get poorer, and weeds will come in—just what we should expect. The soil will become depleted in phosphorus and potash and finally normal grass growth will be absolutely impossible.

The same may be said about straight sulphate of ammonia, except that in this particular case, the soil will become more and more acid until finally high soil acidity, in addition to phosphorus and potash deficiency, will become the limiting factor to plant growth. This applies to Urea which supplies nitrogen only.

Ammonium phosphate will probably hang on a little longer since it supplies nitrogen and phosphorus, two elements of plant food instead of only one; however, in due course of time, potash deficiency will become very noticeable and the ammonium phosphate will show poorer and poorer results.

Activated sludge, tankage, and other nitrogenous materials will probably run parallel to ammonium phosphate as far as results are concerned. In May and June, due to the slow decomposition and nitrification, we find that the complete inorganic plant foods are awarded a much higher rating than the organic forms.

WORMS LIKE ORGANIC FERTILIZERS

We will also find, as time goes on, that the plots receiving large quantities of organic substances will become heavily infested with worms. Beetles and other insects, whose larva will feed on the root system, will give preference to soils rich in organic matter, particularly, if this matter gives off a distinct odor.

Many of the soils on which fertility tests are now conducted are acid in reaction. Generally speaking, most of the soils east of the Mississippi react acid; therefore, the two complete plant foods used, 6-12-4 and 12-6-4, would gradually but definitely increase soil acidity because in these particular mixtures, sulphate of ammonia is the only source of nitrogen.

Let me state, in conclusion, that physiologically neutral fertilizers can be manufactured that will not cause a change in soil acidity. If, therefore, the composition of the two complete fertilizers used in the tests is not modified, there will come a time when an application of lime on the experimental plots receiving the complete plant foods will be highly desirable. From the standpoint of results the complete plant food will, in the long run, probably be the most satisfactory.

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