

Agenda item #4: JRC explanation of background data

Anastrepha Ludens example



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Joint Research Centre (JRC)
Unit D.4 Economics of Agriculture

How to display and navigate the JRC Database for construction of indicators

Structure of the I2P2 workbook

Region	Indicator	Unit	Source
EU	Production value of products from 2018 (€1000m)	€1000m	EUROSTAT
EU	Production value of products from 2019 (€1000m)	€1000m	EUROSTAT
EU	Production value of products from 2020 (€1000m)	€1000m	EUROSTAT

Data, units and sources by HOST and by PEST

Indicator	Unit	Source
Production value of products from 2018 (€1000m)	€1000m	EUROSTAT
Production value of products from 2019 (€1000m)	€1000m	EUROSTAT
Production value of products from 2020 (€1000m)	€1000m	EUROSTAT

Several spreadsheets with data/calculations

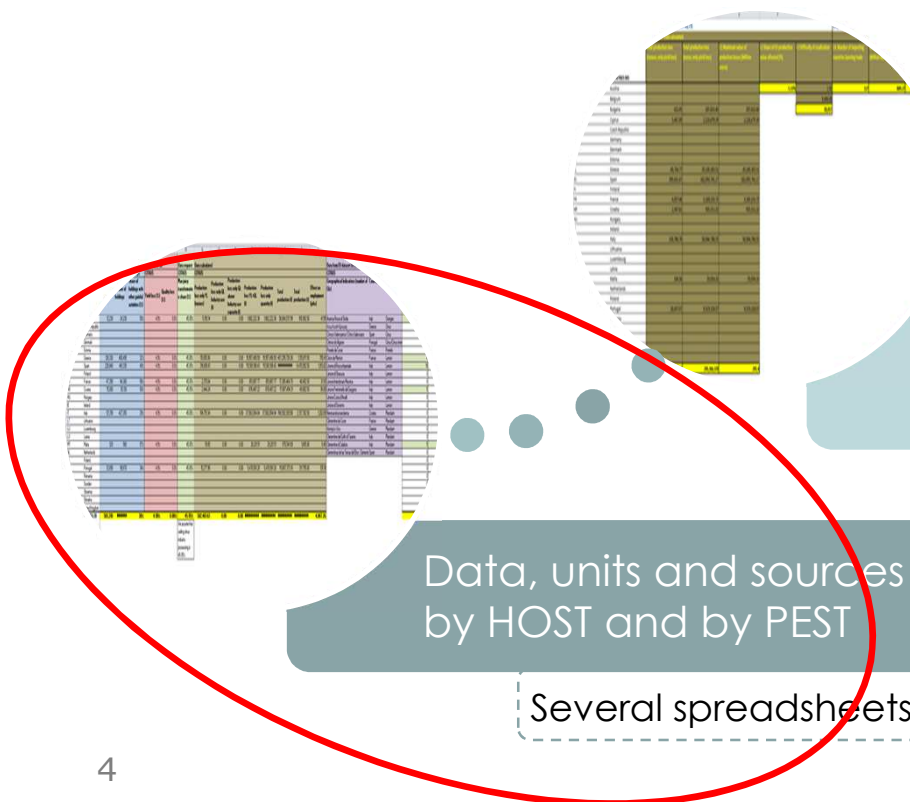
Category	Indicator	Unit	Source
Economic	Production value of products from 2018 (€1000m)	€1000m	EUROSTAT
	Production value of products from 2019 (€1000m)	€1000m	EUROSTAT
	Production value of products from 2020 (€1000m)	€1000m	EUROSTAT
	Production value of products from 2021 (€1000m)	€1000m	EUROSTAT
Social	Number of employees in manufacturing (2018)	Number	EUROSTAT
	Number of employees in manufacturing (2019)	Number	EUROSTAT
	Number of employees in manufacturing (2020)	Number	EUROSTAT
	Number of employees in manufacturing (2021)	Number	EUROSTAT
Environmental	CO2 emissions from manufacturing (2018)	1000 tonnes	EUROSTAT
	CO2 emissions from manufacturing (2019)	1000 tonnes	EUROSTAT
	CO2 emissions from manufacturing (2020)	1000 tonnes	EUROSTAT
	CO2 emissions from manufacturing (2021)	1000 tonnes	EUROSTAT

Economic, Social and environmental impacts

One spreadsheet per impact indicators

Final outputs per indicator (summary)

Structure of the I2P2 workbook



Data, units and sources by HOST and by PEST

Several spreadsheets with data/calculations



Final outputs per indicator (summary)

Economic, Social and environmental impacts

One spreadsheet per impact indicators

Different data sources – colour codes

EFSA

Data on Hosts; Y,Q loss;
Spread; Quarantine;
Aflatoxins; Treatments

MS and experts

Ad-hoc data requests on
Forestry; Cultural
heritage; street-park
trees; prices

Secondary data

Data on production
(EUROSTAT,FAO); trade
(COMEXT); Soil
erosion(articles)

Data calculated by JRC

All indicators per
pest

The starting point - List of HOSTS for analysis

	A	B	C	D	E	F	G	
1	HOSTS from EFSA		Impact EFSA	CALCULATIONS DATA	EUROSTAT AGGREGATIONS	COMEXT DATA	COMEXT Description	
2	Citrus	C. sinensis; C. paradisi; C. reticulata; C. aurantium, C. aurantifolia	Citrus	Oranges + small citrus fruits + lemons and acid limes + pomelos and grapefruits + other citrus fruits n.e.c.	New-T0000; Old-C2300 - Citrus fruits - This class includes all citrus fruits (Citrus spp.): oranges, small citrus fruits, lemons, limes, pomelos, grapefruits and other citrus fruits. Aggregate of T1000+ T2000 + T3000+ T4000 + T9000.	0805	CITRUS FRUIT, FRESH OR DRIED	
3	Peach/nectarine	Prunus persica (L.) Batch	Peach/nectarine	Peaches and nectarines	New-F1210_1220; Old-C2180 + C2221 - Peaches and nectarines - Peaches (Prunus persica (L.) Batsch.) and nectarines (Prunus persica (L.) Batsch. (var. nucipersica) for fresh consumption and for processing (juice, marmalades, canned, etc.) Aggregate of F1210+ F1220	0809 30	FRESH PEACHES, INCL. NECTARINES	
4						0813 40 10	DRIED PEACHES, INCL. NECTARINES	
5	Mango	Mangifera indica	Exotic fruits	Other fruits from subtropical and tropical climate zones n.e.c.	New-F2900; Old-C2259 - Other fruits from subtropical and tropical climate zones n.e.c. - Annona (Annona spp.), guava (Psidium spp.), lychee (Litchi spp.), mango (Mangifera spp.), papaya (Carica spp.), passion fruit (Passiflora spp.), pineapple (Ananas comosus (L.) Merr.; syn. A. sativus Lindl.), and other fruits of woody plants such as dates (Phoenix dactylifera L.), persimmons (Diospyros kaki L.f.), pomegranate (Punica granatum), etc.	0804 50 00	FRESH OR DRIED GUAVAS, MANGOES AND MANGOSTEENS	
6	Guava	Psidium guajava						
7	Cherimoya	Annona cherimola						Not data available
8	Pomegranate	Punica granatum						Not data available

Host plants

Data by HOSTS and PEST

Production related

CITRUS DATA		EUROSTAT data (AVERAGE 2013-2016)				EUROSTAT (2013)	EUROSTAT (2013)			Data from EFSA		
Sources		CITRUS				Citrus - Specialist fruit and citrus fruit	Citrus - Specialist permanent crops			CITRUS		
NUTS CODES Sort alphabetically by country codes	COUNTRIES MS	Hectares [1000 ha]	Yield [kg/ha]	Producer Price [Euro/t]	Producer price of second quality use [EUR/t]	Labour needs (AWU-employs/ha)	Total OGA (number of holdings)	Total number of holdings	Share of holdings with other gainful activities (%)	Yield loss (%)	Quality loss (%)	
5	AT	Austria										
6	BE	Belgium										
7	BG	Bulgaria										
8	CY	Cyprus	2.89	36,640.45	358.59		0.30	12,230	24,230	50%	4.9%	0.0%
9	CZ	Czech Republic										
10	DE	Germany										
11	DK	Denmark										
12	EE	Estonia										
13	EL	Greece	49.18	23,096.28				0	400,490	32%	4.9%	0.0%
14	ES	Spain	300.71	21,519.40				0	461,330	49%	4.9%	0.0%
15	FI	Finland										
16	FR	France	4.73	11,454.81				0	84,300	56%	4.9%	0.0%
17	HR	Croatia	2.19	22,829.52				0	30,130	50%	4.9%	0.0%
18	HU	Hungary										
19	IE	Ireland										
20	IT	Italy	150.13	14,240.02				0	427,350	28%	4.9%	0.0%
21	LT	Lithuania										
22	LU	Luxembourg										
23	LV	Latvia										
24	MT	Malta	0.08	19,383.10	358.59		0.11	320	560	57%	4.9%	0.0%
25	NL	Netherlands										
26	PL	Poland										
27	PT	Portugal	20.05	15,552.81	358.59		0.14	33,890	98,670	34%	4.9%	0.0%
28	RO	Romania										
29	SE	Sweden										
30	SI	Slovenia										
31	SK	Slovakia										
32	UK	United Kingdom										
33	EU	Total EU 28	529.45	19,383.10	358.59		0.20	583,310	1,527,060	38%	4.90%	0.00%

Area, yield, price, labour needs, OGA, yield and quality loss

Data request to citrus experts on Prices

Citrus / Peach-nectarine / Mango-guava-cherimoya-pomegrana



Data by HOSTS and PEST

Production related

	A	B	M	N	O	P	Q	R	S	T	U
1	CITRUS DATA										
2		Sources	Data request	Data calculated							
3			CITRUS	CITRUS							
4	NUTS CODES Sort alphabetically by country codes	COUNTRIES MS	Max juicy transformation share (%)	Production loss only YL (tonnes)	Production loss only QL Industry use (€)	Production loss only QL above Industry use capacity (€)	Production loss YL+QL (€)	Production loss only quantity (€)	Total production (€)	Total production (t)	Effect on employment (jobs)
5	AT	Austria									
6	BE	Belgium									
7	BG	Bulgaria									
8	CY	Cyprus	45.05%	5,193.14	0.00	0.00	1,862,222.36	1,862,222.36	38,004,537.98	105,982.50	41.99
9	CZ	Czech Republic									
10	DE	Germany									
11	DK	Denmark									
12	EE	Estonia									
13	EL	Greece	45.05%	55,655.06				57,490.59	407,295,726.36	1,135,817.50	705.41
14	ES	Spain	45.05%	316,685.61				61,108.43	2,320,449,887.89	6,470,992.50	1,913.62
15	FI	Finland									
16	FR	France	45.05%	2,375.64				51,887.77	17,385,464.70	48,482.50	31.93
17	HR	Croatia	45.05%	2,444.24				76,487.22	17,887,494.31	49,882.50	36.00
18	HU	Hungary									
19	IE	Ireland									
20	IT	Italy	45.05%	104,751.34	0.00	0.00	37,563,054.04	37,563,054.04	766,592,939.56	2,137,782.50	1,202.69
21	LT	Lithuania									
22	LU	Luxembourg									
23	LV	Latvia									
24	MT	Malta	45.05%	78.65	0.00	0.00	28,201.51	28,201.51	575,541.09	1,605.00	0.45
25	NL	Netherlands									
26	PL	Poland									
27	PT	Portugal	45.05%	15,277.96	0.00	0.00	5,478,561.28	5,478,561.28	111,807,373.10	311,795.00	135.18
28	RO	Romania									
29	SE	Sweden									
30	SI	Slovenia									
31	SK	Slovakia									
32	UK	United Kingdom									
33	EU	Total EU 28	45.05%	502,461.63	0.00	0.00	180,179,013.21	180,179,013.21	3,679,998,965.00	10,262,340.00	4,067.26
34			We assume that ceiling citrus industry processing is 45.05%								

Production loss and effect on employment

Citrus	Peach-nectarine	Mango-guava-cherimoya-pomegrana
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Data by HOSTS and PEST

Social and environment

A	B	V	W	X	Y	Z	AA	AB	AC	AD
CITRUS DATA		Data from EU dataset DOOR			Data MS request		Data MS request	JRC based on Panagos et al. (2015)	Data request	Data from EUROSTAT (2016)
Sources		CITRUS			CITRUS		CITRUS	CITRUS	CITRUS	CITRUS
NUTS CODES	COUNTRIES MS	Geographical Indications (number of GIs)	Country	Product	UNESCO world heritage sites	Coat of arms, anthem, works of art, others	Use of hosts as street trees and in parks	Soil erosion value	Number of habitats/species associated with a host (under Council Directive 92/43/EEC and Directive 2009/147/EC)	Share of total area fully converted or under conversion to organic farming
Sort alphabetically by country codes										
AT	Austria	Πορτοκάλια Μόλεμε Χαλίων Κρήτης	Greece	Oranges	0	0	0	0.78	1	0.03%
BE	Belgium	Arancia di Ribera	Italy	Oranges	0	0	0			
BG	Bulgaria	Arancia del Gargano	Italy	Oranges	0	0	0			
CY	Cyprus	Arancia Rossa di Sicilia	Italy	Oranges	1	0	0			
CZ	Czech Republic	Κουμ. Κουάτ Κέρκυρας	Greece	Citrus	0	0	0			
DE	Germany	Citricos Valencianos / Citrics Valencians	Spain	Citrus	0	0	0			
DK	Denmark	Citricos do Algarve	Portugal	Citrus (Citrus sinen	0	0	0			
EE	Estonia	Pomelo de Corse	France	Pomelo	0	0	0			
EL	Greece	Citron de Menton	France	Lemon	4	0	0			
ES	Spain	Limone di Rocca Imperiale	Italy	Lemon	10	0	0			
FI	Finland	Limone di Siracusa	Italy	Lemon	0	0	0			
FR	France	Limone Interdonato Messina	Italy	Lemon	0	0	0			
HR	Croatia	Limone Femminello del Gargano	Italy	Lemon	5	0	0			
HU	Hungary	Limone Costa d'Amalfi	Italy	Lemon	0	0	0			
IE	Ireland	Limone di Sorrento	Italy	Lemon	0	0	0			
IT	Italy	Neretvanska mandarina	Croatia	Mandarin	0	0	0			
LT	Lithuania	Clémentine de Corse	France	Mandarin	0	0	0			
LU	Luxembourg	Μανταρίν. Χίου	Greece	Mandarin	0	0	0			
LV	Latvia	Clementine del Golfo di Taranto	Italy	Mandarin	0	0	0			
MT	Malta	Clementine di Calabria	Italy	Mandarin	5	1	0			
NL	Netherlands	Clementinas de las Tierras del Ebro ; Clementines Spain		Mandarin	0	0	0			
PL	Poland				0	0	0			
PT	Portugal				0	0	3			
RO	Romania				0	0	0			
SE	Sweden				0	0	0			
SI	Slovenia				0	0	0			
SK	Slovakia				0	0	0			
UK	United Kingdom				0	0	0			
EU	Total EU 28				25	0.25	7			

GIs, Cultural heritage, Street-park trees, Soil erosion, Directives habitats/spp, Sustainable management

Citrus / Peach-nectarine / Mango-guava-cherimoya-pomegrana

Data by HOSTS and PEST

DECLARAF	DECLARAF PARTNER	PARTNER	PRODUCT	PRODUCT FLOW	FLOW_L1	STAT	REG	STAT	REG PERIOD	PERIOD	LINDICATO	INDICATO	INDICATOR_VALUE	
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2013	2013 VALUE_10 VALUE_10	2933.05
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2013	2013 QUANTITY QUANTITY	3636.2
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2015	2015 VALUE_10 VALUE_10	4558.07
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2015	2015 QUANTITY QUANTITY	4245.7
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2016	2016 VALUE_10 VALUE_10	4941.31
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2016	2016 QUANTITY QUANTITY	4271
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2014	2014 VALUE_10 VALUE_10	3703.76
EU28	Cour	EU28	Cour	24	Iceland	805	CTRUS FR	2	EXPORT	All items	All items	2014	2014 QUANTITY QUANTITY	3991.7
EU28	Cour	EU28	Cour	24	Iceland	804900	FRESH OR	1	IMPORT	All items	All items	2015	2015 VALUE_10 VALUE_10	29.08

Raw data from COMEXT on Extra EU trade by hosts

CSV A lundens

Sum of INDICATOR_VALUE	2013	2014	2015	2016	2013	2014	2015	2016
Albanistan	29.20				27.57			
Albania					7,388.23	7,238.17	5,379.89	5,386.66
Algeria					16,573.95	12,810.66	10,021.88	4,977.85
Andorra					861.18	840.36	1,013.21	1,071.20
Angola					1,513.78	2,415.62	1,556.71	871.99
Antarctica					0.01	0.28	0.34	0.45
Antigua and Barbuda								
Argentina						37.28		4,419.19
Armenia					3.89	23.03	40.84	30.06
Aruba					65.79	63.36	200.99	303.39
Australia						4.91	867.83	196.00
Azerbaijan					96.71	191.37	306.33	199.93
Bahamas								
Bahrain	232.80	371.00	787.60	706.30	209.37	339.97	717.62	512.01
Bangladesh		23.50				4.26		0.60
Barbados			3.30	0.00			2.03	0.25

Pivot table to filter data by EXPORTS and IMPORTS

All ordered Tonnes and €

Exports and imports

Exports in TONNES	CITRUS FRUIT, FRESH OR DRIED				FRESH OR DRIED GUAVAS, MANGOES AND MANGOSTEENS				PEACHES AND NECTARINES				
COUNTRIES	2013	2014	2015	2016 TOTAL (average 2013-2016)	2013	2014	2015	2016 TOTAL (average 2013-2016)	2013	2014	2015	2016 TOTAL	
Albanistan	29.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Albania	22,699.60	28,259.40	18,723.00	21,890.67	4.33	4,893.60	5,846.60	3,529.70	5,387.80				
Algeria	31,598.80	30,477.90	18,585.30	26,887.33	171.48	6,081.40	13,703.60	11,414.90	0.00				
Andorra	1,082.00	1,014.60	1,155.80	1,084.13	1.58	196.00	165.30	202.00	170.60				
Angola	2,022.80	3,245.10	2,237.80	2,501.90	93.75	201.20	149.30	93.10	58.70				
Antarctica	0.00	0.10	0.10	0.07	0.00	0.00	0.00	0.00	0.00				
Antigua and Barbuda	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00				
Argentina	0.00	67.60	0.00	33.80	0.00	0.00	0.00	0.00	0.00				
Armenia	2.80	24.40	49.20	25.47	1.35	0.10	736.70	1.10	0.20				
Aruba	36.00	40.90	140.80	73.90	0.05	0.00	0.00	0.00	0.00				
Australia	0.00	1.40	538.30	180.23	0.35	0.00	0.00	5.00	0.00				
Azerbaijan	83.50	139.00	269.40	160.63	16.00	4.70	83.80	9.20	53.10				
Bahamas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Bahrain	292.80	371.00	787.60	453.80	2.15	0.40	43.50	55.30	53.70				
Bangladesh	0.00	23.50	0.00	11.83	0.63	0.00	0.00	0.00	0.00				
Barbados	0.00	0.00	3.30	1.10	0.03	0.00	0.00	0.00	0.00				
Bahamas	53,956.10	67,130.20	88,290.10	68,458.80	681.96	28,460.00	71,042.10	158,681.70	99,280.60				
Belize	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Benin	5.70	3.40	0.70	3.27	0.00	0.00	0.00	0.00	0.60				
Bolivia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Bosnia and Herzegovina	32,646.40	40,701.40	33,242.10	35,529.63	37,639.05	24.20	32.10	29.40	35.30	2,132.30	4,619.30	3,617.30	4,969.40
Botswana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Brazil	14,427.80	16,816.80	18,586.80	16,440.48	17,311.28	0.40	0.60	0.00	5.90	1.73	10,439.70	11,705.20	10,840.40
Brunei Darussalam	0.00	0.00	0.00	0.00	19.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80
Burkina Faso	0.00	0.40	28.10	14.50	7.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Burundi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cambodia	0.00	97.30	50.10	47.30	48.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Camero													

Average (2013-2016) of EXPORTS and IMPORTS in Tonnes and Euros

Exports in TONNES Exports in EUROS Imports in TONNES Imports in EUROS

Data by HOSTS and PEST

Quarantine, Export losses and Trade dispersion

A	B
1 Data from EFSA	
2 Countries Anastrepha ludens is present	Countries Anastrepha ludens is quarantine
3 Belize	Argentina
4 Costa Rica	Bahrain
5 El Salvador	Brazil
6 Guatemala	Chile
7 Honduras	China
8 Mexico	East Africa
9 Nicaragua	Jordan
10	New Zealand

1=ban (pest is not present, quarantine country or pest is present but the country is quarantine)
 0=not ban (pest is present)
 2=trade is equal to 0 tonnes

COUNTRIES	2=trade is equal to 0 tonnes; 1=ban (pest is not present, quarantine country or pest is present but the country is quarantine); 0=not ban (pest is present)	CITRUS FRUIT, FRESH OR DRIED TOTAL EXPORTS (average 2013-2016) TONNES
Ukraine	1	59,267.58
United Arab Emirates	1	16,749.18
United States of America	1	33,152.25
Uruguay	1	631.35
Uzbekistan	1	11.45
Venezuela	2	0.00
Vietnam	1	84.75
Zambia	1	0.03
Zimbabwe	2	0.00
TOTAL EXPORTS		727,511.23
Importing countries non banning trade (ICnb)	4	
Country is not importing product from EU	36	
Importing countries banning trade (NICRT)	118	
Countries importing from the EU (IC)	122	
Export losses		726,284.18

Export losses

COUNTRIES	1=ban (pest is not present, quarantine country or pest is present but the country is quarantine); 0=not ban (pest is present); 2=trade is equal to 0 tonnes	Total exports by country (t)	(EUExports/Total)2	average
Ukraine	1	66,081.99	0.00	0.00
United Arab Emirates	1	21,977.53	0.00	0.00
United States of America	1	33,157.80	0.00	0.00
Uruguay	1	741.58	0.00	5.04317E-07
Uzbekistan	1	12.38	0.00	1.40439E-10
Venezuela	2	0.00	0.00	0.00
Vietnam	1	84.83	0.00	6.53943E-08
Zambia	1	0.18	0.00	2.80847E-14
Zimbabwe	2	0.00	0.00	0.00
Trade dispersion			0.01	0.01

Trade dispersion

product	Xb	TP-PL	Domestic supply (t) (TP+M-X)	Change in domestic supply (t) (-PL+Xb)	% change in domestic supply (ΔQ)
Citrus	726,284.18	9,759,878.37	11,608,109.73	223,822.54	1.93%
Mango-guava	21,832.08	500,093.36	796,676.39	-5,209.88	-0.65%
Peach-nectarine	296,131.20	3,901,287.40	3,775,093.75	156,264.73	4.14%

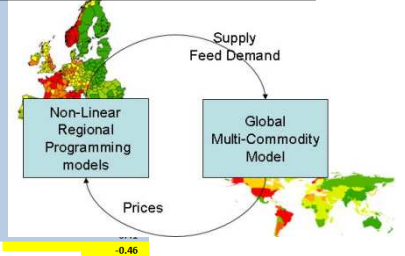
Domestic supply change

Data by HOSTS and PEST

Elasticities, BioSAM, Food security

A	B	C
Sort alphabetically by country codes		
Data from CAPRI		
NUTS CODES	COUNTRIES MS	CITRUS Price elasticities
4 AT	Austria	-0.48
5 BE	Belgium	-0.46
6 BG	Bulgaria	-0.48
7 CY	Cyprus	-0.44
8 CZ	Czech Republic	-0.47
9 DE	Germany	
10 DK	Denmark	
11 EE	Estonia	
12 EL	Greece	
13 ES	Spain	
14 FI	Finland	
15 FR	France	
16 HR	Croatia	
17 HU	Hungary	
18 IE	Ireland	
19 IT	Italy	
20 LT	Lithuania	
21 LU	Luxembourg	
22 LV	Latvia	
23 MT	Malta	
24 NL	Netherlands	
25 PL	Poland	
26 PT	Portugal	
27 RO	Romania	
28 SE	Sweden	
29 SI	Slovenia	
30 SK	Slovakia	
31 UK	United Kingdom	

Demand Elasticities



Demand elasticities

BioSAM	
1	
Data from BioSAM	
3 Multiplier effect (BIO SAM)	Upstream effect (Million euros)
4 FRUITS 0.99	291.25

BioSAM A ludens



A	B	C	D	E	F	G	H	I	J	K	L	
FOOD SECURITY												
Data from FAO Food Balance Sheet (last year available - 2013)												
	Countries	Yield loss	Food supply quantity (kcal/capita/day)	Total food supply quantity (kcal/capita/day)	Share of caloric supply (kcal/capita/day)	Protein supply quantity (g/capita/day)	Total protein supply quantity (g/capita/day)	Share of protein supply (g/capita/day)	Fat supply quantity (g/capita/day)	Total fat supply quantity (g/capita/day)	Share of fat supply (g/capita/day)	
5	Oranges, Mandarines	EU	5%	22.00	3,409.00	0.00032	0.37	103.85	0.00017	0.07	139.97	0.000024
6	Lemons, Limes and products	EU	5%	1.00				103.85	0.00001	0.03	139.97	0.000010
7	Grapefruit and products	EU	5%	1.00				103.85	0.00001	0.00	139.97	0.000000
8	Citrus, Other	EU	5%	0.00				103.85	0.00000	0.00	139.97	0.000000
9	Fruits, Other	EU	4%	35.00	3,409.00	0.00038	0.47	103.85	0.00017	0.40	139.97	0.000104
10	TOTAL	EU		59.00	3,409.00	0.0007	0.90	103.85	0.0004	0.50	139.97	0.0001

Food security

Food Balance A Ludens

Data by HOSTS and PEST

EFSA INPUTS

A			
1	DIFICULTY OF ERADICATION		
2	Data from EFSA		
3			
	Difficulty of eradication parameters (EU28)	Value	
4			
5	Duration until detection	[months]	[years]
6	2.5th	9.30	0.78
7	25th	16.50	1.38
8	50th	23.00	1.92
9	75th	31.00	2.58
10	97.5th	49.70	4.14
11			
12	Spread rate	[m/year]	
13	2.5th	2,400	
14	25th	6,200	
15	50th	9,400	
16	75th	13,600	
17	97.5th	24,600	

Duration until detection
Spread rate

Eradication *Anastrepha ludens*

A	
1	FOOD SAFETY
2	Data from EFSA
3	TOXINS Value (y=1;n=0)
4	Aflatoxins 0

Toxins

Toxins *Anastrepha ludens*

Expected change in the use of PPPs	Case	Existing PPPs indicator
PPPs effective against the pest are not available/feasible in the EU	A	0
PPPs applied against other pests in the risk assessment area are also effective against the pest, without increasing the amount/number of treatments	B	0
PPPs applied against other pests in the risk assessment area are also effective against the pest but only if the amount/number of treatments is increased	C	1
A significant increase in the use of PPPs is not sufficient to control the pest: only new integrated strategies combining different tactics are likely to be effective	D	2

Control measures

A		B
1	UNDESIRE EFFECTS CONTROL MEASUR	
2	Data from EFSA	
3	HOSTS	Value (0-2)
4	All	1

U effects control *A ludens*

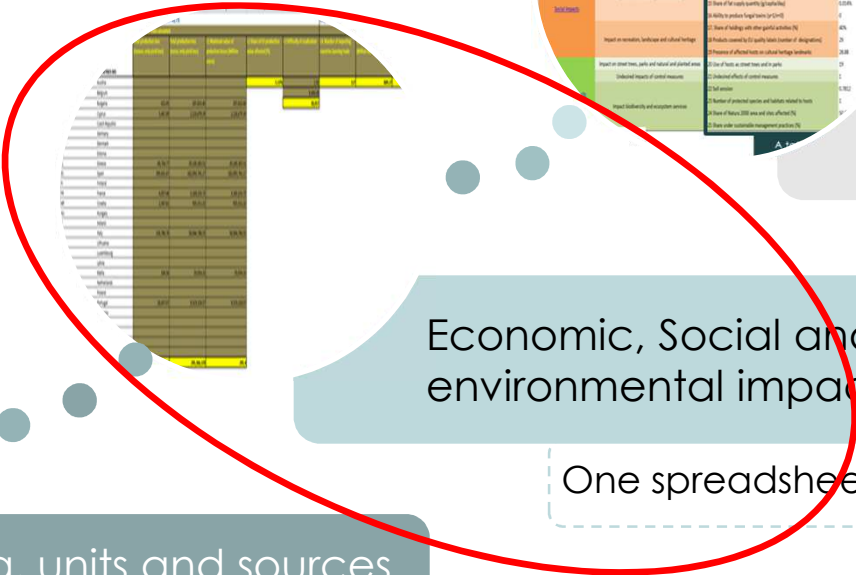
A		
1	NATURE 2000	
2	Data from EFSA	
3	Share of Nature 2000 sites susceptible to be affected by pest	Percentage of area of sites susceptible to be affected out of area of sites where host is present
4	0.04%	100%

Nature 2000

Nature 2000 *A Ludens*

Structure of the I2P2 workbook

Data, units and sources by HOST and by PEST



Economic, Social and environmental impacts

One spreadsheets per impact indicators

Several spreadsheets with data/calculations

Final outputs per indicator (summary)

Data by HOSTS and PEST

Economic, Social and environmental impacts

1 ECONOMIC IMPACTS			DIRECT ECONOMIC IMPACTS				INDIRECT ECONOMIC IMPACTS								
INDICATORS - Data calculated			E1 Total production loss (tonnes - only yield loss)	E2 Total production loss (tonnes - only yield loss)	E3 Maximum value of production losses (Million euros)	E4 Share of E1 production value affected (%)	E5 Difficulty of eradication	E6 Number of importing countries banning trade	E7 Value of import losses (Million euros)	E8 Share of export losses over total production (%)	E9 Trade dispersion	E10 Change in domestic price (%)	E11 Change in domestic production over imports (%)	E12 Upstream effect (Million euros)	E13 Downstream effect (%)
NUTS CODES	COUNTRIES MS														
4 AT	Austria					5.13%	1.50	127	809.27	7.04%	0.91	6.78%	517.6634340	291.2	
5 BE	Belgium						3.400.00								
6 BG	Bulgaria		622.05	207.875.60	207.875.60		18.017								
7 CY	Cyprus		5.467.93	2.246.673.33	2.246.673.33										
8 CZ	Czech Republic														
9 DE	Germany														
10 DK	Denmark														
11 EE	Estonia														
12 EL	Greece				39.100.305.51										
13 ES	Spain				162.093.741.117										
14 FI	Finland				3.163.165.72										
15 FR	France				535.511.622										
16 HR	Croatia														
17 HU	Hungary														
18 IE	Ireland				58.064.786.95										
19 IT	Italy														
20 LT	Lithuania														
21 LU	Luxembourg														
22 LV	Latvia														
23 MT	Malta		104.54	59.054.33	59.054.33										
24 NL	Netherlands														
25 PL	Poland														
26 PT	Portugal		16.437.07	3.519.316.57	3.519.316.57										
27 RO	Romania														
28 SE	Sweden														
29 SI	Slovenia														
30 SK	Slovakia														
31 UK	United Kingdom														
32 EU	Total EU 28		669.370	295.366.170	295.4										

Economic impacts

Aggregating all data by HOST and PEST into economic, social and environmental impact indicators

ECONOMIC IMPACTS

1 SOCIAL IMPACTS			INDICATORS - Data calculated							
INDICATORS			S12 Job losses (jobs)	S13 Share of caloric supply (kcal/capita/day)	S14 Share of protein supply (g/capita/day)	S15 Share of fat supply (g/capita/day)	S16 Ability to produce fungal toxin (y-1/n-0)	S17 Share of holdings with other painful activities (%)	S18 Products covered by EU quality labels (number of designations)	S19 Presence of affected hosts on cultural heritage landmarks
NUTS CODES	COUNTRIES MS									
4 AT	Austria		0.00							
5 BE	Belgium		0.00							
6 BG	Bulgaria		21.43							
7 CY	Cyprus		54.73							
8 CZ	Czech Republic		0.00							
9 DE	Germany		0.00							
10 DK	Denmark		0.00							
11 EE	Estonia		0.00							
12 EL	Greece		1.275.28							
13 ES	Spain		2.501.58							
14 FI	Finland		0.00							
15 FR	France		46.13							
16 HR	Croatia		45.56							
17 HU	Hungary		45.56							
18 IE	Ireland		0.00							
19 IT	Italy		0.00							
20 LT	Lithuania		0.00							
21 LU	Luxembourg		0.00							
22 LV	Latvia		0.00							
23 MT	Malta		0.00							
24 NL	Netherlands		0.00							
25 PL	Poland		0.00							
26 PT	Portugal		0.00							
27 RO	Romania		0.00							
28 SE	Sweden		0.00							
29 SI	Slovenia		0.00							
30 SK	Slovakia		0.00							
31 UK	United Kingdom		0.00							
32 EU	Total EU		5.766							

Social impacts

SOCIAL IMPACTS

1 ENVIRONMENTAL IMPACTS			INDICATORS - Data calculated					
INDICATORS			E20 Use of hosts as street trees and in parks	E21 Undesired effects of control measures	E22 Soil erosion	E23 Number of protected species and habitats related to hosts	E24 Share of Natura 2000 area and sites affected (%)	E25 Share under sustainable management practices (%)
NUTS CODES	COUNTRIES MS							
4 AT	Austria		0					
5 BE	Belgium		0					
6 BG	Bulgaria		0					
7 CY	Cyprus		0					
8 CZ	Czech Republic		0					
9 DE	Germany		1					
10 DK	Denmark		0					
11 EE	Estonia		0					
12 EL	Greece		0					
13 ES	Spain		0					
14 FI	Finland		0					
15 FR	France		0					
16 HR	Croatia		0					
17 HU	Hungary		0					
18 IE	Ireland		0					
19 IT	Italy		0					
20 LT	Lithuania		0					
21 LU	Luxembourg		0					
22 LV	Latvia		0					
23 MT	Malta		0					
24 NL	Netherlands		0					
25 PL	Poland		0					
26 PT	Portugal		0					
27 RO	Romania		2					
28 SE	Sweden		0					
29 SI	Slovenia		0					
30 SK	Slovakia		0					
31 UK	United Kingdom		0					
32 EU	Total EU		19					

Environmental impacts

ENVIRONMENTAL IMPACTS

Structure of the I2P2 workbook

Data, units and sources by HOST and by PEST

Several spreadsheets with data/calculations

Economic, Social and environmental impacts

One spreadsheet per impact indicators

Indicator	Unit	Source
Production impacts	Value of production value added (Mn Euro)	1.12%
Trade impacts	Value of production value added (Mn Euro)	1.12%
Price and market impacts	Change in market price (Mn Euro)	1.12%
Health and other impacts	Change in market price (Mn Euro)	1.12%
Impact on employment	Change in market price (Mn Euro)	1.12%
Impact on food security and food safety	Change in market price (Mn Euro)	1.12%
Impact on innovation, biodiversity and cultural heritage	Change in market price (Mn Euro)	1.12%
Trade facilitation and cooperation services	Change in market price (Mn Euro)	1.12%

Final outputs per indicator (summary)

Summary spreadsheet

Final outputs per indicator

THE IMPACT INDICATOR FOR PRIORITY PEST (I2P2)		Anastrepha_ludens	
Domain	Sub-domain	Indicator	Result
Economic Impacts	Production impacts	I.1 Maximum value of production losses (Million euros)	295.4
		I.2 Share of EU production value affected (%)	5.13%
		I.3 Difficulty of eradication	18,017
	Trade impacts	I.4 Number of importing countries banning trade	127
		I.5 Value of export losses (Million euros)	809.3
		I.6 Share of export losses over total production (%)	7%
		I.7 Trade dispersion	0.91
	Price and market impacts	I.8 Change in domestic price (%)	9%
		I.9 Change in domestic production over imports (%)	0%
	Impacts on other agents	I.10 Upstream effect (Million euros)	291.2
		I.11 Downstream effect (%)	5%
Social Impacts	Impact on employment	I.12 Job losses (jobs)	5,760
	Impact on Food Security and Food safety	I.13 Share of caloric supply (kcal/capita/day)	0.072%
		I.14 Share of protein supply (g/capita/day)	0.037%
		I.15 Share of fat supply quantity (g/capita/day)	0.014%
		I.16 Ability to produce fungal toxins (y=1/n=0)	0
	Impact on recreation, landscape and cultural heritage	I.17 Share of holdings with other gainful activities (%)	40%
		I.18 Products covered by EU quality labels (number of designations)	29
		I.19 Presence of affected hosts on cultural heritage landmarks	28.88
	Environmental Impacts	Impact on street trees, parks and natural and planted areas	I.20 Use of hosts as street trees and in parks
Undesired impacts of control measures		I.21 Undesired effects of control measures	1
		I.22 Soil erosion	0.7812
Impact biodiversity and ecosystem services		I.23 Number of protected species and habitats related to hosts	1
		I.24 Share of Natura 2000 area and sites affected (%)	50.0%
I.25 Share under sustainable management practices (%)		0.21%	

A total of 25 indicators

Thanks for your attention

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