

## Nutrient Removal (lb/unit of yield) by Several Michigan Field Crops.

Source: Fertilizer Recommendations for Field Crops in Michigan (Christenson, et al. 1992)

Crop		Unit	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
			----lb per unit----		
Alfalfa	Hay	ton	45 <sup>1</sup>	10	45
	Haylage	ton	14	3.2	12
Barley	Grain	bushel	0.88	0.38	0.25
	Straw	ton	13	3.2	52
Birdsfoot Trefoil	Hay	ton	48 <sup>1</sup>	12	42
Bromegrass	Hay	ton	33	13	51
Canola	Grain	bushel	1.9	0.91	0.46
	Straw	ton	15	5.3	25
Clover-grass	Hay	ton	41	13	39
Corn	Grain	bushel	0.90	0.35	0.27
	Grain <sup>2</sup>	ton	26	12	6.5
	Stover	ton	22	8.2	32
	Silage	ton	9.4	3.6	7.8
Dry Edible Beans	Grain	cwt	3.6	1.2	1.6
Oats	Grain	bushel	0.62	0.25	0.19
	Straw	ton	13	2.8	57
Orchardgrass	Hay	ton	50	17	62
Potatoes	Tubers	cwt	0.33	0.13	0.63
Red Clover	Hay	ton	40 <sup>1</sup>	10	40
Rye	Grain	bushel	1.1	0.41	0.31
	Straw	ton	8.6	3.7	21
Sorghum -Sudangrass (Sudax)	Hay	ton	40	15	58
	Haylage	ton	12	4.6	18
Soybeans	Grain	bushel	3.8	0.88	1.4
Sugar Beets	Roots	ton	4.0	1.3	3.3
Wheat	Grain	bushel	1.2	0.62	0.38
	Straw	ton	13	3.3	23

<sup>1</sup>Legumes get most of their nitrogen from air. <sup>2</sup>High moisture grain.

## Approximate nutrient removal (lb/unit of yield) in the harvested portion of several Michigan vegetable crops.

<sup>1</sup> 1 ton=20 cwt

Source: Fertilizer Recommendations for Vegetable Crops in Michigan (Warneke et al. 1992)

Crop	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	-lb/ct <sup>1</sup> -			-lb/ton <sup>1</sup> -		
Asparagus	0.67	0.20	0.50	13	4.0	10
Beans, snap	1.2	0.12	0.55	24	2.4	11
Broccoli	0.20	0.05	0.55	4.0	1.0	11
Cabbage	0.35	0.08	0.35	7.0	1.6	7.0
Carrots	0.17	0.09	0.34	3.4	1.8	6.8
Cauliflower	0.33	0.13	0.33	6.6	2.6	6.6
Celery	0.25	0.10	0.80	5.0	2.0	16
Cucumbers	0.10	0.06	0.18	2.0	1.2	3.6
Lettuce	0.24	0.10	0.45	4.8	2.0	9.0
Muskmelon	0.42	0.10	0.55	8.4	2.0	11
Onions	0.25	0.13	0.24	5.0	2.6	4.8
Peas, shelled	1.0	0.23	0.50	20	4.6	10
Peppers	0.20	0.07	0.28	4.0	1.4	5.6
Pumpkins	0.20	0.06	0.34	4.0	1.2	6.8
Sweet Corn	0.42	0.14	0.28	8.4	2.8	5.6
Squash	0.18	0.08	0.33	3.6	1.6	6.6
Tomatoes	0.20	0.04	0.35	4.0	0.8	7.0