

# UNITED STATES GOLF ASSOCIATION

## GREEN SECTION

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## • Western Turfletter •

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### THE \$64,000.00 TURF QUESTION OF 1955

The turf question asked most frequently here in the West has been concerned with Urea-Formaldehyde fertilizers. What is it? Who's tested it? What does the Green Section think of it?

With the introduction of Urea-Formaldehyde ('Uramite' and 'Golden Vigero') fertilizers last year, the fertilizer industry has, for the first time, offered a slowly available synthetic source of nitrogen. It may come to have a real place in our turf maintenance picture and we should know more about it.

#### How Is It Made? -

When Urea, one of the most soluble forms of nitrogen, is treated with formaldehyde, a plastic is produced if the chemical reaction is allowed to go to completion. If the reaction is stopped at a particular point, the two materials are combined to produce a high nitrogen fertilizer product which breaks down slowly under agricultural conditions. Depending at what point the reaction is stopped, it is possible to produce a material that releases nitrogen so slowly it is almost useless, or it is possible to obtain one that releases nitrogen rather rapidly. The critical part of the production operation seems to be that point at which the reaction is stopped. Different manufacturers may, therefore, produce entirely different reacting fertilizers from the same raw materials. Comparison of one brand of Urea-Formaldehyde (U-F) fertilizer with another brand might prove difficult.

#### Who Has Worked With It? -

Considerable turf experimental work has been done with various U-F formulations since World War II by the Green Section in cooperation with the USDA. More recent work has been done by State Experiment Stations in Pennsylvania, at UCLA and by the DuPont and Swift Companies.



Superintendents should take note of the fact that most of the controlled experimental work to date has been done on lawns and fairways with mixed grass populations. Under lawn and fairway heights of cut and fertility requirements, Bulletin 542, Pennsylvania State College reports - "The growth increases produced by Urea-Formaldehyde formulations, activated sewage sludge and nitrogenous tankage were adequate to maintain a good quality turf throughout the growing season with a single application. The Urea-Formaldehyde formulations showed more uniform rates of nitrogen released throughout the growing season than any of the other materials tested."

Nevertheless, putting green fertilization requirements with U-F materials may vary greatly from those of lawn and fairway. This has already been indicated by Drs. Lunt and Younger at UCLA. In the October 1955 Southern California Turfgrass Culture Bulletin, they answer a question on how long a single application of U-F will last, by stating: - "There is need for much more detailed information under Southern California conditions. Twenty pounds per 1000 square feet of 38% formulation applied to a putting green in early March showed the need for additional nitrogen in late June." Irrigation practices, weather conditions and the standard of maintenance will enter into this picture of frequency of fertilization. Any blanket statement that one fertilizer application per year will be adequate for putting greens must be taken under careful consideration. There are too many variables and much investigation still needs to be done.

#### What About the Price? -

Another important question dealing with U-F fertilizers is that of price. It has been asked, "Can we afford to pay from \$400 to \$500 a ton for this kind of fertilizer?" Dr. Marvin Ferguson, USGA Southwestern Director, answers this question by saying: - "It depends upon how much premium you can afford to pay for a fertilizer that releases nitrogen slowly. Urea-Formaldehyde reaction products yield a fertilizer containing about 38 percent nitrogen. Thus a ton contains 760 pounds of nitrogen. At \$500 per ton you will pay little more than 65 cents per pound of nitrogen. At \$500 per ton you will pay little more than 65 cents per pound of nitrogen. This should be compared with the cost per pound of nitrogen in other slowly available forms. This cost is considerably greater than that of the quickly available nitrogen contained in ammonium nitrate and ammonium sulfate. In this form, nitrogen sells in some areas for less than 14 cents per pound. As stated in the beginning, the answer to this question depends upon the worth of slowly available nitrogen to your particular operation."

The fact remains, however, that U-F fertilizers show great promise and in the future will be a part of the over 21 million tons of fertilizers used annually in the United States. -- Not enough research work has been done with them in the West and, therefore, it again becomes the YOU in sUperintendent and the MAN MANAgement who will have to experiment with them under local conditions. We would appreciate hearing your comments if you have used a Urea-Formaldehyde material in 1955. Your questions would also be most welcome.

#### MORE TURF DISEASE NEWS FROM WASHINGTON

Dr. C. J. Gould, Pathologist, Puyallup Experiment Station, has been kind enough to send us additional information on this year's disease situation in the Northwest.



"Pink snow mold (*Fusarium nivale*) was definitely the No. 1 problem this fall," reports Dr. Gould. He and Dr. Sprague found this disease active even during August, although the season was unusually cool and moist. Red thread (*Corticium fuciforme*) was found to be a major problem on at least two courses including fairways and greens. It seems Superintendents in the Northwest should keep a weather eye out for these two diseases.

Dr. Gould states that the snow mold and red thread fungi are in culture at the Station and plans are underway to inoculate an experimental green at Puyallup for control studies.

UP AND COMING DATES

Your new 1955 calendar should have the following dates circled in red:

Northern California Turfgrass Conference, January 30th and 31st, University of California at Davis, California. Dr. J. H. Madison, Jr. reports that this year's Conference will include an afternoon devoted to grass identification techniques. The following day will cover week control, soil compaction and amendments, and water economy. This sounds like a top-notch program.

National Turfgrass Conference and Show, February 5th thru 10th, Long Beach, California. The only nationwide turfgrass conference held this year in the West. A real opportunity you shouldn't miss.

Arizona Turfgrass Conference, February 6th and 7th, University of Arizona, Tucson, Arizona. Mr. Joseph Folkner has arranged the conference around 'cool season vs. warm season grasses.' The top speakers will be on hand to tackle this top topic.

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"There is no such thing as security - only opportunity."

General MacArthur

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