

# Appendices

## Appendix 1: Nutrient removal in a range of crops and livestock

Species	Yield kg/ha	N	P	K	S	Ca	Mg	Cu	Fe	Mn	Zn	B	Mo	Moisture %
		kg/t product							g/t product					
<b>Cereal grains</b>														
Wheat – prime hard <sup>1, 15</sup>		24.5	2.43	3.10	1.64	0.36	1.64	5		40	29			11
Wheat – Aust. hard <sup>1</sup>		21.8	2.26	3.33	1.40	0.33	0.93							11
Wheat – Aust. std. white <sup>1</sup>		17.7	2.41	3.40	1.35	0.31	1.02							11
Wheat – soft <sup>1</sup>		16.6	2.51	3.43	1.19	0.32	0.95							11
Wheat – durum <sup>1</sup>		23.1	3.09	4.34	1.52	0.37	0.99							11
Barley <sup>2, 3</sup>		19.2	2.88	4.39	1.1	0.35	1.08	3		11	15			11
Oats <sup>4, 15</sup>		16.5	3.0	3.9	1.5	0.5	1.0	3		40	17			11
Maize <sup>5, 15</sup>	3000	23.8	3.3	5.0	3.8	0.2	0.9	4		45	13			n.s.
Sorghum <sup>5, 15</sup>	3000	18.8	3.7	4.8	2.8	0.5	1.5	4		35	72			n.s.
Rice <sup>6</sup>		11.8	2.9	2.4	0.9	0.1	1.1	4	13	41	16			14
Millet <sup>5</sup>	1500	26.9	7.3	15.5							40			n.s.
<b>Pulse crops</b>														
Sweet lupin <sup>7</sup>		51.2	3.0	8.0	2.3	2.2	1.6							8.9
Albus lupin <sup>7</sup>		57.3	3.6	8.8	2.5	2.0	1.3							8.6
Atlas lupin <sup>7</sup>		44.6	2.5	7.7	2.7	1.8	1.9							9.3
Sandplain lupin <sup>7</sup>		51.3	3.8	8.8	3.1	1.7	1.7							7.6
Yellow lupin <sup>7</sup>		61.2	4.3	9.3	4.6	2.2	2.5							8.5
Lupinus pilosus		41.1	2.3	6.6	2.0	1.8	1.7							9.3
Field pea <sup>7</sup>		37.1	4.0	8.2	2.0	0.7	1.2							9.7
Chick pea – <i>Desi</i> <sup>7, 5</sup>		32.2	3.6	8.2	1.8	1.8	1.4				38			10.0
Chick pea – <i>Kabuli</i> <sup>7</sup>		34.4	3.8	8.9	1.8	1.1	1.2							9.1
Faba bean <sup>7, 15</sup>		38.6	3.8	9.8	1.4	1.1	1.0	10		30	28			10.3
Mung bean <sup>7</sup>		41.4	7.7			1.0								9.1
Navy bean <sup>7, 15</sup>		38.9	4.5	13.5	2.1	1.7	1.5	8		13	24			10.2
Common vetch <sup>7</sup>		44.4	3.8			0.8								10.2
Lentil <sup>7</sup>		38.4	3.2			0.6								9.8
Pigeon pea <sup>7</sup>		31.2	7.6	6.1	1.5	1.0	1.3							10.4
Lablab <sup>7</sup>		36.4	10.2	3.8	1.7	0.8	1.9							10.7
Narbon bean <sup>7</sup>		38.8	4.4	9.9	3.2	1.4	1.1							10.6
Black mung bean <sup>7</sup>		39.5	6.0	5.3	1.8	0.9	1.7							10.3
Green mung bean <sup>7</sup>		41.5	7.2	4.1	2.0	1.0	1.8							8.9
Cow pea <sup>7</sup>		39.3	6.9	9.0	1.9	0.6	2.0							10.1
<b>Oilseed</b>														
Soybean <sup>8, 15</sup>		61	4.7	15.8	3.0	2.4	2.4	7		30	25			10
Cotton <sup>18</sup>	2025	43	11	20	4	2.5	6.4	10	79	25	49			n.s.
Cotton <sup>18</sup>	1350	32	11	18	2.7	2.4	6.5	7	59	22	44			n.s.
Canola <sup>13, 15</sup>		40	6.5	9.2	9.8	4.1	4.0	4		40	40			n.s.
Linseed <sup>9</sup>		31.3	5.8	7.3	2.25	2.3	4.1							10
Sunflower <sup>5, 15</sup>	1000	26.0	4.1	8.0	4.0	2.0	2.2	7		30	25			n.s.
Safflower <sup>9, 15</sup>		22.1	3.1	6.0	1.7	1.7	1.8	14		13	26			10
Peanut <sup>5</sup>	1500	52.0	5.1	7.1		0.6	2.0				32			n.s.
<b>Other crops and hay</b>														
Sugar cane* (cane only) <sup>24</sup>	92 000	0.69	0.14	1.23	0.21	0.12	0.17	0.63	37	16	2.8			f