

NEW LIGHT ON COMPOSTING

Acid Phosphate May Temporarily Become Less Soluble in Composts—Rock Phosphate Helped by Composting

COMPOSTING of stable manure with phosphate and with leaves or other coarse litter has not become a general practice among farmers.



PROF. DUGGAR

With truckers, on the other hand, and with some farmers, it is customary. Agricultural experimenters and writers, while usually advising composting as a means of reducing coarse material to a finer mechanical condition and for the production of early truck crops that require rapid early growth, differ greatly as to the importance that they attach to the process of composting.

One reason for diverse views on this subject is the widely different condition of the material to be composted and the difficulty of determining exactly what chemical changes go on during this process. It is assumed that a part of the nitrogen, especially that in the coarsest materials, is rendered more soluble by the fermentation that occurs in the compost pile.

Until recent years nothing definite has been known regarding the effect of composting on the availability of the small amount of phosphoric acid in the manure or of the acid phosphate or rock phosphate added. Hence a very careful, though technical, publication on this subject, which appeared as Research Bulletin No. 29 of the Wisconsin Experiment Station, should be of interest to farmers as well as to scientists.

The authors, Tottingham and Hoffman, found that on fermenting manure for short and for long periods of time in the presence of acid phosphate, the amount of water-soluble phosphoric acid was decreased by the fermentation. Their explanation, supported by experiments, is that as the bacteria increased during the earlier weeks and months of fermentation, they utilized in their own structure, considerable of the originally soluble phosphoric acid. This phosphoric acid so used remained unavailable to crop plants until after the death and decay of the bacteria.

They also concluded, chiefly from analyses of the various mixtures and partly by growing barley in pots, that it was better, so far as concerns the water soluble phosphoric acid and the growth of barley, to mix the acid phosphate and the manure in the soil rather than to compost them several months earlier.

The results of composting rock phosphate with manure are regarded as favorable to this practice, as compared with mixing the two in the soil. Yet even in this case a part of the small amount of soluble phosphoric acid of the compost was made unavailable during the period when bacteria were increasing rapidly and utilizing this constituent in their own growth. After the mixtures of manure with either rock of acid phosphate remained for some months in the soil and presumably after a part of the bacteria had decayed, the amount of soluble phosphorus increased, probably because of the release of a part of this element that had first been used in the growth of bacteria.

So far as these laboratory experiments can be applied to practice, they suggest that on soils notably in need of phosphates, composting of manure with acid phosphate is a disadvantage of the immediate availability of the phosphoric acid.

J. F. DUGGAR.

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The After-Cost

WHEN you buy an automobile, you expect to use it not only this year and next year, but for four or five, or six years, or even longer. So, while the first cost is always important, it is not nearly as important as the after-cost.

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This question of operating expense is one that some people overlook but it is the operating expense that makes a car either a good investment, a health and pleasure giving investment—or a burdensome annoyance and financial drag.

The World's Motor Non-Stop Mileage Record, established last January by a Maxwell stock touring car, offers some interesting facts. Not claims or beliefs or opinions, but *facts*—facts that are supported and vouched for by The American Automobile Association, the supreme court of the automobile industry.

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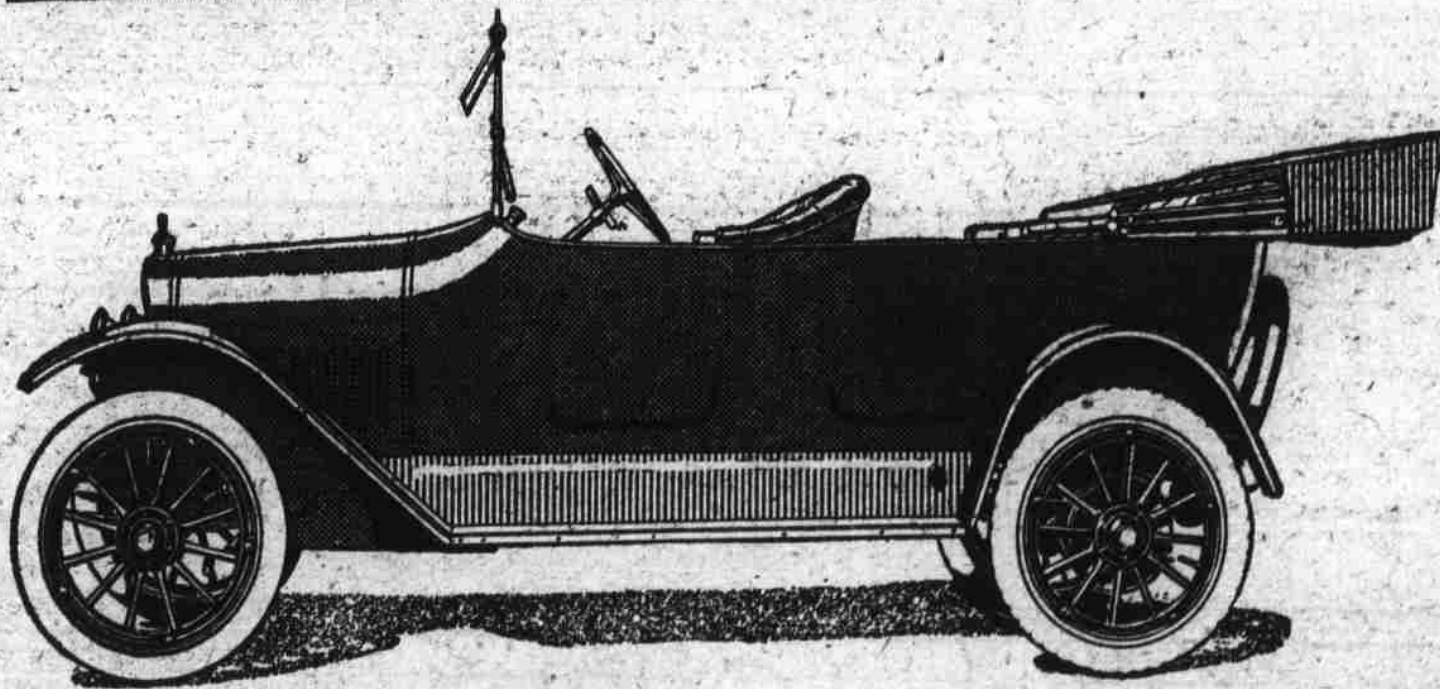
the car stopped only long enough to take on gasoline, oil, water and a fresh driver. The ability of any car to run 22,000 miles in 44 days without stopping the engine is conclusive proof of its genuine merit and quality throughout.

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