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STRONGLY ACID SOIL MUST BE LIMED FOR CORN

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The necessity of liming strongly acid soils that will be planted in corn is well illustrated in a demonstration conducted by Harold Vaught, Area Extension Agent in Adair County.

A field that was well fertilized with nitrogen, phosphorus, and potassium produced low corn yields in 1966. Analysis of a soil sample from the field showed that it was strongly acid soil. (Similar conditions have been reported by many farmers throughout the state in recent years.) Since this field was to be planted in corn again in 1967, a liming demonstration was planned.

On March 31, 1967 three tons of a good grade, ground limestone was applied to one area of the field. Another area of the field received 1,000 pounds of hydrated lime in addition to the 3 tons of ground limestone, while a third area received no liming material. A broadcast application of 180 pounds each of nitrogen, P_2O_5 , and K_2O per acre was disked in prior to planting. An additional 20 pounds of each of the plant nutrients was applied at the row when the corn was drilled.

Plots within each of the areas were gathered and weighed, and yields were calculated on the basis of 15.5 percent moisture.

Soil samples were obtained from each of the 3 areas October 27, 1967, seven months after the lime was applied.

<u>Liming</u>	<u>Soil test results</u>			<u>Average corn yield</u> <u>Bushel per acre</u>
	<u>pH</u>	<u>P level</u>	<u>K level</u>	
None	4.7	42	77	52.2
3 tons of limestone	5.4	35	58	105.0
3 tons of limestone <u>plus</u> 1,000 lbs of hydrated lime	5.9	61	65	121.9

Even though this data is from demonstration plots that were not replicated, the necessity of liming corn land that is strongly acid is well illustrated. The additional response received when hydrated lime was added in conjunction with ground limestone was probably due to the application of treatments shortly before planting, and because the more slowly soluble ground limestone had not had time to correct the strong soil acidity when it had been applied alone.

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