Crop Nutrient Removal

While nutrient removal does not enter directly into UVM nutrient recommendations, it is an important consideration in some cases. For example, the potassium recommendation for corn harvested for silage, in which the entire above-ground plant is removed, is much greater than for grain corn. Typical nutrient removal for common field crops is shown in Table 19.

Fertilizer Nutrient Sources

Crop nutrient need not met by manure and / or previous crop residue can be supplied by various fertilizer materials (Table 20). Most local fertilizer suppliers can provide blends of these materials to accomadate a range of N, P, K, and other nutrient requirements.

Table 19. Typical crop nutrient removal.

	Per unit of yield				Removal for given yield		
Crop (units)	N	P_2O	K_2O	Typical yield / A	N	P_2O	K_2O
Corn (bu)	.75	0.4	0.3	120 (bu)	90	50	35
Corn silage (T)[4]	9	5	11.	20 (T)	180	100	220
Grain sorghum (bu)	0.5	0.6	0.8	120 (bu)	60	70	95
Forage sorghum (T)[4]	9	3	10	15 (T)	135	45	150
Sorghum / sudangrass[4]	8	7	7	15 (T)	120	105	105
Alfalfa (T)[2,5]	50[1]	15	50	5 (T)	250	75	250
Red clover (T)[2,5]	40[1]	15	40	3.5 (T)	140	55	140
Trefoil (T)[2,5]	50[1]	15	40	3.5 (T)	175	55	140
Cool-season grass (T) [2,5]	40	15	50	4 (T)	150	60	200
Bluegrass (T)[2,5]	30	10	30	2.5 (T)	75	25	75
Wheat / rye(bu)[3]	1.5	1	1.8	60 (bu)	90	60	110
Oats (bu)[3]	1.1	0.9	1.5	80 (bu)	90	70	120
Barley (bu)[3]	1.4	0.6	1.5	75 (bu)	105	45	110
Soybeans (bu)	3.2[1]	1	1.4	40 (bu)	130	40	56
Small grain silage (T)[4]	17.0	7.0	26	6 (T)	100	40	160

Note: Adapted from Beegle, 2003.
[1]Legumes fix all their required nitrogen. However, they also are able to use nitrogen as indicated.
[2] For legume-grass mixtures, use the predominant species in the mixture.
[3] Includes straw.
[4] 65% moisture.
[5] 10% moisture.