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Removal of Plant Nutrients by Corn

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Table 1 contains estimates of the amount of six important mineral nutrients removed from the soil and located in the grain of corn. Corn kernels are only about 10% protein so their nitrogen content is much lower than soybean. Table 2 contains similar information for the above-ground, vegetative (non-seed) plant parts. Over 80% of the potassium taken into the corn plant is stored in the vegetative material, so harvesting corn for silage removes much more K than harvesting corn for grain.

Table 1.		Amount of nutrient in corn grain with a yield of:		
Nutrient	Concentration pounds/bushel	100 bushels/acre	150 bushels/acre	175 bushels/acres
		-----pounds/acre-----		
Nitrogen	1.00	100	150	175
Phosphorus	0.15	15	23	26
Potassium	0.21	21	32	37
Calcium	0.02	2	3	4
Magnesium	0.06	6	9	11
Sulfur	0.07	7	11	12

Table 2.		Amount of nutrient in corn stover with a yield of:		
Nutrient	Concentration pounds/bushel	100 bushels/acre	150 bushels/acre	175 bushels/acres
		-----pounds/acre-----		
Nitrogen	0.50	50	75	88
Phosphorus	0.11	11	17	19
Potassium	0.87	87	131	152
Calcium	0.19	19	29	33
Magnesium	0.14	14	21	25
Sulfur	0.09	9	14	16

