

“Complete” Fertilizers to Contain More Nitrogen

For the benefit of clubs purchasing “complete” fertilizers the following is quoted from *The Fertilizer Review* of January, 1929:

“In the area known as District No. 9 of the National Fertilizer Association, ammonia in fertilizers is no more. This district includes the states of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Kansas, Nebraska and Missouri. In that area it's nitrogen now. This small but important change in the designation of commercial fertilizers should be thoroughly understood by every fertilizer user for the change will no doubt also be made in the East and South during the next year or so.

“Since the beginning of fertilizer manufacture the terms used in stating the analysis or grade have been ammonia, phosphoric acid and potash. A 2-12-6 fertilizer has meant 2 per cent of *ammonia*, 12 per cent of phosphoric acid, and 6 per cent of potash. Now a 2-12-6 fertilizer will indicate 2 per cent of *nitrogen*, instead of 2 per cent of ammonia (equivalent to 1.65 per cent nitrogen). In making this change, fertilizer manufacturers believe that much confusion which has already existed in the use of these terms will be avoided. Most State laws require the fertilizer guarantee to state nitrogen. Soil scientists of both this country and Europe quite generally speak of *nitrogen*, instead of *ammonia*. A *nitrogen basis* in fertilizers is desirable from the standpoint of uniformity, universal usage and applicability.

“The change to a nitrogen basis makes the same fertilizer grades contain about one-fifth more nitrogen, the most expensive element in fertilizer. The 2-12-6, which before indicated 2 per cent of ammonia or 1.65 per cent of nitrogen, now contains 2 per cent of nitrogen, an increase of one-fifth in the nitrogen content. Similarly, a 6-8-6 fertilizer now contains 6 per cent of nitrogen, as against 4.95 per cent on the old ammonia basis. *The increase in nitrogen content is an important consideration in the purchase and use of fertilizers on the new basis.*

“Both nitrogen and ammonia are gases. Neither can be used directly by plants, but must be combined with other elements before they can be taken up as food. Household ammonia, the kind purchasable in bottles, is in reality ammonium hydroxide, or ammonia gas dissolved in water. Ammonia gas is one part of nitrogen by volume combined with three parts of hydrogen. By weight, ammonia consists of 14 parts of nitrogen and 3 parts of hydrogen. To convert ammonia to nitrogen, multiply by the factor .925. To convert nitrogen to ammonia, the factor is 1.21. In stating the composition of a fertilizer, nitrogen is preferable to ammonia because the latter implies that the plant food is in the form of an ammonium compound, which may or may not be true. Besides the ammonium form of plant food, there are the nitrate and the organic (natural and synthetic). The term nitrogen can properly be applied to all of these.”

The little points count. A greenkeeper we know insists that the tee boxes and tee benches be moved now and then. He doesn't like the bare places that develop in the turf if these fixtures are not moved occasionally.