



Better Turf for Better Golf

TURF MANAGEMENT

from the USGA Green Section

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MERION BLUEGRASS SURVEY

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Last spring, the United States Golf Association Green Section distributed a memorandum on "Uniform Recommendations of Establishment and Management of Merion Bluegrass" 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.

This was included in the memorandum: "The scarcity and high price of Merion bluegrass seed make 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 of the answers received:

Question 1. Recommended rate of seeding when used alone.

The suggestions varied from 1 pound to 6 pounds to 1,000 square feet. Eight people suggested 2 pounds to 1,000 square feet for the amateur user. Several indicated that in the hands of a professional turf superintendent 1 pound to 1,000 square feet 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 pounds to 1,000 square feet for the amateur user under something less than favorable conditions, and not more than 1 pound to 1,000 square feet under more nearly ideal conditions, especially in the hands of the professional turf superintendent.

Question 2. Minimum content of Merion bluegrass in a seed mixture.

The suggested percentages varied from 5% to 100%. More people suggested 30% than any other single figure. Six

persons did not answer this question.

On the basis of these returns, the Green Section will venture the recommendation, when Merion bluegrass seed is available in sufficient quantity to be put into seed mixtures, that 30% be the minimum content in 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 turf experiment station in order to determine the best content of Merion bluegrass in various seed mixtures under varying conditions.

Question 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 are not reproduced here because most 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 4. Outline the best procedure for renovating satisfactory turf in order to establish Merion bluegrass.

The largest number of persons, about half, 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 that combs or rakes should be used 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, seeding and top-dressing.

Here follow some suggestions 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 phosphorus." "Use pre-germinated Merion seed." "Seeding into any kind of turf was disappointing except seeding into warm-season grasses."

Question 5. Best suggested fertilization.

Here we received many widely varying suggestions, which indicates clearly a great need for research on the best methods of fertilizing Merion bluegrass. The total nitrogen recommended per 1,000 square feet per year varied from 1½ pounds to 7½ pounds. 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 phosphorus and potash at seeding time was indicated; 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 6. Best height-of-cut for fairways, lawns and athletic fields.

For fairways a ¾-inch height-of-cut received the greatest number of votes. One-half inch and 1 inch received several

votes strangely enough, 1½ inches received two votes, 1¾ inches one vote, and 2 inches one vote. How a fairway could be maintained at 2 inches and have anybody enjoy playing on it is beyond us.

The Green Section votes for a height-of-cut somewhere between ½ inch and ¾ inch to provide the best playing conditions.

On lawns, the greatest number of votes fell at the 1½-inch height-of-cut. Quite a few voted for ¾ inch, 1 inch, some for 1¼ inches, and even some for 2½ inches.

The Green Section, in its experience, would maintain a height-of-cut at approximately 1 inch on home lawns.

On athletic fields the height-of-cut was scattered all the way from ½ inch to 2¾ inches, with 1¾ inches 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 7. Watering techniques.

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 persons 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 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.

COMING EVENTS

November 17-21: American Society of Agronomy Meetings, Netherland Plaza Hotel, Cincinnati, Ohio. L. G. Monthey.

December 1-3: Texas Turf Conference, Texas A. & M. College, College Station, Texas. Marvin H. Ferguson.

December 4-6: Oklahoma Turf Conference, Oklahoma A. & M. College, Stillwater, Okla. Jack Harlan.

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January 6-7: Turf Conference, Mid-Atlantic Association of Golf Course Superintendents and University of Maryland, Lord Baltimore Hotel, Baltimore, Md. E. N. Cory, Chairman.

February 8-13: 24th National Turf Conference and Show of the Golf Course Superintendents Association of America, Ambassador Hotel, Atlantic City, N. J. A. M. Brown, Box 106, St. Charles, Ill.

February 16-19: Turf Conference, Pennsylvania State College and Pennsylvania Turf Advisory Committee, State College, Pa. H. B. Musser.

Question 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, nearly 30%, said unequivocally, "Do not use phenyl mercury formulations on Merion bluegrass turf."

Question 10. Other pertinent points.

Here the people questioned were given a chance to express themselves regarding points of advantage and disadvantage of Merion bluegrass.

Some of those replies favoring Merion bluegrass said:

"A very deeprooted 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."

"Seedlings 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.*"

We recognize that many of the answers in this survey are not backed by research. This is something to develop and is a responsibility of the experiment stations. Additional surveys such as this are planned, not only with Merion bluegrass but with all improved turf grasses.

HOW GOOD IS DELTA BLUEGRASS?

A short seed crop and increasingly heavy demands render the Merion bluegrass market a "bullish" one. Delta bluegrass is being promoted in some quarters as a "substitute" for Merion bluegrass and consumers are being led to believe that it is "as good as" Merion bluegrass.

Delta bluegrass was developed as a higher yielding pasture bluegrass. It is a good seed producer in Oregon,

where the seed is being grown. It is very susceptible to the leafspot diseases which periodically ruin common Kentucky bluegrass. Whenever weakened by recurring attacks of disease, it is very severely injured by close mowing. Under such conditions the turf becomes thin and permits infestation of crabgrass and other weeds. It has little or no advantage over common Kentucky bluegrass and will not produce a turf comparable to that produced by the Merion strain in areas where the leafspot diseases are troublesome.

NEW SUBSCRIBERS TO GREEN SECTION SERVICE

Berwind Country Club, San Juan, Puerto Rico
Cock Bros., Windsor, Ont., Canada
Davis, George T., Phenix City, Ala.
Fairfield Gardens, Inc., Travis Air Force Base, Cal.
Hoerr, D. A., & Sons, Peoria, Ill.
Loewith, Julius, Inc., New York, N. Y.
Mid-Ocean Club, Tuckers Town, Bermuda
Monsanto Chemical Co., St. Louis, Mo.
Nordan's Grass Farm, Abbeville, Ala.
Ruppert, James J., Washington, D. C.
Sawan, Inc., Atlanta, Ga.

NOTE TO GREEN SECTION SERVICE SUBSCRIBERS

A few Green Section Service Subscribers have printed on their letterheads either "Member United States Golf Association Green Section" or "Subscriber United States Golf Association Green Section."

The latter term is correct, and we are glad to have it so used. The former term is incorrect.

Data obtained in Rhode Island indicate that two-year-old plots of blue grasses mowed at 1 inch and treated similarly for two years show the following percentages of crabgrass, the figures representing the percent of the area covered by crabgrass on September 12, 1952:

Kentucky bluegrass (commercial seed)	65%
Delta bluegrass	47%
Merion bluegrass	6%

According to the existing data and observations, we are justified in concluding that those who plant Delta bluegrass can expect performance comparable to that from common commercial Kentucky bluegrass seed.