

Chapter 5: Annex 1 - Biofortified varieties released under HarvestPlus (as of December 2016)

Crop	Micronutrient	Country	Variety	Year of Release	Origin	Type	Baseline (ppm)	Target increment (ppm)	Increment (ppm)	% Target Increment (ppm)	Micronutrient Content (ppm)
Banana & Plantain	Provitamin A (fresh weight)	Burundi	Apantu	2014 (dissemination)	Ghana	Cooking	10	+20	+37	>100	47
			Bira		Papua New Guinea	Cooking			+34	>100	44
			Pelipita		Philippines	Cooking			+15	75	25
			To'o		Papua New Guinea	Dessert			+68	>100	78
			Lahi		Hawaii	Cooking			+22	>100	32
		DR Congo	Apantu	2014 (dissemination)	Ghana	Cooking			+37	>100	47
			Bira		Papua New Guinea	Cooking			+33	>100	43
			Pelipita		Philippines	Cooking			+15	75	25
			To'o		Papua New Guinea	Dessert			+68	>100	78
			Lahi		Hawaii	Cooking			+22	>100	32
Bean	Iron	Bolivia	Fortaleza	2009	CIAT	Bush Bean	50	+44	+40	90	90
		Brazil	BRS Agreste	2009	EMBRAPA	Semi-Climber			+40	90	90
			BRS 9435 Cometa	2007	CIAT	Climber			+40	90	90
			BRS Pontal	2004	EMBRAPA	Bush Bean			+40	90	90
			Colombia	Corpoica Rojo 39	2015	CIAT			Bush Bean	+36	82
		Corpoica Rojo 43		2015	CIAT	Bush Bean			+45	>100	95
		BIO-101		2016	CIAT	Bush Bean			33	75	83
		BIO-107		2016	CIAT	Bush Bean			32	73	82
		DR Congo	COD MLV 059	2012	INERA	Climbing Bean			+34	77	84
			PVA 1438	2013	CIAT	Bush Bean			+29	66	79
			Nain de Kyondo	2013	DR Congo	Climbing Bean			+26	60	76
			COD MLB 032	2013	INERA	Bush Bean			+26	60	76
			Cuarentino	2013	DR Congo	Climbing Bean			+50	>100	100
			COD MLB 001	2012	INERA	Bush Bean			+16	36	66
			HM 21-7	2012	CIAT	Bush Bean			+12	27	62
			RWR 2245	2011	Rwanda	Bush Bean			+16	36	66
		El Salvador	VCB 81013	2008	CIAT	Climbing Bean			+19	43	69
			CENTA Ferromás	2011	CIAT	Bush Bean			+30	68	80
		Guatemala	ICTA Superchiva	2014	ICTA	Bush Bean			+24	55	74
			ICTA Peten	2010	ICTA	Bush Bean			+26	60	76
			ICTA Chorti	2016	CIAT	Bush Bean			+40	91	90
		Honduras	MIB (NUT) 396-33	2016	CIAT	Bush Bean			+28	64	78
			MIB (NUT) 397-72	2016	CIAT	Bush Bean			+21	47	71



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		Nicaragua	INTA Ferroso	2014	CIAT	Bush Bean	0	+15	+34	77	84
			INTA Nutritivo	2012	CIAT	Bush Bean			+18	41	68
		Panama	IDIAP NUA 24	2012	CIAT	Bush Bean			+28	64	78
			IDIAP NUA 27	2012	CIAT	Bush Bean			To be determined		
		Rwanda	MAC 44	2010	CIAT	Climbing Bean			+28	64	78
			RWV 1129	2010	RAB	Climbing Bean			+27	61	77
			CAB 2	2010	CIAT	Climbing Bean			+31	70	81
			RWR 2245	2010	RAB	Bush Bean			+26	59	76
			RWR 2154	2010	RAB	Bush Bean			+21	47	71
			RWV 3316	2012	RAB	Climbing Bean			+37	84	87
			RWV 3006	2012	RAB	Climbing Bean			+28	64	78
			RWV 3317	2012	RAB	Climbing Bean			+24	55	74
			MAC 42	2012	CIAT	Climbing Bean			+41	94	91
			RWV 2887	2012	RAB	Climbing Bean			+35	80	85
		Uganda	MAC 44	2016	CIAT	Climbing Bean			+28	64	78
			RWR 2245	2016	RAB	Bush Bean			+26	59	76
			RWR 2154	2016	RAB	Bush Bean			+21	47	71
			MORE 88002	2016	CIAT	Bush Bean			+20	45	70
			Nyiramuhundo	2016	Rwanda	Climbing Bean			+17	39	67
					Roba 1	2013			CIAT	Bush Bean	+14
Cassava	Provitamin A	Brazil	BRS Jari	2009	EMBRAPA	0	+15	+11	73	11	
			BRS Gema de Ovo	2005	Brazil			+5	30	5	
			BRS Dourada	2005	Brazil			+5	30	5	
		DR Congo	Kindisa	2008	IITA			+10	67	10	
		Ghana	CRI-Lamesese	2014	CSIR-CRI			To be determined			
		Malawi	Chamandanda	2011	IITA			To be determined			
		Nigeria	NR 07/0220	2014	NRCRI			+11	73	11	
			TMS 07/0593	2014	IITA			+11	73	11	
			TMS 07/0539	2014	IITA			+11	73	11	
			TMS 01/1412	2011	IITA			+7	47	7	
			TMS 01/1368	2011	IITA			+7	47	7	
			TMS 01/1371	2011	IITA			+8	53	8	



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		Sierra Leone	Slicass 12	2014	IITA				+9	60	9
Cowpea	Iron	Brazil	BRS Xiquexique	2008	EMBRAPA	Semi-erect	54 (under revision)	TBD	+23	under revision	77
			BRS Aracê	2009	EMBRAPA	Semi-erect			+8		62
			BRS Tumucumaque	2009	EMBRAPA	Semi-erect			+7		60
		India	Pant Lobia-1	2008	IITA	Erect			+28		82
			Pant Lobia-2	2010	IITA	Erect			+46		100
			Pant Lobia-3	2013	IITA	Semi-erect			+43		97
			Pant Lobia-4	2014	IITA	Erect			0		52
			Pant Lobia-5	2015	Pantnagar, India	Semi-erect			+12		66
Lentil	Zinc	Bangladesh	Barimasur-4	1996 (fast-track)	ICARDA	Erect	46	+34	+5	15	51
			Barimasur-5	2006 (fast-track)	ICARDA	Erect			+13	38	59
			Barimasur-6	2006 (fast-track)	ICARDA	Erect			+17	50	63
			Barimasur-7	2012	ICARDA	Erect			+15	44	61
			Barimasur-8	2015	ICARDA	Erect			+14	41	60
		Ethiopia	Alemaya 98	1997 (fast-track)	ICARDA/EIAR				+16	47	62
		India	L 4704	2013	ICARDA	Erect			+28	82	74
			Pusa Vaibhav	1997 (fast-track)	ICAR				Fe: +47		Zinc to be determined
		Nepal	ILL 7723	2013	ICARDA	Erect			+16	47	62
			Khajurah-1	1999 (fast-track)	India				+12	35	58
			Khajurah-2	1999 (fast-track)	ICARDA				+13	38	59
			Shital	2004 (fast-track)	ICARDA				+13	38	59
			Shishir	1979 (fast-track)	India				+18	53	64
			Shikhar	1989 (fast-track)	ICARDA				+22	65	68
			Simal	1989 (fast-track)	India				Fe: +17		
		Syria	Idlib-2	2000 (fast-track)	ICARDA	Semi-erect			Fe: +7		Zinc to be determined
			Idlib-3	2002 (fast-track)	ICARDA	Erect			Fe: +8		
		Maize	Provitamin A	Brazil	BRS 4104	2015			EMBRAPA	OPV	0
DR Congo	Sam Vita 4-A			2015	IITA	OPV (Synthetic)	+9	60	9		
	Sam Vita 4-B			2015	IITA	OPV (Synthetic)	+9	60	9		
	Muibaki 3			2016	IITA	OPV (Synthetic)	+10	67	10		
	Muibaki 2			2016	IITA	OPV (Synthetic)	+7	47	7		



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			Muibaki 1	2016	IITA	OPV (Synthetic)			+6	40	6
			GV662	2016	CIMMYT	3-way hybrid			+5	33	5
		Ghana	Ahoɔdzin	2015	IITA	OPV (Synthetic)			+9	60	9
			Dzifoo	2015	IITA	3-way hybrid			+11	73	11
			Ahoɔfe	2015	IITA	3-way hybrid			+9	60	9
			CSIR-CRI Honampa	2012	IITA	OPV (Synthetic)			+7	47	7
			CSIR-CRI Odomfo	2012	CIMMYT	Single cross hybrid			+6	40	6
			CSIR-CRI Owanwa	2012	CIMMYT	Single cross hybrid			+6	40	6
		Malawi	MH39A	2016	CIMMYT	3-way hybrid			+12	80	12
			MH40A	2016	CIMMYT	3-way hybrid			+10	67	10
			MH42A	2016	CIMMYT	3-way hybrid			+15	100	15
			MH43A	2016	CIMMYT	3-way hybrid			+9	60	9
		Mali	Nafama	2012	IITA	OPV (Synthetic)			+7	47	7
			Abebe	2016	IITA	3-way hybrid			+9	60	9
			Duba	2016	IITA	3-way hybrid			+10	67	10
			Kodialan	2016	IITA	OPV (Synthetic)			+10	67	10
			Dakan	2016	IITA	OPV (Synthetic)			+7	47	7
		Nigeria	Ife Hyb 3	2012	IITA	Single cross hybrid			+8	53	8
			Ife Hyb 4	2012	IITA	Single cross hybrid			+8	53	8
			Sammaz 38	2013	IITA	OPV (Synthetic)			+6	40	6
			Sammaz 39	2013	IITA	OPV (Synthetic)			+7	47	7
			Sammaz 43	2015	IITA	3-way hybrid			+7	47	7
			Sammaz 44	2015	IITA	3-way hybrid			+8	53	8
		Tanzania	HPH1317	2016	CIMMYT	3-way hybrid			+15	100	15
			HP1005	2016	CIMMYT	3-way hybrid			+8	53	8
		Zambia	GV671A (HPH1301)	2015	CIMMYT	3-way hybrid			+11	73	11
			GV672A (HPH1302)	2015	CIMMYT	3-way hybrid			+10	67	10
			GV673A (HPH1303)	2015	CIMMYT	3-way hybrid			+11	73	11
			GV665A (HP1005)	2012	CIMMYT	3-way hybrid			+8	53	8
			GV662A (HP1002)	2012	CIMMYT	3-way hybrid			+5	33	5
GV664A (HP1004)	2012		CIMMYT	3-way hybrid	+7	47	7				
Zimbabwe	ZS242 (HP1005)	2015	CIMMYT	3-way hybrid	+7	47	7				
	ZS244 (HPH1301)	2016	CIMMYT	3-way hybrid	+11	73	11				



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			ZS246 (HPH1302)	2016	CIMMYT	3-way hybrid			+10	67	10
			ZS248 (HPH1303)	2016	CIMMYT	3-way hybrid			+11	73	11
Pearl millet	Iron	India	Dhanashakti	2012 (TLS)*, 2014 (release)	ICRISAT	OPV	47	+30	+25	83	72
			Shakti-1201	2014 (TLS)*, 2015 (release)	ICRISAT	Hybrid			+25	83	72
			ICMH 1301	2016 (TLS)*, 2017 (release)	ICRISAT	Hybrid			+28	93	75
Rice	Zinc	Bangladesh	BRRi dhan62	2013	Bangladesh	Aman	16	+12	+6	50	22
			BRRi dhan64	2014	BRRi	Boro			+8	67	24
			BRRi dhan72	2015	BRRi	Aman			+7	58	23
			BRRi dhan74	2015	BRRi	Boro			+7	58	23
			Aromatic Hybrid Zinc	2016	BSMRAU	Aman			+6	50	22
Sweet potato	Provitamin A (fresh weight)	Uganda	Ejumula	2004	Landrace	2	+30	+89	>100	91	
			Kakamega (SPK004)		Landrace			+39	>100	41	
			Vita (NASPOT 9 O)	NARO	+73			>100	75		
		Kabode (NASPOT 10 O)	2007	NARO	+95			>100	97		
		NASPOT 12 O	2013	NARO	+70			>100	72		
		NASPOT 13 O		NARO	+93			>100	95		
		Brazil	Beauregard	2010	CIP			+113	>100	115	
Wheat	Zinc	India	BHU-1	2013 (TLS)*	CIMMYT	No longer commercialized	25	+12	+10	82	35
			BHU-5	2013 (TLS)*	CIMMYT				+5	38	30
			BHU-3	2014 (TLS)*	CIMMYT	Widely commercialized			+6	46	31
			BHU-6	2014 (TLS)*	CIMMYT				+17	>100	42
		Pakistan	Zincol-2016	2016	CIMMYT	+15			>100	40	

* TLS, truthfully labeled seed.

