

Ammonium Sulfate and Ammonium Phosphate

Numerous inquiries seem to show that the function of these two substances for use on bent putting greens is not clearly understood by many greenkeepers. The two behave very much the same, but the ammonium phosphate is somewhat more efficient as measured by the quality of the turf. This is the only phosphate that should ever be used on putting greens. All other phosphorus compounds stimulate the growth of white clover, never a desirable plant on putting greens.

Both of these ammonium salts have three functions:

(1) They are fertilizers, especially supplying nitrogen.

(2) Unlike all other nitrogenous fertilizers, they make the soil progressively more acid. This is highly important, because when the soil reaches a certain acidity clover, chickweed, crab grass, and other weeds will disappear and will not again invade the turf provided the soil is kept properly acid. Lime, bone meal, etc. will counteract this desirable acidity, and therefore should never be used on a putting green, as if the acidity is counteracted weeds will at once become troublesome again.

(3) With the continued use of either of these ammonium salts, earthworms and grubs will cease to be troublesome.

The second and third of the three results can be obtained by the use of these two ammonium salts and by no other fertilizers.

The only other important treatment is regular topdressing at least twice a season but preferably once a month. Use one cubic yard of dressing to a green, no more. This makes a very thin dressing, but enough. The material should be of the consistency of a light loam, so that with brushing it all disappears in the turf. It may be simply a good top soil, or a compost made of soil, sand, and well-rotted manure. The manure should not be used to excess, never more than one-fifth of the mixture; if more is used, earthworm trouble will follow.

The above method for maintaining putting greens is the best known up to date, based on a very large series of experiments, in which practically all fertilizers have been tried.

The soil of a putting green is properly acid when white clover disappears. If this acidity is maintained, clover, chickweed, crab grass, etc. will not again invade the turf. Until this acidity is secured, the ammonium salt should be applied every week. The length of time necessary to secure the desired end will vary according to the soil. If the soil is already neutral or slightly acid the end will be attained in one season or less. If the original soil is alkaline a longer time is required; but eventually the top soil will be made acid.

Ammonium sulfate or ammonium phosphate may be used at the rate of 5 pounds per 1,000 square feet (about 30 pounds per putting green) during cool weather in spring and fall. As the weather gets warmer the application should be reduced. In hot weather do not use more than 2 pounds per 1,000 square feet. The material may be applied dry either alone but preferably mixed in the topdressing, or as a liquid solution. *In warm weather it must be watered in thoroughly or the grass leaves will be burned.* In early spring and late fall there is very little danger of burning even if not watered in.

Experiments are under way seeking for a method to acidify soil in advance of seeding a planting. As yet this much-to-be-desired end has not been attained.