

FERTILIZERS: HOMOGENIZED vs. NATURAL ORGANICS

You have a choice between homogenized or natural organic fertilizers. Two industry experts debate the merits of each.

Homogenized: a time-honored process

by Art Mondak, Lebanon Chemical Corp., Lebanon, Pa.

It appears that the process of unending change has come full circle, returning to use of "natural organic" fertilizers once again. Environmentalists and ecologists assert that we can reduce groundwater contamination by replacing modern fertilizers with natural organic materials. Unfortunately, such a retreat would have harmful results, and would fail to accomplish its objectives.

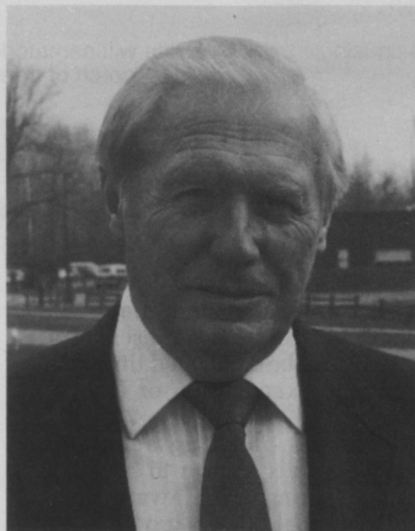
Natural organic fertilizers were used early in our nation's history. Pilgrims used natural organic fertilizers: a fish dropped in a hole, with corn seed on top. The fish, through microbial action in the soil, decomposed and fertilized the corn plant. This worked, but can you imagine fertilization being done like that today?

Commercial fertilizer manufacturing began in this country almost 150 years ago. The first fertilizers were simple blends of N-P-K. The elements were too disperse in these early blends.

Eventually, development of the process known as continuous ammoniation was begun, and homogenized fertilizers were born.

When I started in the fertilizer business with the American Agricultural Chemical Co. in 1965, only homogenized fertilizers were available for agricultural, turf and ornamental uses. Homogenized fertilizers could be manufactured to address the consumer's specific needs. The American Agricultural Chemical Co. was one of the first to produce fertilizers designed for turf use, 10-6-4 and 12-4-8.

Natural organic fertilizers were also available, including block meal,



Art Mondak: modern manufactured fertilizer products are safe and efficient.

cottonseed meal, sludge, tankage and others. However, these natural organics were very expensive to use compared to manufactured homogenized fertilizers.

Safety, efficiency standards

The next major development in commercial fertilizer manufacturing came in response to demands for greater safety and efficiency. If the release of nitrogen could be slowed, then it would be possible to have both quick green-up and long-lasting color and growth. Through the development of synthetic organic nitrogen, these goals were met.

Urea and formaldehyde were combined to produce nitrogen that fertilizes through a process identical to the

decomposition of natural organics. Microbial action in the soil, along with moisture and temperature, gradually release nitrogen to meet the growing plant's need for fertilization.

Urea formaldehyde products (commonly referred to as methylene ureas) comprise a family of synthetic organic nitrogens. Using these nitrogens is only a part of a good turf fertilization program. The correct ratio and balance of N-P-K with secondary elements such as iron, sulfur, magnesium and manganese are very important for total turf feeding.

University researchers have shown that the grass plant assimilates N-P-K in a 3-1-2 to 5-1-2 ratio. However, it is not merely the N-P-K in a bag of fertilizer that is important, but how the product is made. When fertilizer is manufactured using continuous ammoniation, all of the major and minor elements are put into slurry, and methylene urea is injected as a liquid into the slurry. The end result is a finished product that is agronomically sound.

This process provides maximum availability of all plant food nutrients, without leaving excessive elements that can find their way into groundwater. Therefore, environmentalists and ecologists who are looking for fertilizers that are environmentally sound should look favorably at modern manufactured fertilizer products.

Rather than returning to the methods of the pilgrim, though, we have available a time-proven process that satisfies the agronomic needs of growing plants while protecting the environment for current and future generations. □