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My Experience With Fertilizers

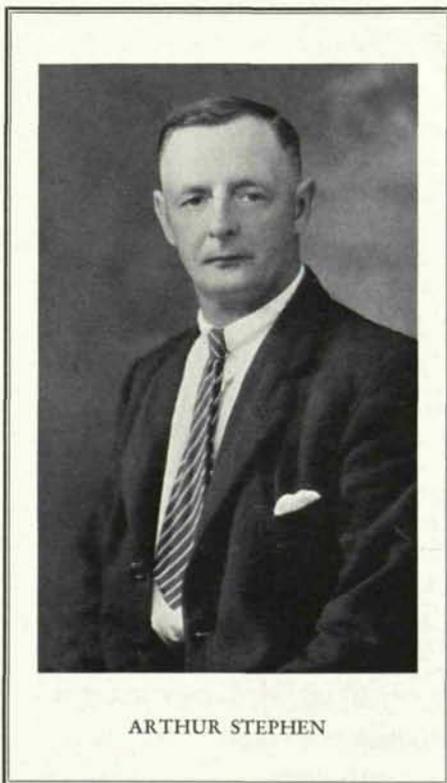
By ARTHUR STEPHEN, *Greenkeeper*
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EXCEPT in rare instances there is very little evidence supporting the plea for so-called "complete" or "balanced" fertilizers on fairways. Improved turf growth does not result from additions of plant food elements already sufficiently abundant in the soil. An economical and rational program is one designed to satisfy soil deficiencies whatever they may be.

The words "complete" and "balanced" carry an especial appeal and is usually supported by a misleading comparison with human feeding requirement. Because a balanced diet is essential to human well being, it is argued that plants required balanced feeding. So far the analogy is strictly true, but the fact that plant roots permeate a medium which contains abundant supplies of many of the essential elements is ignored. Feeding practices need supply only those elements which are deficient in the soil, whereas the human diet must be well-balanced to provide all the essentials of life.

Soils differ in available and total plant food content. If grass always required a complete fertilizer, it seems hardly reasonable to expect a "complete" fertilizer of one special analysis to prove equally satisfactory on all types of soil.

Truthfully speaking, it is easier to follow the lines of least resistance, apply a complete fertilizer and thereby correct soil deficiencies; but it is far more



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satisfying and certainly more economical to build programs on a sounder foundation, that is, one designed to overcome soil deficiencies, taking into account type of soil, previous cropping history, and the growth requirements of the particular crop.

PASTURE FERTILIZER TRIALS MISLEADING

THERE are a few turf fertilizer trials which give pleasing information applicable to fairway practices and which take into account conditions as they perform on a golf course. Considering these conditions we must have the type of turf best suited for the golfer. Using fertilizer practices originated for pasture turf on fairways is dangerous.

We must recognize that there are at least three outstanding differences.

On pastures, quick growth and heavy yields of grass lengthen the pasture season, but on the fairways this simply needs more frequent mowing. A slow and continuous growth is the ideal condition for fairways. The quick-acting nitrogen starts early growth on pastures, while the slow-acting organic nitrogen promotes a more even and continuous growth on fairways. On pastures, removal of the clippings by grazing does away with plant food losses, especially phosphorus and potash, but as fairway clippings fall to the ground and decay, they release all the phosphorus and potash, so the losses

are only that of nitrogen. This is often overlooked by turf experts and others.

Clover is highly recommended for pastures, so potash is used to encourage its growth, and on fairways clover is the last thing we want as it will not hold the ball up and it will not stand the draught in summer or the severe winters, thereby leaving ugly bare spots. So, when inspecting pastures this must not be overlooked. One should not get the wrong idea and think that they don't need phosphorus be-

cause you absolutely need it for new seeding, but it does not prove that it must be continuously used on established fairways.

NITROGEN IS THE CHIEF ELEMENT

Not only is nitrogen responsible for dark green color and active vegetative growth but it is the element which encourages grass to spread and form a dense tight sod, free from cuppy lies. Nitrogen favors a denser root structure and is not responsible for shallow root system. Over-watering the tight hard soil or cutting your fairways too close may be the causes of poor root system.

It is impossible to get a root system without nitrogen. The sole use of quick-acting nitrogen fertilizers produce a rapid lush growth which soon disappears or is taken up by the excessive leaf growth or is leached from the soil.

For the information of my fellow-greenkeepers I want to say that I have used milorganite because I have found that its organic material promotes uniform and long sustained growth of sturdy, wear-resisting turf. Its water insoluble organic nitrogen is slowly changed into available forms as needed by the grass. When weather conditions are right, effects from milorganite applications will show up in from ten to fourteen days.

If quicker results are desired, I would advise mixing the milorganite with sulphate of ammonia, and when the effects of the quick-acting fertilizer disappear, milorganite continues to promote and sustain growth, and as for mixing these two fertilizers, no time will be lost.

POTASH IS LESS IMPORTANT

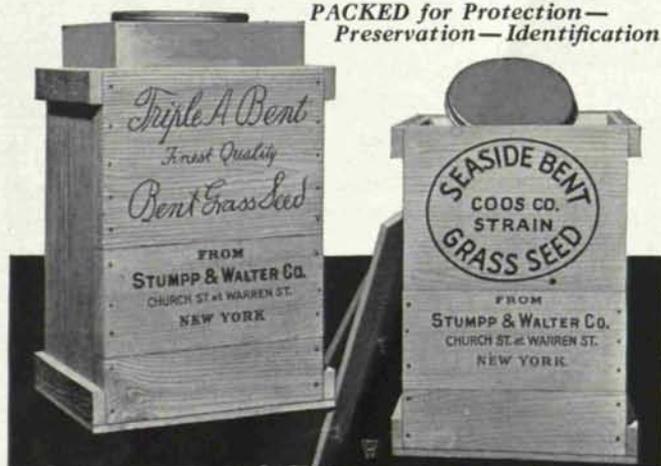
EXCEPT on peat, muck or sandy soil there is no reason to apply potash to fairways; as the turf experts have already told us, the quantity of potash is already in the soil. Another point which deserves consideration is that its use tends to favor the growth of clover which can be overcome by nitrogen feeding.

I would appreciate hearing from my brother greenkeepers regarding this article.

Texarkana, Texas.

Prospect of a Country Club for the younger athletic set has been much agitated recently and bids fair to develop into a reality in the very near future. The main promoters are members of the Texarkana Golf Club, who have secured a most desirable location at the park for a club house and golf links.

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