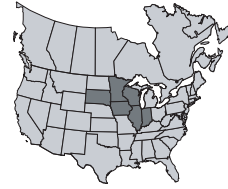


NEWS & VIEWS

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Northcentral Director
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Remember 2004 as 2005 Crop Management Plans Are Finalized

HARVEST IN 2004 was marked by record-breaking yields for most crops in many areas of the Northcentral Region. Nutrient management plans will need to be updated to account for the quantities of phosphorus (P) and potassium (K) removed by crop harvest this past season.

Tables 1 through 4 show the most recently published USDA estimates for state average yields, the published removal rates (per harvested unit) for each state, calculated nutrient removal per acre, and change in yield and removal from 2003.

Phosphorus: Range in estimated 2004 state average removal (lb P₂O₅/A):

- alfalfa: 25 to 53
- corn: 46 to 77
- soybean: 26 to 43
- wheat: 26 to 39

Potassium: Range in estimated 2004 state average removal (lb K₂O/A):

- alfalfa: 105 to 215
- corn: 39 to 54
- soybean: 35 to 74
- wheat: 14 to 23

Yield and nutrient removal: Summary of changes from 2003 to 2004:

- alfalfa up 5 to 17%
- corn up 5 to 17%
- soybean up 5 to 51%
- wheat declined in five states and increased in one (South Dakota); range was -19 to 9%

Table 1. Average state alfalfa yield per acre, P and K removal rates published by each state, state average P and K removal per acre, and yield and removal percent change from 2003.

State	2004 avg. yield tons/A	Removal rate		2004 avg. removal		Change in yield and removal from 2003 %
		P ₂ O ₅ --- lb/ton ---	K ₂ O ---	P ₂ O ₅ --- lb/A ---	K ₂ O ---	
IA	4.20	12.50	40.0	52.5	168	13.5
IL	4.30	12	50	51.6	215	4.9
IN	4.10	13.00	50.00	53.3	205	7.9
MN	3.50	10	45	35.0	158	16.7
SD	2.10	12	50	25.2	105	10.5
WI	2.60	12.5	50.0	32.5	130	13.0
U.S.	3.47					7.1
Min.	2.10			25.2	105	4.9
Max.	4.30			53.3	215	16.7

Table 2. Average state corn yield per acre, P and K removal rates published by each state, state average P and K removal per acre, and yield and removal percent change from 2003.

State	2004 avg. yield bu/A	Removal rate		2004 avg. removal		Change in yield and removal from 2003 %
		P ₂ O ₅ --- lb/bu ---	K ₂ O ---	P ₂ O ₅ --- lb/A ---	K ₂ O ---	
IA	181.0	0.375	0.30	67.9	54	15.3
IL	180.0	0.43	0.28	77	50	9.8
IN	168.0	0.37	0.27	62	45	15.1
MN	159.0	0.36	0.26	57	41	8.9
SD	130.0	0.35	0.30	46	39	17.1
WI	136.0	0.38	0.29	52	39	5.4
U.S.	160.4					12.8
Min.	130.0			46	39	5.4
Max.	181.0			77	54	17.1



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Table 3. Average state soybean yield per acre, P and K removal rates published by each state, state average P and K removal per acre, and yield and removal percent change from 2003.

State	2004 avg. yield bu/A	Removal rate		2004 avg. removal		Change in yield and removal from 2003 %
		P ₂ O ₅	K ₂ O	P ₂ O ₅	K ₂ O	
IA	49.0	0.80	1.5	39	74	50.8
IL	50.5	0.85	1.3	43	66	36.5
IN	52.0	0.80	1.4	42	73	36.8
MN	33.5	0.88	1.38	29	46.2	4.7
SD	34.0	0.77	1.4	26	48	23.6
WI	35.0	0.88	1.0	31	35	25.0
U.S.	42.5					25.4
Min.	33.5			26	35	4.7
Max.	52.0			43	74	50.8

Table 4. Average state wheat yield per acre, P and K removal rates published by each state, state average P and K removal per acre, and yield and removal percent change from 2003.

State	2004 avg. yield bu/A	Removal rate		2004 avg. removal		Change in yield and removal from 2003 %
		P ₂ O ₅	K ₂ O	P ₂ O ₅	K ₂ O	
IA	55.0	0.60	0.30	33	17	-9.8
IL	59.0	0.60	0.30	35	18	-9.2
IN	62.0	0.63	0.37	39	23	-10.1
MN	54.8	0.62	0.38	34	21	-5.2
SD	46.0	0.56	0.30	26	14	8.7
WI	55.6	0.62	0.38	34	21	-18.6
U.S.	43.2					-2.3
Min.	46.0			26	14	-18.6
Max.	62.0			39	23	8.7

It is important to consider the nutrient removal rates from last season's crop as you make plans for 2005. Comparing the quantities of nutrients applied to those removed is an important step for monitoring nutrient fluxes on fields. The best tool to determine your 2005 nutrient requirement is a soil test. ■

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