## Nitrate of Soda

IT is well known to every one interested in plant life that the three most important elements of plant food are nitrogen, phosphoric acid and potash—and of these the one most usually lacking in the soil is nitrogen.

Soil without nitrogen is barren. It often happens in connection with the maintenance and upkeep of a golf course that it is necessary or advisable to apply some quick-acting manure to stimulate the growth of the grasses, perhaps to throw off some plant disease or fungi, or to produce a healthy, strong, thick growth to withstand expected severe weather conditions or heavy wear and tear.

There are many varieties of nitrogenous fertilizers, all of which are valuable as containing more or less nitrogen in some form or another, but nitrate of soda stands out by itself in one particular, viz., that it is the only one at present available on any large scale in which the nitrogen is in the form of "nitrates" and as such immediately "available," that is to say, in such form that the plant can absorb it within a few days of its application.

Sulphate of ammonia is the most concentrated of all nitrogen fertilizers, usually containing no less than 20 per cent. of nitrogen, while nitrate of soda will average about 15.6 per cent. It is the "by-product" from many manufacturing processes, abundantly produced in the manufacture of bone charcoal, illuminating gas or coke. Before the nitrogen in this compound, however, is available, it must be acted upon in the soil by nitric acid ferments, and unless the soil is acid free or sweet the results will be very unsatisfactory.

In other words, sulphate of ammonia should not be used where there is any suspicion that the soil may be sour, and we often find such is the case on many of our golf courses, especially on heavy clay wet soils.

Sulphate of ammonia and lime should never be mixed. The lime must be applied to the ground, first say in the Fall season, and then the sulphate of ammonia applied the following season and its action will be fairly rapid.

Both in the case of sulphate of ammonia and nitrate of soda they should not be used at the rate of over 150 pounds per acre, or better still two and one-half pounds per 100 square yards and applied mixed with some compost or sifted loam, and during dry weather watered in. The Spring of the year is the best time for the fertilizers, although they can be used sparingly during the season, but not in the late Fall. Remember that nitrate of soda is very quick in action and must be only used with discretion. It will last only one season, and as it only supplies one element of plant food, nitrogen, it must not be relied upon alone.

A complete artificial fertilizer rich in nitrogen is always the safest of the chemical manures to get in the habit of using in conjunction with stable and farmyard manure composts or humus.

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## To a Broken Club

Old Club, 'tis pity you and I must part,
  And be no more companions on the field;
For you were fashioned with a master's art,
  And worthy for a champion to wield.

How gladly did my eager finger grip
  Your trusty shaft, so strong and sinewy,