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George D. Corder  
*University of Kentucky*

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FERTILIZING NO-TILLAGE CORN AND SOYBEANS

George D. Corder
Extension Specialist in Soils

Planting corn and soybeans in sod (commonly referred to as "no-tillage" planting) is increasing in parts of Kentucky, and interest in this practice in other parts of the state is growing.

One question is often asked: "What is the best method of liming and fertilizing no-tillage corn and soybeans?"

Since no-tillage planting is a comparatively new practice, only a limited amount of research on methods of fertilization has been done. However, research designed to find out how well plants can recover phosphorus and potassium applied on the surface of the soil will be started by the Department of Agronomy at the University of Kentucky in 1968. This research will determine the comparative effectiveness of surface applications of these fertilizer materials vs. incorporation in the upper 6 inches of the soil.

The limited research that has been done indicates that broadcast applications of both limestone and fertilizer on the surface is effective. Thus, the farmer who is planting corn and soybeans in a sod field for the first time can expect results from a surface application of these materials. However, on soils that are low in phosphate and potash, a small application at the row should accompany the broadcast application. If only small amounts of these materials are needed, all the fertilizer needed can be applied at the row.

Most farmers kill the sod completely when planting corn or soybeans in it. This means that the sod will usually be re-established after one or two years of row crops. At that time, the ground will probably be tilled (plowed or disked). Prior to tillage, a soil test should be made. Based on the results of this test, sufficient lime, phosphate, and potash can then be applied to meet the needs of two or three years of the sod crop and the one or two years of row crops that follow. This way all the materials get worked into the soil, and the need for topdressing phosphate and potash on the sod for the row crop can be minimized.

Working limestone, phosphate and potash into the soil is preferable to topdressing, as these materials will be more effective in most cases when applied in this manner than if left on the surface of the soil.

Farmers who follow this practice should determine in advance what crops will compose the sod, how many years it will stand, how many years the land will be devoted to row crops, and the yield goals for each year's crop. This information, along with the soil test results, should help to determine the amounts of limestone, phosphate and potash that will be needed for a 3-5 year period.

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