As you well know the Show was the most successful to date. Our booth was the most active in the Show. It impressed the judges too. We were awarded a plaque and Blue Ribbon for the most educational to the public.

Again let me say that it couldn't have been done without your support.

Thankfully yours,
Ted Woehrle, President
Illinois Turfgrass Foundation

WATER RESOURCES BILL

To the Christian Science Monitor:

Soon to be heard in the United States House of Representatives is a bill called the 1964 Water Resources Research Act, S. 2. It would provide funds so that each state could set up a water research center at its state university or a state college. The point of the bill is to increase the research being done on water resources, which includes such matters as supply of water, conservation and the best use of available suppiles of water, recreational matters, and many other aspects. As our population and industry increase, water research is needed more and more.

Another important aspect of S. 2 is that it would increase the presently very inadequate supply of skilled personnel in the field of water resources. A water research center at a university would encourage students to take an interest in the field, and students could participate in the programs as assistants.

Present federal expenditures for water resources is low. It is estimated that the annual cost of S. 2 would be $10 million at the most, and that this amount could save billions of dollars in more efficient and better planned water facilities. All interested citizens are urged to write their congressman now in support of S. 2.

Mrs. Louis I. Kane, Boston

FROM 3rd ANNUAL ILLINOIS TURFGRASS CONFERENCE UNIVERSITY OF ILLINOIS

RECENT DEVELOPMENTS IN TURFGRASS PRODUCTION

R. E. Engel
Ruters University

"What" happens to turf is often unknown. "Why" it happens is more of a mystery. All of us hope research and experience will change the situation. Research is usually quicker and cheaper than waiting for experience to teach the answers. As we know, too much trial and error on the job is dangerous, You may recall the story of a golf course superintendent who was asked if he had tried one of the current season's new products. His answer was, "No, my course is already in too poor condition." Study of research results cost little, and down-to-earth use of new ideas will help grow better turf as well as avoid past mistakes.

What is research? There is nothing mysterious about it. The purpose of research is to answer questions that have not been answered before. The technique is to prove a point beyond a reasonable doubt.

I trust this simplification has not misled you. Finding the fact through formal research requires imagination(ingenuity and hard work. Also, knowledge of basic science is frequently necessary. Even with the tools of specialized training, many frustrations greet the formal research worker. We have reached a time

when it is necessary to keep a close eye on technical turfgrass developments. Things we consider impossible may become possible. Forty years ago only a fool would have shot at the moon. Whether we like it or not, times have changed for turf maintenance and they will change more and more. It is unsafe to fall too far behind on new techniques as it seems our society cannot stand anyone who is contented.

Pre-emergence Control of Crabgrass

As with most other institutions, pre-emergence crabgrass control studies have consumed a considerable amount of our research time over recent years. We started our first tests in 1955 and my comments on this subject could fill a small book. A summary of our current views may be of interest to your work:

We classify dacthal and zytron the most useful to date. These are recommended only for established Kentucky bluegrass turf. Also, we consider these or any of the other chemicals too risky for the bentgrass lawn or fairway.

Chlordane and calcium arsenate are utilized in various ways, but we cannot place them as high for general use. Calcium arsenate gives long-term control but its action and safety varies greatly with soil conditions. More comments on chlordane follow.

Bandane at 45 and 60 pounds per acre has given good control. Thirty pounds per acre has appeared too light for best performance. Also, we would like to know more about its safety.

Newer products are being tested and more will come. Among the current group, Stauffer R-4461 and Hercules H-9573 have shown crabgrass control. These and others merit more study. Anyone concerned with pre-emergence must look at new products.

Our greatest concern for the pre-emergence technique is safety to the turfgrasses. I have observed or seen reports of injury for virtually all chemicals to date. Two types of injury are of concern: first, danger to the established turfgrasses; and second, danger to seedings made at a later date. Injury to established grass is very subtle. For example, we used chlordane for the 1962 season. A similar result was observed for tests made in 1960 and 1961. The injury appears to be associated with drought. While some damage occured on most plots, it was far more severe on chlordane treated plots than the check or those treated with other chemicals.

We have observed a few very significant increases in clover content with dacthal and zytron. Any material that thins the turf cover should be of concern. Such experiences as I have just listed warns us that we must make long careful study of pre-emergence chemicals if we hope to minimize turfgrass injury.

Goosegrass Control

Work at New Brunswick in 1957 and 1958, which was USGA supported, showed chlordane had appreciable promise for goosegrass control. This project was not continued, but Bob Dunning and some golf course superintendents have reported worthwhile field results. For the past three seasons we have conducted limited work with current pre-emergence crabgrass herbicides. In 1960, standard rates of chlordane, dacthal and zytron applied on April 28 gave inadaquate goosegrass control. In fact, the latter two were so effective an crabgrass that goosegrass was worse in these treatments. In 1961, bandane, chlordane, dipropalin, trifluralin at standard rates and double rates of dacthal and zytron failed to give a high degree of crabgrass control. In fact, all showed slight or severe damage to the annual bluegrass turf. It was of interest to observe the double rate of dacthal and zytron treatments showed appreciable bare ground at late as early November. This might be explained by the chemical residue acting on seed of annual bluegrass and the seeded turfgrasses. Several chemicals used in 1962, showed appreciable goosegrass control. However, most appeared to give turfgrass injury on the basis of appearance and clover ratings. Diphenatrile at 60 to 120 pounds per acre appeared most promising. Laboratory studies have shown that light is a great aid to germination of goosegrass. This result plus observation has convinced us that good turf cover is important for minimizing goosegrass.

Thatch Control

A thatch control study has been conducted for a period of seven years with aid from the USGA. The results after six years of treatments are summarized briefly as follows:

1. Cultivations tend to destroy or prevent thatch. We have not data on how this happens, but it is logical that the cutting of the thatch, the mixing of thatch with soil, and the removal of some material through cultivation should bring a degree of relief from thatch problems.
2. Lime appears to discourage thatch accumulation. The explanation for this might be that residues can become too acid for good decay activity.
3. Topdressing appears to encourage decay.
4. It appears that an increase in surface accumulation occurs with use of wetting agent. Whether this result outweighs the help this material can give in some situations where water penetration is poor has not been determined.
5. High nitrogen gave an increase in surface ac-

cumulation. Again, it is difficult to say if this factor offests the tendency for turf to wet more readily when it is growing with good nitrogen supply.

6. Topdressing was most effective in improving quality.

Annual Bluegrass Control

Some have proposed pre-emergence herbicides for annual bluegrass control. Certainly, we have too many unknowns to attempt this on any basis other than experimental. Most appear too unsafe for the grass and it seems this is a tecnique that needs much formal research.

You may recall that light, repeated applications of sodium arsenite have been considered useful when annual bluegrass and clover were excessive. We tested a series of chemicals some years ago with the hope of destroying the seed crop of annual bluegrass. A chemical that might prevent or kill the flowers might succeed. We found a chemical, maleic hydrazide, but it was too severe on bentgrass. During this work we discovered that endothal could selectively attack annual bluegrass in bentgrass turf. This was reported some years ago. This chemical does not have a large safety margin for bentgrass, but it differs greatly from the pre-emergence type of chemical in that it is a shortlived contact type herbicide. This is a desirable factor in that lingering effects should not occur to any appreciable extent.

We never pushed anyone to use the endothal treatment because we felt the situation was somewhat complex. Our work showed that two to three treatments of endothal in early spring at a rate of ½ pound per acre eliminated a majority of the annual bluegrass without significant harm to the bentgrass. We found that treatment after early May or after warmer weather arrived was unsafe. Other factors were: (1) annual bluegrass control is unlikely to be complete (possibly this would be undesirable), and (2) 30 to 50% bentgrass is required throughout the turf or appearance will be intolerable until more bentgrass becomes established.

Endothal, as used in our tests, gave good kill of clover. There is increasing interest in this point for growers of our area as we become more concerned about safety of the 2,4,5-T and 2,4,5-TP types to bentgrass. It is no secret that the phenoxy compounds such as 2,4,5-T and 2,4,5-TP have given considerable injury to bentgrass. This is an unfortunate realization to face when we know the great effectiveness of these herbicides.

With financial support of the USGA, we developed a study of the effects of 2,4,5-TP on turfgrasses (this work was primarily on bentgrass). The work to date has shown this chemical produces severe interference with normal food reserves of the grass plant. As one would expect from this results, severe hindrance of good rooting can occur and this has been shown repeatedly in our tests to date.

Also, it was of interest to find the effects of 2,4,5-TP appear less severe when the grass is growing with cooler temperatures and optimum moisture. Normally, we prefer to say little about a study until it is complete, but we feel the dangers are serious enough that men in our area should do some thinking.

With regard to the use of 2,4,5-TP, we recognize its ability to kill troublesome turf weeds such as clover and chickweed. However, we have warned our turf growers in New Jersey against indiscriminate use of this chemical.

We suggest they use the lowest effective rate. A rate of ½ pound per acre is much safer than rates of ¾ to 1 pound per acre. While we are not sure of the safest season for treatment, we would suggest avoidance of late spring and warm weather treatment if at all possible.

Growth Control

Chemicals for controlling growth of turfgrasses is fascinating and the subject seems to persist in thought and in some research programs. Some years back we took a look at maleic hydrazide. With a few new one on the scene, we decided to observe some of these this past season. We did not find adequate promise in any of the materials. Also, it may be of interest to you that all chemicals tested seemed to interfere with best growth of the grass before the test was completed.

The effects of soil moisture level on turfgrass quality and growth rate were studied recently by one of our graduate students. Merion bluegrass was permitted to remove varying amounts of water from the soil before water was added again. Re-watering when only about one-third of the available water was removed seemed to give the most vertical growth and it gave a measurable increase in shoots per unit area. However, delaying water until two-thirds of the water was removed gave the best color, quality rating, and the greatest weight fo reach individual shoot. Delaying watering until seven-eighths of the moisture was used, produced only slightly inferior turf than the higher water ranges. Delaying water until all but one-twenty-fifth of the available water remained gave an open and inferior turf. In other words, this work showed maintenance of the water level in the lower range of available moisture did not harm quality, provided the wilting stage or near-wilting stage was avoided.