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# Extension Extra

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## Fertilizer Carryover after Drought

by James R. Gerwing, Extension Soil Specialist

Nitrogen fertilizer not used due to drought conditions will be directly available for next year's crop. The amount remaining can easily and accurately be measured with the nitrate soil test. The soil must be sampled to a two foot depth, however, to get an accurate nitrate measure of residual available nitrogen.

The availability of phosphorus applications to next years crop is not as clear. In most cases, it should be available for next year. Phosphorus fertilizers undergo numerous chemical reactions in soils, however, often making them less soluble and therefore less available to plants over time. This is especially true if the soil pH is high (greater than 7.5) and the fertilizer was broadcast. Phosphorus placed in bands in soil which were not disturbed by tillage may be more readily available to

next years crop than phosphorus which was broadcast.

Potassium fertilizers applied last year should be readily available to next years crop. Potassium fertilization is generally not as critical in South Dakota as in nitrogen and phosphorus because native soil test levels are high in most soils.

Soil testing is necessary to determine next year's phosphorus and potassium needs. Farmers should not be alarmed if the phosphorus and potassium soil test levels have not increased by the same number of pounds per acre of these nutrients they applied this spring, even though they had a crop failure. The phosphorus and potassium soil tests, unlike the nitrogen test, are relative indexes of available nutrients in soils and don't directly measure pounds of fertilizer applied.

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