

Overseeding Bentgrass Greens, Is It Worth It?

by Brian M. Silva
Cornish & Silva, Inc.
Golf Course Architects

"I tried that a couple of years ago and didn't see any results".

All too often, that's the response to the suggestion for annual overseeding of putting greens. However, a closer look at the potential for improvement inherent in this practice as a regular component of ones' maintenance program could beg a different response to this suggestion.

There are a number of characteristics considered important on putting greens. Color, putting speed, resiliency, recuperative potential, smoothness and the like are among these. A good case, though, could be made for saying that these characteristics pale in comparison to uniformity and consistency.

Whether greens are fast or slow, it's important to achieve and maintain uniformity and consistency from green to green throughout a course. While some might argue that the golfer should be able to determine the speed of each and every green for himself and that making surface texture and speed of greens consistent and uniform diminishes the challenge confronting the golfer, even the most skilled of eyes find it difficult to determine differences from green to green merely through visual inspection. And as we all observe, the Rules of Golf, killjoys that they are, prevent the player from testing the speed of each and every green.

Once the golfer determines green speed and adjusts his stroke accordingly, he should be able to expect uniform and consistent conditions, relatively speaking, from green to green. Even with such uniformity and consistency, the golf architect, in developing surface contour variety from green to green, will help keep the game sufficiently challenging on the putting surfaces.

That it is difficult to gain this desired degree of uniformity and consistency on greens that are a patchwork quilt of different bentgrasses and annual bluegrass is obvious. This lack of uniformity poses problems for the superintendent as well as the golfer. The various species and varieties can respond quite differently to basic maintenance practices including fertilization, topdressing, vertical mowing, and pesticide applications. Variable responses to environmental conditions, most notably temperature extremes, are also obvious. The annual overseeding program would encourage the development of a greater uniformity of species and variety predominating the putting surfaces and permit the golfer and superintendent to better predict the results of their respective efforts.

Additionally, we often ask the impossible of greens originally planted to bentgrass. In many instances these greens receive no additional desirable seed following initial establishment. This is so in spite of the fact that Annual bluegrass is consistently producing vast quantities of new seed on a yearly basis. Need we be reminded just how much seed? Research has shown that a single Annual bluegrass plant can produce over 400 seeds during the flush of inflorescence in the late spring and early summer.

Expecting the desirable bentgrasses to compete with Annual bluegrass solely on a vegetative basis is clearly a case of expecting far too much. A vigorous bentgrass overseeding program would play an integral role in a maintenance scheme

designed to favor the growth and development of creeping bentgrass at the expense of Annual bluegrass encroachment.

Many appreciate these points and the advantages associated with regular overseeding. However, they are nonetheless hesitant to introduce another variety of grass into their putting greens. This is especially true on greens originally planted to velvet bentgrass. A close examination of such greens find they often contain as much creeping bentgrass and Annual bluegrass as they do velvet bent. The situation is similar on greens propagated to South German bent or a combination of vegetative bents such as Arlington and Cohansy. Many of these greens suffer a painful degree of separation and take on the patchwork quilt appearance mentioned earlier.

An overseeding program would develop a greater degree of uniformity and this improved uniformity would flatter the efforts of both the golfer and the superintendent. More consistent and predictable results could be gained by both.

By now, you're doubtlessly ready to cast aside this issue of *The Collaborator*, call to order your seed and jump on the bandwagon proudly waving your banner for annual overseeding. Right? Well, even if this supposition is not entirely correct, let's look into the practice of overseeding a bit further.

One of the keys to the success of any overseeding operation is good seed-to-soil contact. The development of proper seed-to-soil contact on a new golf course or a project entailing complete renovation is relatively easy. However, when overseeding is carried out on an area of actively growing turf, proper soil-to-seed contact is more difficult to attain.

There are a number of methods by which an appropriate degree of seed-to-soil contact can be achieved on actively growing turf. Remember, the less the surface is disturbed, the less the chance for success of your overseeding due to poor soil-to-seed contact. Any combination of the following would serve to maximize the essential seed-to-soil contact.

One technique involves the use of small, power-driven slicer seeder that places the seed just below the surface of the green. Special thin coulters are available that barely disturb the putting surface. With any of the overseeding techniques, minimal thatch levels that permit the seed to germinate in the soil rather than in the thatch will greatly favor seedling survival.

Soil cultivation in the form of aerification is another frequently used practice to gain soil-to-seed contact. Soil cores should be removed prior to seeding and a topdressing follows the application of seed. The topdressing should then be slowly dragged or matted into the open aerification holes.

A combination of soil cultivation practices can truly maximize the chances of germination and survival. A moderately deep vertical mowing carried out immediately after the removal of aerification cores will greatly increase the amount of soil open for contact with seed. The vertical mowing should be carried out to a depth sufficient to bring a small amount of previously applied topdressing or soil to the surface of the green. After removal of the thatch debris brought to the surface, seeding takes place on a green where aerification holes and vertical mowing grooves offer an infinite number of sites for seed-to-soil contact.

Spiking or slicing greens with mechanical disk spikes can also be used during seedbed preparation prior to overseeding, three or four passes over the putting green — more if possible — will be required prior to seeding taking place.

(cont'd. page 14)

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Upcoming Events

January 7th & 8th — GCSAA Seminars at Pheasant Run C.C. in St. Charles, IL. Insect Identification & Control by Dr. Harry Niemczyk and Golf Course Design Principles by Geoffrey Cornish & Robert Muir Graves. Registration fee is \$75.00 to GCSAA members.

January 14th — MAGCS monthly meeting at Arrowhead C.C., Bob Breen is host. Noon meeting with cocktails at 11:30 a.m. and lunch and meeting to follow.

January 18-20th — Mid-Am Horticultural Trade Show at Hyatt Regency Chicago

January 21-25th — Chemicals for Turf and Ornamental Use II Seminar at Purdue University. Call R. P. Freeborg for information: (317) 494-4784

February 5-13th — 56th International Golf Course Conference & Show in Washington, D.C.

May — MAGCS monthly meeting at Silver Lake, Dudley Smith is host.

June — MAGCS monthly meeting at Sunset Ridge, Dennis Wilson is host.

We are looking for meeting places for March, April, July, August and October. Think about hosting a meeting at your club and call Mike Nass if you have any questions. Mike is the arrangements chairman this year and he needs your help. Give him a call at work, 676-2660.

Some disappointing news came in the mail the other day. The judges from the GCSA didn't think too much of our title "The Bull Sheet", to have it win any awards for this past year. Last year we never did know why it wasn't one of the winners, but this year they filled out a form that was returned to me and under weaknesses they had written: "don't care for title", "cover art inconsistent", "bad title", "I won't say it ..."

There is an old saying, "Never judge a book by it's cover" and I'm afraid the judges never got past the cover. This past year I was so proud of the many articles that were well written by our member superintendents and outside writers that contributed to such fine monthly issues. My fellow editors of other newsletters that exchange with us, must have felt the same way for so many of our articles were used by them. Usually that is some sort of recognition that the article is good and worth reprinting.

Well, maybe next year we can get some judges who won't judge our newsletter by it's cover but by it's contents. At any rate "The Bull Sheet" will keep it's name the same as it has for the past 38 years.

Committee Appointments — 1985

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Paul Voykin is coming along fine after a recent back surgery. The doctor says he can play golf at Hilton Head this winter. Brother Peter will be making another trip to Hawaii this January. It will be his 3rd consecutive vacation on the islands. Nice job!

Tom Burrows (ex: Glencoe & Playboy Club) son Scott was in a terrible auto accident and at the present time is partially paralyzed. Let's all say a prayer that he fully recovers.

Position Open

Assistant superintendent for 18 hole golf club currently undergoing total restoration. Qualifications should include a 2 or 4 year degree in turf or related field as well as several years golf course work experience. Please send resume to PINE MEADOW GOLF CLUB, Attention Ted Sokolis, P. O. Box 387, Mundelein, IL 60060.

Peter Leuzinger at St. Charles C.C. has been busy during November and December by having a 1.3 acre lake due on his 7th hole. He is using the spoil material to build berms and new tees around the course. Needless to say that he will be busy come spring getting grass on all those areas and cleaning up from the hauling etc.

"Winter Wiles"

Now the Course in It's semi-dormancy rests,
Deservedly due, We all will attest.

It gave all a year of Golfable splendor,
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Spring Tonic will aid, nurturing the Dream,
To be ready for next year's Golf scene.

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(Overseeding cont'd.)

Many are the tons of seed that have never been given a fighting chance during overseeding due to improper seedbed preparation. Actively growing turf certainly permits less than optimum conditions for the germination and growth and development of seedlings. Merely going through the motions of seedbed preparation with the thought of minimizing golfer disturbance will serve no purpose. An intensive soil cultivation program, combining aerification, vertical mowing and spiking will result in more open soil and reduce the level of competition imposed by existing turf. The topdressing that follows seeding will permit you to develop acceptable putting conditions. Once seeding has taken place, irrigation schedules have to be adjusted in order to keep the seed consistently moist but not overwet. For two to three weeks following overseeding, repeated light syringing throughout the day will stimulate germination and assure seedling survival.

As to the seed itself, one of the improved creeping bentgrass varieties such as Penncross or Penneagle represents a good choice. These grasses exhibit an aggressive growth rate that permits them to germinate and develop under the less than ideal seedbed conditions associated with overseeding. Once established, this aggressive nature further allows these grasses an increased ability to compete against the ever-present Annual bluegrass.

In the past, much has been made of the tendency for such aggressively growing grasses to thatch and become puffy under putting green conditions. However, experience has shown this to be more an indictment related to improper cultural practices rather than an inherent problem of the respective grasses. Contemporary cultural practices on greens, including light and frequent topdressing, light vertical mowing and judicious use of nitrogen will keep thatch levels in check while maintaining the aggressive growth habit so desirable for recuperative potential and competitive ability against annual weed encroachment.

Under such conditions, it is obvious that seedling mortality will be high. While the chances of overseeding success increase with the intensity of the seedbed preparation, relatively high seeding rates should be used. Minimum seeding rates of two pounds per 1000 sq. ft. are suggested and this can be divided into two applications per season. On a golf course with average size greens, this seeding rate requires an expenditure for seed in excess of \$1000. Just for a minute, though, consider the expense involved in maintaining greens comprised mainly of Annual bluegrass through summer stress periods. Certainly the additional syringing and fungicide treatment costs add up quickly. Better yet, imagine the cost in dollars and golfer inconvenience associated with a set of greens that come through a winter in poor shape after Annual bluegrass has exhibited its all too infamous susceptibility to a variety of winter injuries.

The timing of overseeding is critically important. While spring and fall are the times often considered the best for seeding, they are definitely not the best times for overseeding existing turf. Cool soil temperatures in the spring and fall, coupled with extreme competition on the part of existing grasses, render these periods wholly inappropriate for overseeding. Carried out in the summertime, however, prior to the prime germination period of Annual bluegrass, overseeding will give the bentgrass seedlings an increased level of competitive ability. Soil temperatures at this time will permit excellent germination, while proper ir-

rigation and fungicide treatments will improve seedling survival.

It is somewhat difficult to argue convincingly against a well founded overseeding program. Conditions of surface uniformity and consistency on greens can be improved. Greater competition on the part of desirable grasses can be gained against the encroachment of Annual bluegrass. Obviously, such results will not be realized by a one-shot effort, or by half-hearted annual efforts.

To be effective, a sound overseeding program must be carried out on a continuing and annual basis. The frequently asked question is, "For how many years should I continue the overseeding program?" I would suggest an overseeding program be initiated and continued for as long as the Annual bluegrass component of your putting greens continues to seed profusely each and every season. In other words, the time limit on overseeding should be open ended. Expecting the bentgrasses to compete merely on a vegetative basis against a plant that is such an accomplished seed producer is expecting far too much.

The results to be gained from overseeding will not be immediate. Three to four years may be required before you even see a hint of progress. The vigor with which you go after the program will greatly influence its success. Just think for a minute about how much Annual bluegrass seed is collected in the soil of a green 10, 20, 30, or more years old. Even at 8,000,000 seeds per pound, it will take a tremendous amount of creeping bentgrass seed merely to affect an equilibrium with the Annual bluegrass in the soil.

This shouldn't dissuade you. Without annual overseeding, your present putting surfaces will, at the very best, remain static. The desirable grasses will be competing merely on a vegetative basis and experience has generally shown this to be a losing proposition.

In many cases, the initiation of an annual overseeding program will seek to affect a distorted equilibrium that has developed over the years and favors annual bluegrass encroachment. It will take time to shift this equilibrium, but a shift will result from a dedicated and vigorous annual overseeding program.

Credit: Our Collaborator, N.Y.

Job Opening

Assistant Golf Course Superintendent

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'Gainst claw and thaw and juniper,
These toughies won the race,
Until one day they'd choked the ferns
And left there not a trace*

*Of hardhack, alder, nuisance wood,
Or any thorny thing.
The master's wood, it grew and stood
And took in birds to sing;
The sloe-eyed deer came stepping here,
Where first appeared in spring*

*The south slope's dainty dancing cups—
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Our last-line man, in the end, gave up—
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To members of the turf industry:

Dr. W. H. Daniel, who has guided the Purdue University turf program since its inception in 1950, has completed thirty-five years of service and is retiring 30 April 1985. His many friends and colleagues wish to acknowledge his devo-



tion and contributions to the turf industry by establishing a fund in his name. The Daniel Fund will be used to provide scholarships for deserving turf students and to further turf research.

We are asking for your assistance in this endeavor which will not only honor Bill Daniel and his achievements, but will also represent an investment in the future of the turf industry. There are some advantages associated with your gift.

FEDERAL TAX ADVANTAGE — Those who itemize may deduct 100% of charitable contributions subject to a general limitation of 50% adjusted gross income. Those who used standard deductions may deduct 25% of the first \$400.00 charitable contributions.

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Many firms and employers provide matching funds for your gift. Others may wish to contribute because of past or present association with Dr. Daniel or the turf industry.

All contributions to The Daniel Fund will be forwarded to the Purdue Agricultural Alumni Office for deposit and administration. The Board of Directors of the Midwest Regional Turf Foundation will be responsible for decisions regarding expenditures from the fund.

The Midwest Regional Turf Conference, March 4-6, 1985, will be the last one organized by Dr. Daniel. We plan to announce the development of The Daniel Fund at this time and so we request that contributions be received prior to February 15, 1985.

Please make checks payable to: Ag Alumni Trust - Daniel Fund.

Send them to the attention of: Mrs. Jo Horn, Midwest Regional Turf Foundation, Department of Agronomy, Purdue University, West Lafayette, IN 47907.

We truly appreciate your help in this worthwhile endeavor.

**Eugene Johanningsmeier, Chairman
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Copper sulfate will produce a green color; calcium chloride or calcium phosphate, an orange; copper chloride, blue; lithium chloride, carmine; and potassium chloride, purple. Pharmacies, fertilizer plants, or chemical houses, are good sources of these chemicals.

Do NOT use chlorates, nitrates or potassium permanganate. Chemicals should be kept away from children and pets at all times. To avoid storage, purchase only sufficient amounts of chemicals for treatment.

Treating should be done outdoors. Use rubber gloves and take care not to spill the chemicals or solutions. Chemicals should be dissolved in a plastic or wooden pail or earthen crock since they will ultimately ruin metal containers.

An old five-gallon paint bucket will serve well as a treating vat. Mix no more than two gallons of solution at a time. Ratio should be one pound of chemical to one gallon water. Use one chemical per batch. It is not necessary, however, to clean the bucket before changing chemicals.

Materials to be treated may be placed in an onion bag and submerged in the solution. Use a weight to keep the material submerged. After soaking the material a day or two, lift it out and drain it over the container. Then spread it out to dry. If the material is allowed to dry on newspapers, these may be rolled, wrapped tightly, and burned in the fireplace when dry.

Burning of treated materials should be confined to a well-ventilated fireplace.

Treated cones and wooden blocks make novel holiday gifts. Bags to contain these can be made from dyed mosquito netting.

**James A. Fizzell, Sr. Ext. Adviser
Horticulture, U. of I.**

REBLOOMING CHRISTMAS PLANTS

Two of the most common flowering house plants at Christmas are the Christmas Cactus, and Poinsettia. Since these plants grow so easily many people try to rebloom them for the next year. However, reblooming them for the holiday season often ends in failure. Why? According to James A. Fizzell, University of Illinois Cooperative Extension Horticulturist in Cook County, because these plants flower when nights get long. If you want December flowering, special attention to photoperiod (duration of the night) is essential right now.

For Christmas Cactus, be sure you have the true Christmas Cactus, *Schlumbergera bridgesii*. The plant flowers in December and January, and 12 to 14 hours of total darkness each night is essential until flower buds form. Remember, the plant must receive high-light levels during the normal daylight period; otherwise, it may lose many of the flower buds that will be forming. Any light striking the plant during the dark period will delay or prevent flowering.

Although this is easily controlled in the greenhouse, it is far
(cont'd. page 18)

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Christmas Plants' cont'd.

more difficult in the home where all light must be shut out at other than daylight hours. Daily shading or covering the plants, or moving them to a very dark room until the next morning is a necessity.

Once the buds appear, the plants will flower regardless of day-length and night temperature. Temperature is also important in initiating buds. With normal room temperatures, the above procedure regarding light must be followed. If the temperature is between 50-55 degrees at night, flower buds will form even if the plant does not get the prescribed long nights. No flowers will form if night temperatures are above 70 degrees. Of additional importance is bud drop. This is frequently related to extremes in water or exposure to drafts. All of the above information is appropriate for Thanksgiving Cactus, too, as long as the start of darkness begins 3-4 weeks earlier.

Requirements for reblooming Poinsettia are essentially the same as for the Christmas and Thanksgiving Cactus — the number of hours of darkness (13) in a normal day at this time of the year and cooler (60-65 degrees) night temperatures. For Poinsettias, 40 days of reduced light are usually required before the first signs of color appear on the leaf bracts. Once this coloration is visible, the plants can be returned to normally lighted rooms. As discussed for Christmas Cactus, Poinsettias must also receive direct sun during the normal daylight hours.

**James A. Fizzell, Sr. Ext. Adviser
Horticulture**

Green Grass Still Growing for Grau

Fred Grau, class of '31, writes: "The School of Agriculture (president, senior class of '21) gave me a 'feel' for higher education. Six years of farming, building highways in Nebraska, Kansas and Iowa taught me that I needed higher learning.

"My GRASS career began in 1927 when Dr. Keim gave me 25¢ an hour to care for the turf plots at the Living Plant Museum on Holdrege Street. (Ed. Note: the plots mentioned by Grau were probably those that formerly were where Regents Hall is today.) Caring for the Living Museum was a full-time job and very educational. Then I became a 'greenkeeper' on alternate days (hit the books the other days) at the Shrine C.C. (now Hillcrest) on East 'O' Street. We composted stockyard waste for topdressing the greens and thus insured a crop of weeds.

"The AZ scholarship medal in my freshman year was a high point (Elvin Frolik beat me by 1/10 of a point in '30).

"The U.S. Golf Ass'n. called me to Washington, D.C. in July of '31, with a month stopover in Chicago at the Midwest Turf Gardens."

After receiving a Master's degree in '33 and a Ph.D. in '35, "...Penn State absorbed 10 years of my life with time out to tour Europe and a stint with the Office of Engineers grassing airfields. As the first extension agronomist in turf in the U.S. there was a lot of pioneering."

Back to Golf

"The U.S. Golf Ass'n. claimed me as director of the Green Section from '45 to '53. It was challenging to help establish and organize turfgrass organizations and research projects across the U.S. and Canada.

"Organizing the Turf Committee in the American Society of Agronomy was another challenge. Today there is a turf section that has permanent status.

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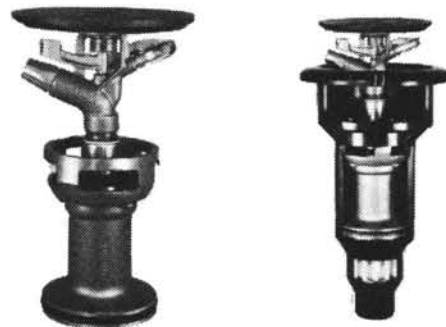
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Pesticide Training and Testing

The following is a complete list of the pesticide training and testing sessions for northeastern Illinois for 1985.

Jan. 7 — General Standards Training: 9 a.m.-noon. Testing: 1 p.m. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

Jan. 10 — Turf Management Training: 9 a.m.-noon, Woody Ornamentals Training: 1-4 p.m. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

Jan. 11 — Category Testing: 9 a.m.-noon, DuPage Co. Fairgrounds, Manchester Rd., Wheaton

Feb. 13 — General Standards Training: 10 a.m. Testing: 1 p.m. Lake Co. Coop. Ext. Off., 33020 N. Highway 45, Grayslake

Feb. 14 — General Standards Training: 9 a.m.-noon. Testing: 1 p.m. Heritage Hall, corner Kansas & Hickory (above police stn.), Frankfort

Feb. 28 — Urban Clinic, Applicator Training: 8 a.m. Testing: 2 p.m. Holiday Inn East, Larkin Ave. & Interstate 80, Joliet

March 1 — General Standards Training: 9 a.m.-noon. Testing: 1 p.m. Chicago Botanic Gardens, Glencoe

March 7 — Urban Clinic, Applicator Training: 9 a.m. Testing: 1 p.m. Chicago Botanic Garden, Glencoe

March 18 — General Standards Training: 9 a.m.-noon. Testing: 1 p.m. Chicago Botanic Garden, Glencoe

*March 19 — Plant Management Training: 9 a.m.-noon. Aquatic Weeds Training: 1-4 p.m. Chicago Botanic Garden, Glencoe

*March 20 — Turf Management Training: 9 a.m.-noon. Woody Ornamentals Training: 1-4 p.m. Chicago Botanic Garden, Glencoe

March 21 — Category Testing: 9:30 a.m.-noon. Chicago Botanic Garden, Glencoe

April 16 — General Standards Training: 9 a.m.-noon. Testing: 1 p.m. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

April 17 — General Standards Training: 10 a.m. Testing: 1 p.m. Lake Co. Coop. Ext. Off., 33020 N. Highway 45, Grayslake

*April 18 — Turf Management Training: 9 a.m.-noon, Woody Ornamentals Training: 1-4 p.m. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

April 19 — Category Testing: 9 a.m.-noon. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

May 17 — Testing for General Standards and Categories: 9 a.m.-noon. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

June 13 — Testing for General Standards and Categories: 9 a.m.-noon. DuPage Co. Fairgrounds, Manchester Rd., Wheaton

There will be a charge at the door of \$3.00 per person per session for the training. Study Guides will be available at an additional cost. There is no charge for the testing alone. For testing sessions, please bring your current license or past test results. If you have further questions about the training and/or testing, please call my office at 312/920-0760.

*Training only, testing will be at a later date.

Philip L. Nixon
Area Extension Adviser, Entomology

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1984 NCTE

This issue of the "Bull Sheet" is going to press sooner than other issues due to the Holidays. I had hoped to have had pictures of the speakers and of the Ray Gerber Editorial Award winners for this issue, but will use them in the February issue. The attendance at the NCTE set records. The attendance for the Midwest Clinic was the largest this editor has ever seen. The University of Illinois along with the Midwest AGCS, the Central Illinois GCS and the USGA all contributed to a very excellent seminar. The only bug-a-boo was the location of the trade show and the meeting rooms. I'm sure this will be corrected by the next NCTE.