



Thursday, 16th October 2008

Parallel Session II:

Total Quality from Tree to Bottle – GLOBALGAP as input to Fruit Juice Processing

FRAPP

(Fruit Risk Assessment Programme for Pesticides)

A successful Food Safety Initiative of the Fruit Juice Industry



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SGF INTERNATIONAL E.V.

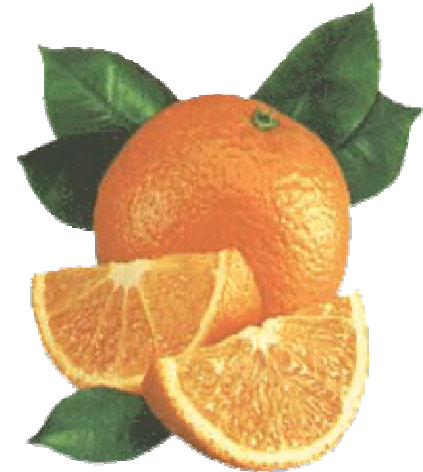
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FRAPP – Targets

Initial idea

Saving money for contaminant analyses

Creating an efficient control tool for our industry



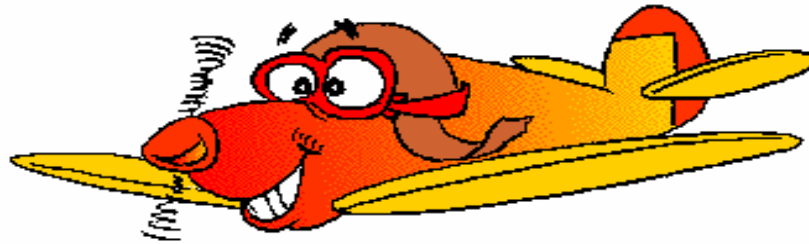
Today's major concern

Improving food safety in the first stage of the juice production chain

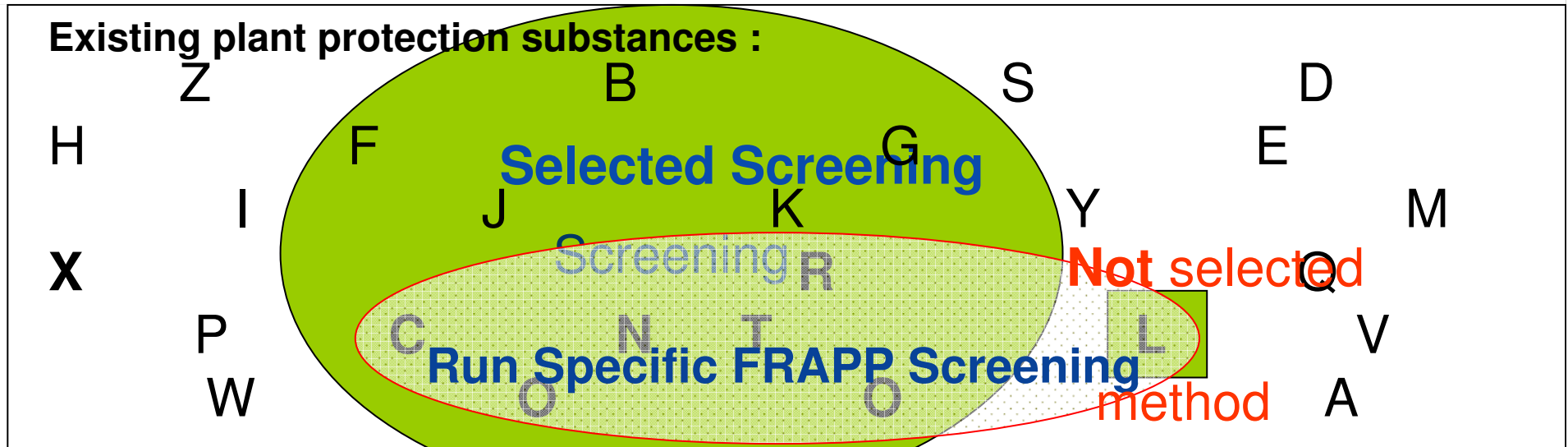
Avoiding scandals by proactive actions

Assistance for our members in a confusing jungle of regulations

The FRAPP Concept



Substances **TO CONTROL**
Orange plantation, Brazil, State of Sao Paulo



Due to very high blending rates
in the fruit juice industry:
Individual “*Farm to Fork*” traceability
makes no sense to evaluate
the risk of contamination.

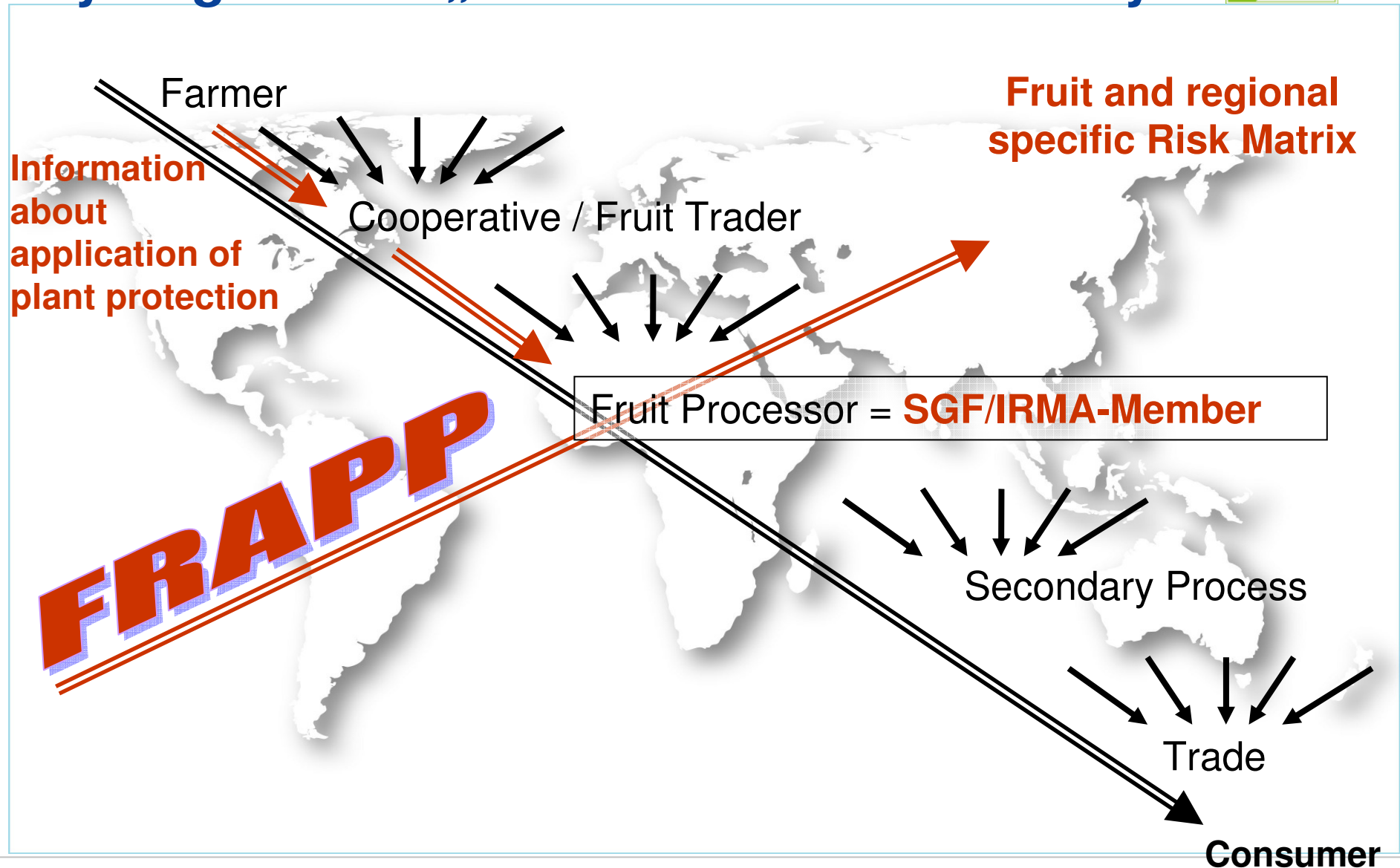





A statistical approach to get crop specific lists of really applied substances in the concerned growing area (“**risk matrix**”) is more helpful.



Data collection by using synergies with „Farm-to-Fork“ traceability





**Collecting data in more than 50 countries
from more than 300 fruit juice plants
by simple and accessible means:**



Management of applied substances by data collection from fruit suppliers

Country:		Thailand		
Company:		Best Juice Company		
Company-No:		6789		
Year :		2007		
Fruit :		Pineapple		
Fruit-Variety:		(optional entry)		

Fruit supplier	Area	Fruit Delivered Quantity (in tons)	CAS Number	Active Substance														
				Trade Name	Glyphosate	Paraquat	Bromacil	Diuron	Ametryn	Atrazine	Fosetyl-aluminium	Ethephon						
				Round up	Gramoxone	Hyvar-x	Carmax	Ametryne	Atrazine	Aleate	Ethrel							
farmer 1	region 1	500,00	1071 - 83 - 6	x	x													
farmer 2	region 2	260,00	1910 - 42 - 5								x							
farmer 3	region 1	15,00	314 - 40 - 9	x			x											
farmer 4	region 3	300,00	330 - 54 - 1		x	x			x									
farmer 5	region 3	51,00	834 - 12 - 8	x	x	x		x		x								

*** entries appear automatically, if maintained in Pest-Management ***

Examples of replies to the questionnaire



Pesticides

Fruit	Common name (if available)	Chemical name (if available)	Trade name (if available)			
			Delivered amount (in kgs)	Poetylaluminium	Phosphorus acid	Bromochl
草园	苯基腺嘌呤 乙烯剂 赤素类	BA ETH GA				
		กฤษณา รตน	43,540			*
		กฤษณา	261,615	*		*
		กฤษณา	29,530			*
		กฤษณา	15,965			*
		กฤษณา	195,230			*
		กฤษณา	176,			*

Fruit	Pesticides			Stage of last application (e.g. flowering, 1 month before harvest, post-harvest, etc) (facultative)
	Common name (if available)	Chemical name (if available)	Trade name (if available)	
apple	赤素素 (gibberellie acid)	2,4-D-ethylhexyl ester	1.10-2	flowering
apple	三氯杀螨醇 (dicofol)	2,2,2-trichloro-1,1-dimethyl-1-hydroxyethane	1.49-1998	1 month before harvest
apple	乙烯剂 (ethephon)	2-chloroethyl phosphonic acid		post harvest

Proposed ISO common name : DIAZINON



Chemical name		Trade name	
O,O-Diethyl-O-(2-isopropyl-4-methylpyrimidin-6-yl) thiophosphat		AG-500	Fezudin
Thiophosphorsäure-O,O-diethyl-O-(6-methyl-2-(1-methylethyl)-4-pyrimidinyl)ester		Alfa-Tox	Flytrol
Diethyl 2-isopropyl-4-methyl-6-pyrimidinyl phosphorothionate		Antigal	G 24480
Diethyl 2-isopropyl-4-methyl-6-pyrimidyl thionophosphate		Basudin	G 301
Diethyl 4-(2-isopropyl-6-methylpyrimidinyl) phosphorothionate		D-264	Galesan
Isopropylmethylpyrimidyl diethyl thiophosphate		D.z.n.	Gardentox
O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate		Dacutox	Kayazinon
O-(2-Isopropyl-4-methylpyrimidyl) O,O-diethyl phosphorothioate		Dassitox	Kayazol
Phosphorothioic acid, O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) ester		Dazzel	NCI-C08673
Phosphorothioic acid, O,O-diethyl O-(6-methyl-2-(1-methylethyl)-4-pyrimidinyl) ester (9CI)		Diagran	Neocidol
		Dianon	Nipsan
		Diaterr-Fos	Nucidol
		Diazajet	SAN 326 I
		Diazide	SAN I 201
		Diazitol	Sandoz 201
		Diazol	Sandoz 52135
		Dimpylate	Sarolex
		Dimpylatum	Spectracide
		Dipofene	TD-2328 (=Knox out 2FM)
		Dizinon	
		Drawizon	
		Dymet	
		Dyzol	
		Exodin	
Identification-Nr.	Molecular structure		
CAS-Nr.: 333-41-5 US EPA PC Code: 057801 CA DPR Chem Code: 198 ENT 19507			



FRAPP



Fruit Risk Assessment Program for Pesticides

Select Harvest Country:

Costa Rica

Select Fruit:

BANANAS

Select Destination Country:

EUROPEAN-UNION

Start Selection

save & close

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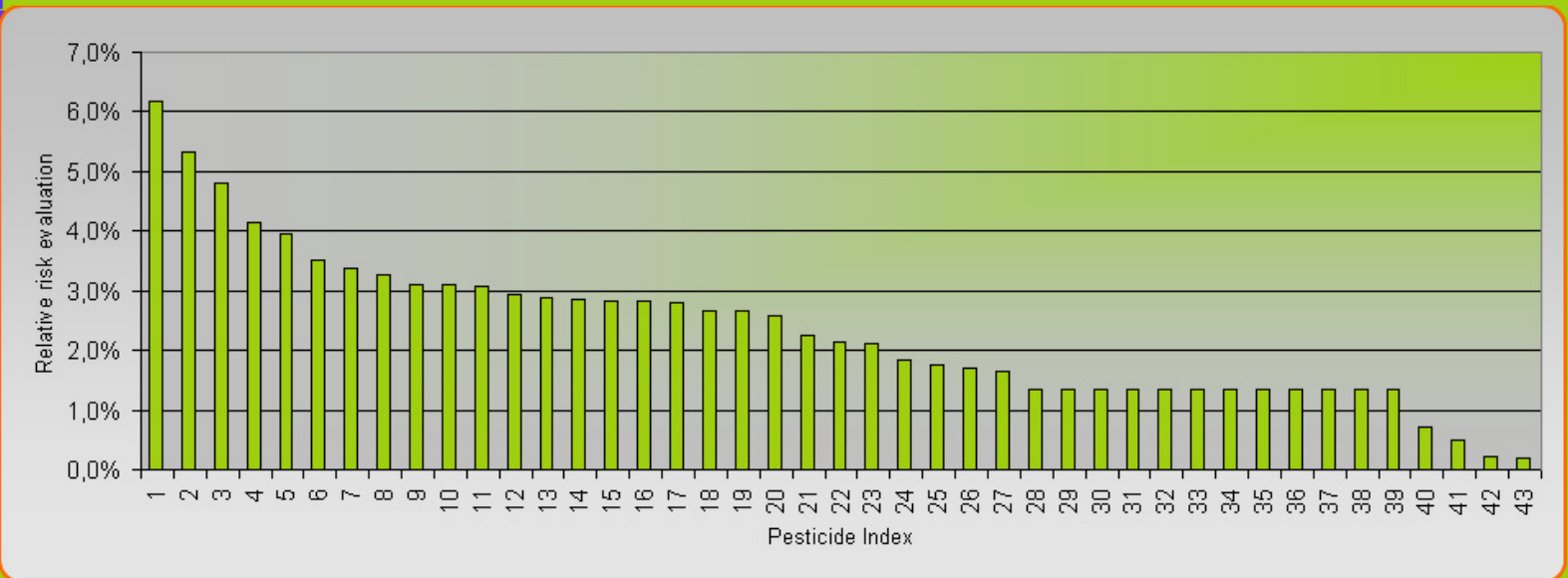
Contamination Risk Matrix: BANANAS, Costa Rica



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Destination Country EUROPEAN-UNION
Fruit BANANAS
Harvest Country Costa Rica

Source: Homologa, status: 22.05.2008

Index	Pesticide	CAS-number	Share of consigned fruit volume	MRL in mg/kg for BANANAS EUROPEAN-UNION	EU Status for: BANANAS	Info toxic.	Info analyt.
1	GLYPHOSATE (PHOSPHONO-METHYL-GLY	1071-83-6	6%	0.1	APPROVED-ANNEX I		
2	TERBUFOS	13071-79-9	5%				
3	TRIDEMORPH	81412-43-3	5%	0.05	EXPIRED		
4	ETHOPROPHOS-(ETHOPROP)	13194-48-4	4%				
5	GLUFOSINATE-AMMONIUM	77182-82-2	4%				
6	MANCOZEB (VONDOZEB)	8018-01-7	4%	2	PENDING		
7	AZOXYSTROBIN	131860-33-8	3%	2	APPROVED		
8	PYRIMETHANIL	53112-28-0	3%	0.1	APPROVED-ANNEX I		
9	PYRACLOSTROBIN	175013-18-0	3%	0.02	APPROVED		



Regional specific risk matrices

Orange / Brazil

Orange / Spain

Green:
Recorded for
both regions

Black:
Regional
specific

Index	Pesticide
1	COPPER-OXYCHLORIDE
2	ABAMECTIN (AVERMECTIN B)
3	METHIDATHION-(DMTP)
4	SULPHUR
5	FENBUTATIN-OXIDE/HEXAKIS(2-METHYL-2-PHENY
6	CYHEXATIN
7	HEXYTHIAZOX
8	GLYPHOSATE (PHOSPHONO-METHYL-GLYCINE)
9	DICOFOL
10	PROPARGITE-(BPPS)
11	DIMETHOATE
12	SPIRODICLOFEN
13	THIOPHANATE-M
14	MANCOZEB (VONDOZEB)
15	DELTA METHRIN
16	CHLORPYRIFOS/CHLORPYRIFOS-E
17	ETHION
18	MALATHION-(MALDISON)(MERCAPTOTHION)
19	DINOCAP-(DPC)(2.4/6-DINITRO-6-OCTYLPHENYL-C
20	AZOCYCLOTIN

Index	Pesticide
1	MALATHION-(MALDISON)(MERCAPTOTHION)
2	CHLORPYRIFOS/CHLORPYRIFOS-E
3	FOSETYL-AL (AL-TRI-PHOSPHONATE)/FOSETYL
4	IMIDACLOPRID
5	METALDEHYDE
6	CARBOSULFAN
7	BUPROFEZIN
8	GLYPHOSATE (PHOSPHONO-METHYL-GLYCINE)
9	CHLORPYRIPHOS-M
10	IMAZALIL (ENILCONAZOLE)
11	ABAMECTIN (AVERMECTIN B)
12	MANCOZEB (VONDOZEB)
13	THIABENDAZOLE
14	DICOFOL
15	FLUROXYPYR
16	COPPER-HYDROXIDE
17	COPPER-OXYCHLORIDE
18	2.4-D-I3-ESTER
19	METALAXYL
20	OXYFLUORFEN

Extracts from FRAPP database, May 2008

Influence of FRAPP selection observed in quality assessment, compared with common control practice

- Scope of target analyses



More than two times more positive findings compared with former screening practice

- No cost increase





SGF/IRMA-Special Safety Campaigns

2006: Pineapple juice / - concentrate

2007: Orange juice / - concentrate

- ❑ FRAPP Target screening (Pineapple/all origins): 55 substances
- ❑ Samples: 56 pineapple juice/ -puree/ -concentrate from 12 countries:

Thailand, Philippines, Indonesia, Vietnam, Ecuador, Brazil, Costa Rica, Honduras, Guatemala, South Africa, Kenya, Ghana.

- ❑ FRAPP Target screening (Orange/all origins): 46 substances
- ❑ Samples: 39 orange juice / -concentrate samples from 13 countries:

Brazil, Paraguay, Belize, Costa Rica, Cuba, Florida, Mexico, Italy, Greece, Spain, Turkey, Egypt, Israel.

Extracts from campaign results

- Orange: Fenitrothion:
1 value appr. two times the EU-MRL of 10 ppb

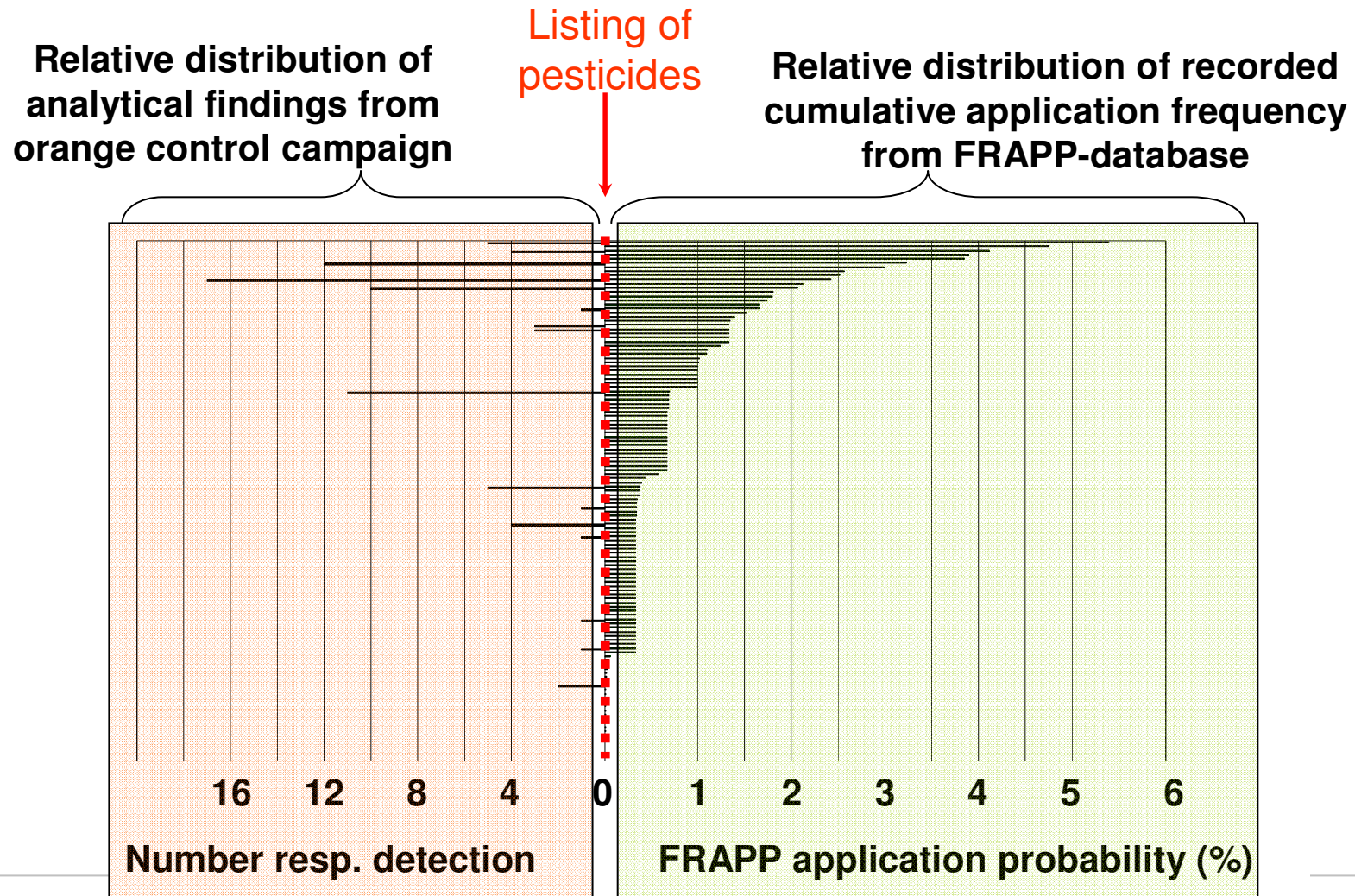
- Pineapple: Carbaryl:
(MRL: 0.05 mg/kg since 01.01.2007 in the EU)
2 values close to the MRL
1 value slightly higher than the MRL

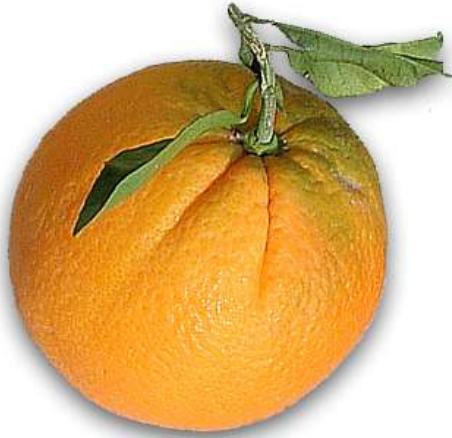
- Other pesticides:
MRL not exceeded (40 % of MRL maxi)

- Until 8 pesticides in one sample (orange)

- Orange Central America: lowest pesticides charge

Orange Control Campaign: Analytical reality compared with FRAPP-risk matrix





Corrective actions for non compliance with EU standards

Information

→ creation of awareness
about customer's expectation
and regulation in the country of destination

Assistance

→ personal contact
support for solution development

Avoiding blames

→ contra productive for further
correct documentation



Thanks for **your attention**

and for the support of FRAPP sponsors

SGF/IRMA (Intern. Raw Material Assurance)

Rudolf Wild GmbH & Co. KG, Germany

Friesland Foods Western Europe, The Netherlands

Mondi Foods N.V., Belgium

Klaus Böcker GmbH, Germany

Döhler GmbH, Germany

SQUALI S.A.S., France

SOFIA GmbH, Germany

Bayernwald Früchteverwertung GmbH, Germany



SGF International e.V., May 2008

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