Although turf on our fairways is fair, there is tendency for grass to thin out and for weeds to increase. Fall fertilization has been emphasized as best because we are in the belt where crab grass is a real pest. What do you recommend as best practice?

**ANSWER:** Yes, fall is generally conceded as the logical time for major fairway fertilization in the crab grass belt (from Philadelphia and Washington across to St. Louis and Kansas City). With spring feeding, nitrogen in particular should be limited to quantities which will be taken up by the grass and utilized before crab grass starts in early summer.

Your fall growing season is long (also in other districts enumerated). With Kentucky blue grass and other permanent grasses which spread by means of rhizomes (underground stems), fall fertilization is especially beneficial because rhizomes form and develop abundantly during that cool season. Since new plants arise from rhizomes, an increase in their numbers and extent obviously increases turf density. This is one factor in crab grass control and other weeds also.

Even in more northerly districts, fall fertilization is fundamentally sound, especially where fairway irrigation is not routine practice. Fall rains provide adequate moisture so increased turf density is assured because the factors upon which maximum turf and rhizome development depend are all favorable; namely, temperature, moisture, and soil nutrients. Benefits continue during the next spring provided the proper fertilizer materials are selected and used.

The following is the basis upon which a sound fertilizer program should be built:

Representative soil samples should be tested for reaction, available phosphorus, and possibly potassium.

Where lime is needed, a test for available calcium and magnesium is helpful because with low magnesium a dolomitic lime should be used.

If needed, apply appropriate quantities of lime and phosphate this fall, then additional quantities will not be required for several years . . . two to four, in all probability. Unless soil is a peat, or barren sand, need for potash is unlikely.

Organic nitrogen is ideal for fall use. One containing a minimum quantity of water soluble nitrogen (such as Milorganite) is best. Climatic conditions favor conversion of the water-insoluble nitrogen into available forms but any portion not used during the fall season remains for use in the spring, because low winter temperatures prevent conversion of insoluble nitrogen into leachable soluble compounds. Since fairway turf is fair to good, the rate per acre (for Milorganite or similar material) should approach 800 to 1000 pounds.

Tell us about your Turf Problem. The facilities and services of our Soil Testing Laboratory and Field Agronomists are at your disposal, within reasonable limitations.