Report Findings of National Merion Bluegrass Survey

By FRED V. GRAU and ALEXANDER M. RADKO

On May 9, 1952, the United States Golf Association Green Section distributed a memorandum to all Cooperators in the National Coordinated Turf Program, to Members of the American Society of Agronomy Turf Committee, to Seedsmen who are Green Section Service Subscribers, and to the Members of the Green Section Committee. The subject was, "Uniform Recommendations on Establishment and Management of Merion Bluegrass."

This paragraph was included in the memorandum. 'The scarcity and high price of Merion bluegrass seed makes it imperative that we exert every effort to place before the consuming public sound, unified recommendations for the most efficient use of this improved turf grass. We realize that research data will not be available to substantiate every point. Your best judgment based upon observations and experience must serve."

Twenty-eight persons replied to the questionnaire. Some answered fully, some in part. Not all questions were answered on each return. Here follows a summation as best we are able to summarize it of the answers received.

Question No. 1. Recommended rate of seeding when used alone.

The suggestions varied from 1 pound to 6 pounds to 1,000 sq. ft. Eight people suggested 2 lbs. to 1,000 sq. ft. for the amateur user. Several indicated that in the hands of a professional turf superintendent 1 lb. to 1,000 sq. ft. should be ample. The returns indicate clearly that a great deal of work must be done in order to unify recommendations on maximum rate of seeding when Merion bluegrass is used alone. Accepting the vote of the majority, the Green Section will recommend 2 lbs. to 1,000 sq. ft. for the amateur user under something less than favorable conditions and not more than 1 lb. to 1,000 sq. ft. under more ideal conditions, especially in the hands of the professional turf superintendent.

Question No. 2. Minimum content of Merion bluegrass in a seed mixture.

Six persons did not answer this question. The percentages suggested varied from 5% to 100%. It is significant that more people suggested 30% than any other single figure.

On the basis of these returns the Green Section will venture the recommendations, when Merion bluegrass seed is available in sufficient quantity to be put into seed mixtures, that 30% be the minimum content in seed mixtures placed on the market. Less than this may be sufficient in certain types of seed mixtures under ideal conditions where the management favors Merion bluegrass. We wish to stress this point "the management accorded a piece of turf is more significant in determining the final population than the original seed mixture used in establishing the turf." Again, the returns indicate the need for a great deal of research work at every extension station where turf work is in progress in order to determine the best content of Merion bluegrass in various seed mixtures under varying conditions.

Question No. 3. Your best suggestions for a mixture containing Merion bluegrass.

Twelve persons suggested a mixture containing Merion bluegrass, creeping red fescue and colonial bent. Reduced to average percentages, the best suggestion would be 40% Merion bluegrass, 50% creeping red fescue, and 10% colonial bent. Some felt that 10% bent is too much and suggested 5% as a maximum.

Seven persons suggested a simple mixture of Merion bluegrass and creeping red fescue, approximately equal parts by weight.

A number of other mixtures containing small percentages of other grasses were suggested but they shall not be reproduced here because most of them fall into the general classification of the first two mentioned.

The Green Section favors the Merion, creeping red fescue, and colonial mixture and the one containing Merion bluegrass and creeping red fescue. For athletic field use several people have suggested that the second mixture be used with tall fescue.

Question No. 4. Outline the best procedure for renovating satisfactory turf in order to establish Merion bluegrass.

The largest number of persons, about half of them, suggested this procedure in outline. (1) Apply appropriate chemicals to discourage the existing weeds and grasses. (2) Mow as closely as possible (we would like to add, also, use the combs or rakes to assist in close mowing). (3) Aerify thoroughly and drag. (4) Fertilize

and seed. (5) Apply irrigation water until germination is completed and thereafter water only as needed.

Four persons recommended plowing, preparing a seedbed, fertilizing and seeding. Two persons suggested raking vigorously, fertilizing and seeding and topdressing. Here follow some suggestions noted in the returns which do not appear in the recommended procedures: "Use topsoil fill to bury the old grass." "Sow Merion as a winter dormant seeding." "Use heavy rates of phosphorous." "Use pre-germinated Merion seed." "Seeding into any kind of turf was disappointing except seeding into warm-season grasses."

Question No. 5. Best suggested fertilization.

Here we received a great many widely varying suggestions which indicates clearly a great need for research on the best methods of fertilizing Merion bluegrass. The total nitrogen per 1,000 sq. ft. per year recommended varied from 1½ lbs. to 7½ lbs. In general the replies indicated that a complete balanced fertilizer, supplying about equal quantities in N, P, and K, used spring, summer, and fall, would give good results. Generous phosphorous and potash at seeding time was indicated and others indicated that generous nitrogen at seeding time greatly helped establishment. Best suggestion is to consult your own state experiment station for detailed recommendations on fertilization.

Question No. 6. Best height-of-cut for fairways, for lawns and for athletic fields.

For fairways the ¾ in. height-of-cut received the greatest number of votes. One half inch and 1 in. received several votes, and strangely enough, the 1½ in. cut received two votes, 1¾ in. one vote, and 2 in .one vote. How a fairway could be maintained at 2 in. and have anybody enjoy playing on them is somewhat beyond us. The Green Section votes for a height-of-cut somewhere between ½ in. and ¾ in. to provide the best playing conditions.

On lawns the greatest number of votes fell at the 1½ in. height-of-cut. Quite a few voted for ¾ in., for 1 in., some for 1¼ in., and even some for 2½. The Green Section, in its experience, would maintain a height-of-cut at approximately 1 in. on home lawns.

On athletic fields the height-of-cut was scattered all the way from ½ in. to 2¾ in., with 1¾ receiving greatest number of votes. Several persons stated that at the higher mowing height Merion tends to lose some of its advantage over commercial Kentucky bluegrass.

Question No. 7. Watering technics.

Seventy-one percent of the replies recommended keeping water away from Merion until it showed signs of wilting and then provide thorough, deep watering. Most people suggested light applications of water until germination is complete. Here are some of the comments: "Heavy watering or none at all." "Soak as needed by hand, not with sprinklers." "Merion shows much drought-resistance in California." It would seem that the best recommendation for watering Merion is to use it heavily at long, infrequent intervals and then only when wilting begins to show the evidence of the need for water.

Question No. 8. Aerifying.

Almost unanimously the replies indicated "Aerify as needed." Most of them said spring and fall, especially just prior to the application of fertilizer. It is clear that aerifying is accepted as standard maintenance procedure.

Question No. 9. Herbicide suggestions.

The replies mostly indicated the need for 2,4-D where the broad leaf weeds appeared. Sodium arsenite, phenyl mercury, and potassium cyanate for crabgrass control were mentioned. Seven persons, which was nearly 30% of them, said unequivocally, "Do not use phenyl mercury formulations on Merion bluegrass turf."

Question No. 10. Other pertinent points.

Here the people who replied were given a chance to express themselves regarding points of advantage and disadvantage of Merion bluegrass. We quote from some of those replies. In favor of Merion bluegrass: "A very deep-rooted grass, much deeper than bentgrass and common Kentucky bluegrass if adequately fertilized and properly watered." "When properly fertilized will keep weeds out, once established." "Vigorous rhizome production, low-growing, slightly broader leafed than common Kentucky bluegrass, highly but not completely apomictic and very resistant to Helminthosporium vagans." "Merion is superior in all seasons — some leafspot noted but no large areas killed." "Merion continues to grow during heat and drought — common Kentucky bluegrass and creeping red fescue did not grow." "Crabgrass a minor problem in Merion bluegrass turf." "A wonderful sod to move because of new rhizome growth if sod is cut to depth of one inch or less."

Here are some of the points stressing disadvantages of Merion bluegrass: "Slow to start — takes patience and care." "Merion highly susceptible to powdery mildew." "Seed contains off-types — plants highly susceptible to leafspot and rust." "Seedings after September were unsuccessful in most cases." "Sensitive to injury from PMA formulations." "As susceptible as common Kentucky bluegrass to Rhizoctonia solani and Septoria spp."

The USGA Green Section is pleased to

have had a part in the development of this information on Merion bluegrass. We recognize that many of the answers are not backed by research. This is something to develop in the future and is a responsibility of the experiment stations and is one of their duties and privileges to their taxpayers who want good turf. Additional surveys such as this are planned for the future, not only with Merion bluegrass, but with all improved turf grasses.

Gets Members Help in Zoysia Program

By ERNEST SCHNEIDER
Supt., Evansville (Ind.) Country Club

Here in Evansville, Ind., located in the Ohio Valley, cool season grasses do not fare so well with our hot and humid summers. At the Evansville CC four of our fairways have as nice a stand of bluegrass as can be found in this district. But since the trend is going toward close cutting I know the life of those fairways will be short. For example, in 1950 we picked out three of our fairways and sowed them with 60% bluegrass, 30% Chewings fescue, and 10% Highland bent. Two were complete failures and one showed up nicely in fescue. Then in June 1952, we lost all the fescue in that fairway through helminthosporium.

In 1950 my Green chairman and I started a program of plugging fairways with our native Bermuda and some U-3. The winters of 1950 and '51 proved too much for the U-3, but most of our native survived.

Bermuda grows well in the Ohio Valley; we have about four strains, some as fine textured as the U-3, others much more coarse; all can stand our winters, but it does green up slow in the spring.

In the meantime, into the picture steps zoysia. I acquired a sq. ft. of Z-52 in 1950. I just planted it in a 4 ft. square and forgot about it. That fall it was a solid piece of turf, which really aroused my interest, because it received so little attention. Now with the help of my Green chairman, we are really promoting zoysia. We have taken our membership into the program and are giving them small amounts and helping them to start their own nurseries. Some of them are starting it in their flower beds and others who are more enthusiastic have sterilized their soil and treated it with Krilium. In the spring we will assist them in plugging it into their lawns. At present we have about 20 members doing this, and we hope to increase it to 100 members.

Now, we are not entirely unselfish in all this — when the time comes to plug a fairway, we will call on them for sufficient amounts.

Although there has been some criticism in regard to zoysia, I know now it is the grass for us. I saw a plot planted with Krilium on 1 ft. centers which made perfect turf in 75 days. Then again I planted a plot in June, no special soil conditioner, very rarely watered it and it is practically solid.

This is the fairway grass which will stand both the hot and cold weather of the Ohio Valley and the close cutting demanded by the golfers. How long will it take to get a fairway of zoysia? We do not know, but we will start in the Spring.

Texas A&M Turf Meet Set for Dec. 1-3

Marvin H. Ferguson, who left the USGA Green Section to become asst. prof. of agronomy at Agricultural and Mechanical College of Texas, advises that the annual turf conference at Texas A&M will be held Dec. 1, 2 and 3 in the Memorial Student Center, College Station, Tex.

Ferguson says that Jim Watson and his associates have lined up an intensely practical program of speakers on subjects that can be applied profitably on any golf course in Texas or other southwestern states, and that a big attendance is expected.

Central Plains Foundation Turf Meet, Oct. 22-24

The third annual turf conference of the Central Plains Turf Foundation will be held at Kansas State college, Manhattan, October 22 to 24.

During the two days superintendents and officials will hear talks on turf machinery, turf management, pest control, seeding, soil problems, and care of trees and shrubs.

The Central Plains Turf foundation and K-State have been jointly conducting experiments on adapting grass varieties to different sections of the country, best mixtures of grasses, controlling crabgrass, and other turf problems. Results of the experiments will be explained at the conference.

Speakers at the conference will include Dr. Fred V. Grau, USGA Green Section; Dr. O. J. Noer, Milwaukee; Prof. Chester Billing, Nebraska university; Dr. C. L. Sarthou, Oklahoma A and M college; Harold Glissmann, Boys' Town, Neb.; and several Kansas State college scientists.

Turf foundation officers are Chester Mendenhall, Kansas City, Mo., pres.; Ross McCausland, Wichita, v-p; Prof. W. F. Pickett, Kansas State college, secy-treas.