Annex 2 - BioBoost Inventory

Data on crop production and waste streams partner regions

In this excel spreadsheet designed by the BioBoost partnership crop data are collected and information about waste streams for each of the BioBoost partner regions.

The crops chosen for inclusion were tomatoes, lettuce, strawberries, peppers, cucumbers and aubergines. Data inputs include product area, number of growers, tonnes produced and waste produced.

The collecting of data had been carried out in the context of an inventory produced on behalf of BioBoost to gain an insight into the by-products of the horticultural industry. The aim of that inventory is to gain a better understanding of the three regions involved: Flanders region around Roeselare (Belgium), Westland region (Netherlands) and Lea Valley (UK) and with reference to Kent, to provide a joint basis for the partnership to shape effective actions to stimulate the circular economy in horticulture in these regions. The inventory serves as input for a project strategy and approaches developed at a later stage of the project.

The Inventory is published on the BioBoost Website December 2018.

CROPS	sub class*	notes	**Data	**any unknown = (u) or estimated = (e) data or zero =0					$$ p=peat, r=rockwool, c=coir, h=hydroponic, s=soil, rc=recycled/recomposted						€€ n=New glass, l=lights, m=media, sp=crop species, o=other					
UK	known, just complete (all)	type; e.g. Cos or heirloom	Total area (Ha)	State main county/ zone (& subsidiary)	Total Production (tonnes/annum)	% under glass (g) polytunnel (p) hydroponics (h)	number of growers	Individual or part of co-operative	year data assessed & source	used (see $$ above) e.g. r50; p50	No. of months unproductive (total/12)	months (e.g. Ja, Fe ...)	LED used; approx % if known	media recycling (y/n)	product wasted (tonnes/an)	% sold to NL	%sold to Belgium	% sold to UK	% sold to other	Imminent plans to expand or innovate? (y or N and €€ code)	items in (T)-list on sheet 3 (Y or N)
Tomato	(all)		232	Total UK	96600	g	<30	Marketing gro	2016 DEFRA H	r90%; c10%	1	DEC	10 e	y	18500	0	0	96%	4%	y n l m sp o	Y
	cherry		0 e																		
	beefsteak		0 e																		
	main crop		92.8 e	Total UK	38640 e	g	<30	Marketing gro	2016 DEFRA H	r90%; c10%	1	DEC	10 e	y	**	0	0	96%	4%	y n l m sp o	Y
	specialist		139.2 e	Total UK	57960 e	g	<30	Marketing gro	2016 DEFRA H	r90%; c10%	1	DEC	10 e	y	**	0	0	96%	4%	y n l m sp o	Y
	other		0 e																		
Pepper	(all)																				
	bell		86	Total UK	22080	g	<15	Marketing Grc	2016 DEFRA H	r90% c10%	1	DEC	1 e	y	**	1	0	98	1	y n l m sp o	Y
	lantern																				
	hot																				
	specialist (all)	e.g. heirloom	4	Total UK	920	g	<5	Marketing Grc	2016 DEFRA H	r90% c10%	1	DEC	1 e	y	**	1	0	98	1	y n l m sp o	Y
	other																				
Cucumber	(all)		99	Lea Valley	53000	g	60 e	Marketing Grc	2016 DEFRA H	r100%	1	DEC	3 e	y	**	1	0	98	1	y n l m sp o	Y
	regular																				
	miniature																				
	specialist	e.g. Yellow																			
	other																				
Aubergine	(all)		10 e	Lea Valley	3400 e	g	<10	Marketing Grc	2016 DEFRA H	r50% c50%	1	DEC	0	y	**	0	0	100	0	y n l m sp o	Y
	regular		10 e	Lea Valley																	
	miniature																				
	specialist	e.g. Red																			
	other																				
Lettuce etc	(all)		310	Total UK	14000	**	**	**	2016 DEFRA H	**	3	NOV, DEC, J	**	**	**	0	0	100	0	**	
		(name; e.g.																			
	regular	Butterhead)																			
	baby leaf salad																				
	herbs																				
	other																				
Strawberry	(all)		4511	Total UK	104000	u/n	19 major in K	co-operative	2015	c100%	4	Nov-feb	no	no	15000	0	0	99%	1%	u/n	u/n
	regular																				
	early																				
	specialist	e.g. 'wild'																			
	other																				
Field Veg	(all)																				
	Brussels Sprouts		49,5																		
	Brocolli		69																		
	cabbage		227,5																		
	other																				
Other																					
produce?	(all)		see DEFRA 2016																		
	(name)																				
	(name)																				
	(name)																				
	other																				

CROPS	sub class*	notes	**Data	**any unknown = (u) or estimated = (e) data or zero =0					~ notes	$$ p=peat, r=rockwool, c=coir, h=hydroponic, s=soil, rc=recycled/recomposted							
BE	Destination	Type	Total area (l	State main county/ zone		Total Production	growers **in Flanders (exept**	growers **in Belgium**	year data ass	% growth media u	No. of months u	name rest	LED used; a	media recy	Total product wasted		
				(& subsidiary) based on amour	Based on area [4] (ha)	(tonnes/annum)			& source	e.g. r50; p50	(total/12)	Ja, Fe ...)	if known	(y/n)	Main type of	(tonnes/ha)	(tonnes/an)
Greenhouse vegetables																	
Tomato	Fresh	all	505 [1]	Antwerpen 273	Antwerpen 392	247500 [1]	195 [2]	530 [2]	~	r98, s2 [4]	0 [3]	/			Foliage	30 [1]	15000 [1]
			500 [4]	West-Vlaandere	West-Vlaanderen	48									Low quality t	10 [1]	5000 [1]
Bell Pepper	Fresh		96,3 [4]	Antwerpen	Antwerpen 86	25000 [1]	32 [2]	32 [2]	~		0 [3]	/			Foliage	25 [1]	2000 [1]
				20 producers											Low quality l	6 [1]	500 [1]
Cucumber			65 [3]	Antwerpen 17 p	West-Vlaandere	27300 [3]	40 [2]	42 [2]	~		3 [3]	Jan, Feb, Dec			Foliage	25 [3]	1.690
			26 [4]	West-Vlaandere	Antwerpen 7,7 ha										Production l	1 [3]	
Aubergine			15,8 [4]	Antwerpen 5 pr	Antwerpen 11 h	6320 [3]	10 [2]	11 [2]	~		5 [3]	Jan, Feb, Mar, april, Dec			Not available		
Lettuce etc	Fresh		939 [1]			42100 [1]			~		0 [3]	/			Low quality l	11 [1]	11000 [1]
	Greenhouse	[4] = kropsla, veld	227 [4]	West-Vlaandere	West-Vlaanderen	142,4 [4]	304 [2]	313 [2]									
	Outdoor	[4] = Kropsla en al	555,1 [4]	West-Vlaandere	Antwerpen 215,8 -	West-Vlaander	102 [2]	155 [2]									
Strawberry	Fresh	All	1442 [1]			34900 [1]	495 [4]		~		6 [3]	Jan, Feb, Mar, Oct, Nov, Dec.			Low quality s	1,3 [1]	2000 [1]
	Greenhouse		425 [4]		Antwerpen 189 [4]				~								
	Outdoor		886,8 [4]		Antwerpen 416 [4]				~								
Outdoor vegetables																	
Field Veg	(all)																
Brussels Spr	Industry [1]		2371 [1]	West-Vlaanderen	177 [2]	54500 [1]		262 [2]	~		6 [3]	Apr, May, Jun, Jul, Aug, Sept [3]			Foliage	50-70 [1]	142000 [1]
	Fresh [4]		280,6 [4]		West-Vlaanderen	141 [4]			~						Oversized an	3 [1]	6000 [1]
	Industry [4]		1701,5 [4]		West-Vlaanderen	1483 [4]			~								
Cauliflower	Fresh [1]	(all)	386 [1]	West-Vlaanderen	704 [2]	8500 [1]		837 [2]	~		4 [3]	Jan, Feb, Mar, Dec			Foliage and s	30 - 50 [1]	15000 [1]
		Glasshouse	7,5 [4]		Antwerpen 4,9 [4]				~						Undersized a	1 [1]	400 [1]
		Outdoor	486 [4]		West-Vlaanderen	240 [4]			~								
	Industry [1]		3856 [1]			84500 [1]			~						Foliage and s	30 - 50 [1]	154000 [1]
		Outdoor	2700 [4]		West-Vlaanderen	2650 [4]			~						Cauliflower h	3,5 - 5 [1]	16000 [1]
Broccoli	Fresh		1753 [4]	West-Vlaandere	West-Vlaanderen	1391 [4]		4 [2]	~								
	Industry		533 [4]		West-Vlaanderen	381 [4]			~								
Cabbage (W	Industry and fresh		1044 [1]			62400 [1]		8 [2]	~		3 [3]	Apr, May, June			Foliage	36 [1]	38000 [1]
	Fresh		375 [4]	West-Vlaandere	West-Vlaanderen	285 [4]			~						Outer cabba	14 [1]	14000 [1]
	Industry		370,8 [4]		West-Vlaanderen	315 [4]			~								
Leek	Fresh		3811 [1]			152400 [1]		757 [2]	~						Upper green	20 - 30 [1]	95000 [1]
			1676 [4]	West-Vlaandere	West-Vlaanderen	1254,7 [4]			~								
	Industry		711 [1]			35600 [1]			~						Upper green	20 -30 [1]	18000 [1]
			1066 [4]		West-Vlaanderen	952,6 [4]			~								
Beans	Industry		3566 [1]			48100 [1]		637 [2]	~		7 [3]	Jan, Feb, Mar, Apr, Oct, Nov, Dec			Foliage	10 -30 [1]	71000 [1]
			1405 [4]	West-Vlaandere	West-Vlaanderen	918,6 [4]			~						Beans (rema	0,5 [1]	2000 [1]
	Fresh	Greenhouse	3,7 [4]		West-Vlaanderen	15,4 - Oost-Vlaanderen 14,2 [4]			~								
		Outdoor	96,5 [4]		West-Vlaanderen	33,6 [4]			~								
peas	Industry		2113 [4]	West-Vlaandere	Limburg 848,6 -	West-Vlaanderen	763 [4]	601 [2]	~		10 [3]	Jan, Feb, Mar, Apr, Aug, Sept, Oct, Nov, Dec					
	Fresh		108,5 [4]		Limburg 73,7 [4]				~								
Belgian endive			-	West-Vlaanderen	4 [2]	35400 [1]		38 [2]	~						Outer leaves	-	10000 [1]
Belgian endive roots			1212 [1]	West-Vlaandere	Vlaams-Brabant	36400 [1]		173 [2]	~						Forced roots	30 [1]	36000 [1]
			751,7 [4]						~								

Sources:

[1] Kips L. (2017)
[2] Agridirect (2016)
[3] ILVO (2014)
[4] FOD (2016)

CROPS	sub class*	notes	**Data	**any unknown = (u) or estimated = (e) data or zero =0						$$ p=peat, r=rockwool, c=coir, h=hydroponic, s=soil, rc=recycled/recompost				
NL	known, just complete (all)	type; e.g. Cos or heirloom	Total area (Ha)	State main county/ zone (& subsidiary)	Total Production (tonnes/annum)	% under glass (g) polytunnel (p) hydroponics (h)	number of growers	Individual or part of co-operative	year data assessed & source	used (see $$ above) e.g. r50; p50	No. of months unproductive (total/12)	months (e.g. Ja, Fe ...)	LED used; approx % if known	Total product wasted (tonnes/an)
														19.500 :
Tomato	(all)		375	Greenport west Holland	220.000	100% (g)	31	%	2015	95% r	3-4 months	nov or dec	0%	
Without light	cherry		100		35.000	100% (g)			Grootscholten					4.500 rejected ton
	beefsteak		0			100% (g)			study					15.000 plant parts
	main crop		250		175.000	100% (g)			Westland					
	specialist		25		10.000	100% (g)								
	other		0			100% (g)								
Tomato	(all)		178	Greenport west Holland	116.200	100% (g)	100			95% r	2-3 months	1 month (a	3-5% (e)	9.256:
With light	cherry		200		70.000	100% (g)								
	beefsteak		0			100% (g)								2,.136 rejected to
	main crop		50		35.000	100% (g)								7.120 plant parts
	specialist		28		11.200	100% (g)								
	other					100% (g)								
Tomato	TOTAL		553		236.200		131							28.756
Pepper	(all)		248	Greenport west Holland	74.050	100% (g)	87			60% r, 40% c	3-4 months	nov or dec	0%	11.656:
	bell		215		66.650	100% (g)								
	lantern		0			100% (g)								1.240 rejected pe
	hot		18		2.700	100% (g)								10.416 plant parts
	specialist (all)	e.g. heirloom	15		4.700	100% (g)								
	other		0			100% (g)								
Cucumber	(all)		9	Greenport west Holland	5.500	100% (g)	6			50% h, 50% r	1-3 months	nov, dec	0%	585:
	regular		5		4.300	100% (g)								
	miniature		4		1.200	100% (g)								72 rejected cucum
	specialist	e.g. Yellow	0			100% (g)								513 plant parts
	other		0			100% (g)								
Aubergine	(all)		31	Greenport west Holland	6.700	100% (g)	11			100% R	2-4 months	nov, dec	0%	1.457:
	regular		29		6.270	100% (g)								
	miniature		0			100% (g)								155 rejected aube
	specialist	e.g. Red	2		430	100% (g)								1,302 plant parts
	other		0			100% (g)								
Lettuce etc	(all)		53	Greenport west Holland		100% (g)	48			95% s, 5% h	0 months	-	0%	0
	regular	(name; e.g. Butterhead)	28		8.000	100% (g)								
	baby leaf salad		20		5.800	100% (g)								
	herbs		5		**	100% (g)								
	other					100% (g)								
Strawberry	(all)		5	Greenport west Holland		100% (g)				100% p	(U)	(U)	(U)	
	regular		0			100% (g)								
	early		5			100% (g)								
	specialist	e.g. 'wild'	0			100% (g)								

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NL	known, just complete (all)	type; e.g. Cos or heirloom	Total area (Ha)	State main county/ zone (& subsidiary)	Total Production (tonnes/annum)	% under glass (g) polytunnel (p) hydroponics (h)	number of growers	Individual or part of co-operative	year data assessed & source	used (see $$ above) e.g. r50; p50	No. of months unproductive (total/12)	months (e.g. Ja, Fe ...)	LED used; approx % if known	Total product wasted (tonnes/an)
Field Veg	(all)			Greenport west Holland										
	Brussels Sprouts													
	Brocolli													
	cabbage													
	other													
flowers	(all)		599	Greenport west Holland	67.900	100% (g)	302			Pierre	Pierre			**5.985**
	Chrysanthemums		189		27.800	100% (g)	72			S	0			1.886
	Amaryllis (Flower)		117		3.500	100% (g)	70			S	7			1.172
	Lilies		77		14.500	100% (g)	51			50% S 50% P	0			765
	Roses		69		8.000	100% (g)	27			p	0			691
	Freesia		62		3.500	100% (g)	38			S	0			616
	Gerbera		49		6.500	100% (g)	23			R	0			489
	Lisianthus		20		1.100	100% (g)	11			S	0			201
	Alstroemeria		17		3.000	100% (g)	10			S	0			165
potplants	(all)		309	Greenport west Holland			147			Pierre	Pierre			**3.086**
	pot phalaenopsis		105		(u)	100% (g)	42			P C	0			1.049
	Palms		24		(u)	100% (g)	12			P	0			243
	Hydrangea		24		(u)	100% (g)	11			P	0			240
	Anthurium		22		(u)	100% (g)	9			P	0			222
	Kalanchoe		22		(u)	100% (g)	9			P	0			217
	Spatiphylium		21		(u)	100% (g)	11			P	0			213
	Geraniums		20		(u)	100% (g)	13			P	8			196
	Chrisanten pot		14		(u)	100% (g)	7			P	0			138
	Zamioculcas		14		(u)	100% (g)	8			P	0			135
	Corniferen		12		(u)	100% (g)	10			P	8			119
	Camellia		11		(u)	100% (g)	4			P	0			108
	Calathea		11		(u)	100% (g)	3			P	0			108
	Orchid pot		10		(u)	100% (g)	8			H	0			99
	other													0
Other produce?	(all)													
	Radish		84		Pierre		64			100% s	0	-	0%	**2.520**
	(name)													
	(name)													
	other													