CROPFOCUS

When growers face sub-optimal crop yields due to drought, a common question is how much fertilizer will be required for the next growing season.

Consider crop removal:

Crop and Component	Ν	P_2O_5	K ₂ O
	lb/bu		
Corn Grain	1	0.35	0.25
Corn Stover	0.5	0.25	1.05
Soybeans Grain	4.2	0.9	1.5
Soybeans Stover	1.3	0.3	0.9

Less grain and stover removal means less nutrient removal.

Nutrients removed at various corn yields:

		Corn lb removed/acre -	
Yield BPA	Ν	P_2O_5	K ₂ O
25	25	9	6
50	50	18	13
75	75	26	19
100	100	35	25
125	125	44	31
150	150	53	38
175	175	61	44
200	200	70	50

Nutrients removed at various soybean yields:

	Soybeans			
Yield BPA	P ₂ O ₅	K ₂ O		
5	5	8		
10	9	15		
15	14	23		
20	18	30		
30	27	45		
40	36	60		
50	45	75		
60	54	90		

Soil sampling in a very dry fall:



- Concern: Clay minerals shrink hold K ions
- **Result:** Inaccurately low K soil test results
- Action: Wait for adequate soil moisture before sampling

Nitrogen (N) remaining in corn fields:

- · Poor plant uptake of N due to dry weather
- Nitrogen in nitrate form in the soil
- Lack of moisture has prevented leaching or denitrification
- Environmental loss of N has been minimal

Trap crops:

- Wheat and cereal rye are best crops to prevent nitrogen loss
- Nitrogen will not be available to the subsequent crop due to immobilization of N in the residue
- When growing wheat for harvest, fall N can be eliminated while spring N may be reduced
- Using trap crops improves organic matter and soil tilth, while improving water quality

Conclusions:

- Applying maintenance rates or no fertilizer may be acceptable depending on yield and previous soil test results
- Avoid soil sampling until moisture levels return to normal
- Wheat may be a good crop to take advantage of leftover nitrogen. Watch for head scab when planting wheat after corn.



PIONEER