





## A brief overview of managing risks by quarantine and emerging forestry pests in the EU

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### EU: an „open” plant health regime (based on directive 2000/29/EC)





**Open, because any product may enter the EU, which does not present a (pre-determined), unacceptable phytosanitary risk of introducing non-native (Q) pests**

Products grouped for phytosanitary RISKS		
unacceptable	manageable	acceptable
prohibited	inspected	Freely entered
Annex III	Annex IV- V	-
Emergency decisions		



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-	2000/29/EC Annex IV- V	2000/29/EC Annex III
Emergency dissions		



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## Risks: Introduction and spread of non-native pests and means of managing the risks



*Anoplophora chinensis (CLB)*



*Anoplophora glabripennis (ALB)*



Plants for planting    Wood packaging material

**Import:**  
**BIP inspection:**  
**EU internal trade:**  
**inspection + surveillance**



- Nursery, marketing centre + surroundings
- Border Inspection Post (BIP)
- public green

- Companies importing rustic products from China
- WPM producing, heat treatment companies + surroundings
- public green





## Emergency decisions are needed - when existing measures are not enough



If the high economic and/or environmental risk is presented by

a) a **pest listed** in the plant health directive 2000/29/EC **but no special measures** are laid down and the legal status has not been enough to manage the risk imposed by the pest. Inspectors and producers, traders, general public were not aware of the high risk (e.g. *Anoplophora*, *Bursaphelenchus*)

or

b) a **new, non-listed pest** affecting at least a considerable part of the EU in order to give **legal basis to take measures** against that pest to manage the risk (e.g. *Dyocosmus kuriphilus*)

By the emergency decision **all Member States** are obliged to **take official measures temporarily** against a pests.

It gives the pest an **official status**, similar to that of the ones listed (Quarantine pests) in the Directive but only **temporarily. Often reviewed.**  
(↔ **Q pest**: requires **permanent** measures)

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## Typical measures in EU emergency decisions

Measures to eradicate outbreaks in the EU  
Delimitation of demarcated area (IZ + BZ)

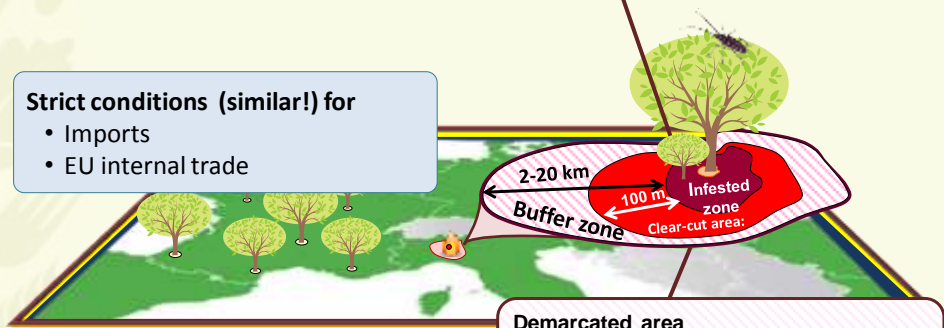
**Destruction:**

- Remove all infested plants +
- Precautionary clear-cut around infested plants

**Intensive monitoring**

**Strict conditions (similar!) for**

- Imports
- EU internal trade



**Demarcated area**

- Intensive monitoring of host plants
- Prohibition of trade & move out

End of demarcation:  
life cycle +1 year, but at least,  
after x years without observing the pest

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Similar, valuable documents produced by EPPO  
also used for producing EU emergency decisions  
available at:

<http://archives.eppo.int/EPPOStandards/regulatorysystems.htm>

**National regulatory control systems**

You can download here individual EPPO standards by clicking on the links (doc or pdf files). For the most recent standards, you will be redirected to the Blackwell's website (publishing the EPPO Bulletin) in a separate browser window.

Number	Title of Standard	French/Russian
PM 9/1(1)	<i>Bursaphelenchus xylophilus</i> and its vectors: procedures for official control	!
PM 9/2(2)	<i>Clavibacter michiganensis</i> ssp. <i>laportae</i>	-
PM 9/3(2)	<i>Sabatinia adonidum</i>	-
PM 9/4(1)	<i>Diabrotica undecimpunctata</i> : procedure for official control	!
PM 9/5(1)	<i>Synchliza erichsonii</i>	!
PM 9/6(1)	<i>Nematode</i> systems: procedures for official control	!
PM 9/7(1)	<i>Aspidiotus artemisiae</i>	!
PM 9/8(1)	<i>Chrysomelid</i> spp.	-
PM 9/9(1)	<i>Hemiteles ruficornis</i> , <i>H. ruficornis</i> and <i>H. perkinsi</i>	-
PM 9/10(1)	Genetic elements for <i>contingency plans</i>	!
PM 9/11(1)	<i>Bursaphelenchus xylophilus</i> : procedure for official control - Draft appendix to NMP 26 (draft, by invitation)	!
PM 9/12(1)	<i>Sitona</i> spp.	-
PM 9/13(1)	<i>Diabrotica undecimpunctata</i>	-
PM 9/14(1)	<i>Diabrotica undecimpunctata</i> : procedures for official control	!!
PM 9/15(1)	<i>Aspidiotus artemisiae</i> : procedures for official control - addendum - erratum	!
PM 9/16(1)	<i>Aspidiotus artemisiae</i> : procedures for official control - addendum	!
PM 9/17(1)	<i>Metataphus ulmi</i> and <i>Metataphus ulmi</i>	-

Also in Russian

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## EU emergency decisions for forestry pests



- ***Anoplophora chinensis***  
**(citrus longhorn beetle)**  
**(CLB) 2008; 2012**
- ***Bursaphelenchus xylophilus***  
**pine wood nematode (PWN)**  
**2001; 2006; 2012**
- ***Phytophthora ramorum***  
**sudden oak death (2002)**
- ***Gibberella circinata***  
**pitch pine canker (2007)**
- ***Dryocosmus kuriphilus***  
**(sweet chestnut gall wasp) 2006-2014**



- No emergency decision for *Anoplophora glabripennis* (ALB) until 2015!
- A series of outbreaks throughout Europe

## ALB outbreak Germany: Nordrhein Westfalen



2005 – 2009 - 2011



2011: clearcut all  
Acer 100 m



## ALB : DE/FR – Strasbourg / Baden-Württemberg 2009

### Infestation spot in France and Monitoring zones in Baden-Württemberg



#### Monitoring zones in the port area of Kehl (Baden-Württemberg)

- **monitoring zone 1**  
200 trees (host) were controlled by tree climbers
- **monitoring zone 2**
  - trees were examined with the binoculars from the ground
  - in suspicious cases tree climbers controlled additionally

#### ALB infestation place in the port area of Strasbourg (France/Elsass)



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Ministry of Economic Affairs, Agriculture  
and Innovation



## ALB: Italy – Lombardia 2007 - 2010

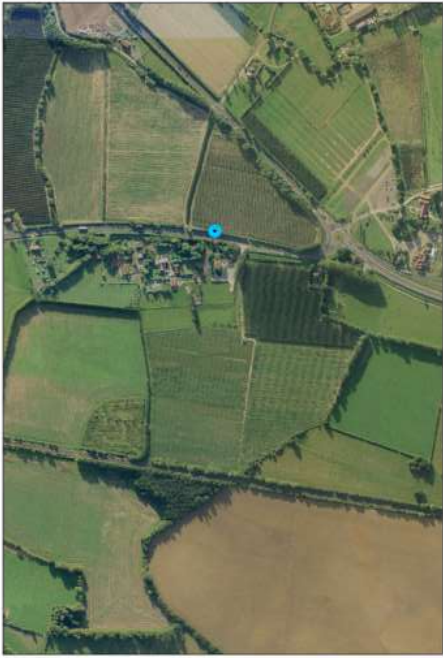


Clearcut: 100 m.

**2010 New detection**

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**UK - 2012**

First outbreak UK  
 > 60 trees affected (Acer, Salix, Betula)  
 100 m. clearcut  
 Source: stone company imports China

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**Austria - 2012**

Clearcut:  
500 m.


3 Trees with ALB symptoms

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## Means and signs for detection of ALB




Exit hole




Adult feeding damage



n é b i h  
Élelmiszerlánc-és orvosi biológiai igazgatóság




Egg-laying scars




Frass – difficult to see


Survey by climbing trees




With binocular from ground




dogs  
AT (since 2009);  
DE, CH

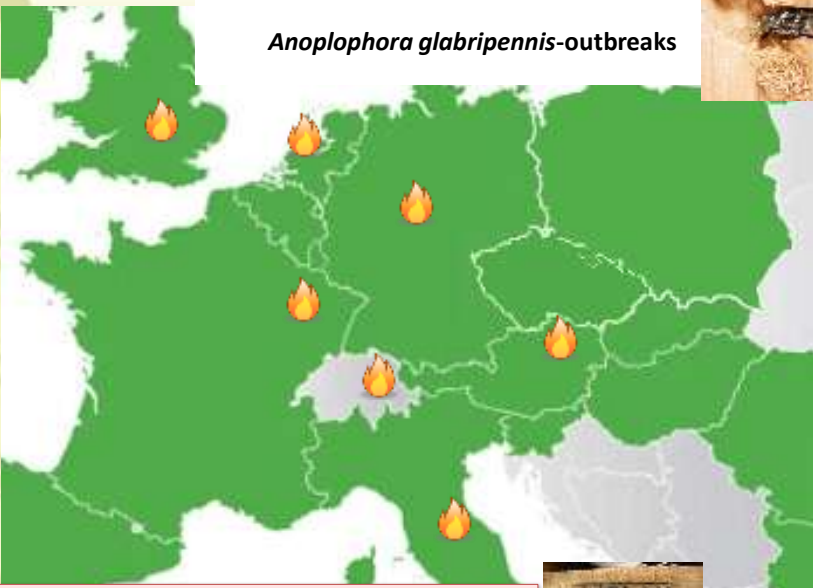





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## Anoplophora glabripennis-outbreaks






All the outbreaks/ interceptions related to WPM of stone (granite) consignments from China (majority with ISPM-15 mark!)



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**Anoplophora glabripennis**

Risk is higher than for CLB

Host-range: broader

Acer, Aesculus, Betula, Populus, Salix, Ulmus  
..... Sorbus, Fagus, Fraxinus, etc.

WPM: for non-plant consignments not subject to inspection



**EU interceptions in imports with pests - WPM**



Out of >2 thousand interceptions/year of WPM, about 200-230 are for pests

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Sum:
INDIA	2		5	21	50	40	50	67	136	106	477
CHINA	13	19	17	11	17	24	15	18	22	76	232
INDONESIA			3	1	9		6	2	7	3	31
USA	3	9	6	2	2		2	3	1	1	29
											767

NL interceptions WPM China Febr.-april

2012:

41x live insects

Measure: 6747 crates treatment HT



## Emergency decision (2013/92 /EU) on wood packaging material (WPM) of risky products (stones) from China



- 2-year monitoring by inspecting WPM of specified commodities (5 CN codes, at certain intensity (%))
- **before** customs clearance!

**Objective:** assess the phytosanitary import risks of WPM from China for reviewing measures

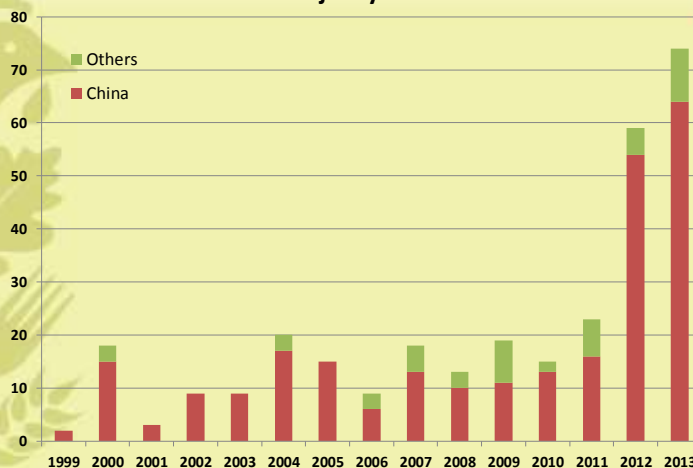
Incompliance		Conclusion
Live pest(s)	ISPM 15 mark	The nature of the problem
! (present)	missing	Plant health <b>system</b> is not operating appropriately
∅ (not present)	missing	Plant health system is not operating appropriately
! (present)	exists	<b>Treatment</b> is not appropriate !

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## European interceptions of Cerambycidae on WPM Vast majority from China



And even increased further

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**WPM with live pest(s) from China, intercepted by EU in 2013**

CHINA	DUNNAGE	→	ANOPLOPHORA SP.	1
	OTHERS	●	BURSAPHELENCHUS XYLOPHILUS	1
			MONOCHAMUS ALTERNATUS	1
	PACKING MATERIALS		INSECTA	1
			ORTHOPTERA	1
	WOODEN CRATE	→	ANOPLOPHORA GLABRIPENNIS	3
		→	APRIONA GERMARI	3
		→	BATOCERA LINEOLATA	1
		→	BOSTRICHIDAE	1
		→	CERAMBYCIDAE	6
		→	CUCULIIDAE	1
		→	INSECTA	8
	WOOD PACKING MATERIAL	→	ANOPLOPHORA GLABRIPENNIS	1
		→	ANOPLOPHORA SP.	1
		→	APRIONA GERMARI	3
		→	BATOCERA SP.	1
		→	BOSTRICHIDAE	2
		●	BURSAPHELENCHUS SP.	1
		→	CERAMBYCIDAE	7
		→	COLEOPTERA	2
→		CURCULIONIDAE	1	
→		INSECTA	1	
	LYCTUS	1		

**WPM with pest – 2013 Cerambycidae + Scolytidae, Bostrichidae, Buprestidae, Curculionidae (incl. Scolytinae)**

CHINA	WOOD PACKING MATERIAL		MONOCHAMUS ALTERNATUS	1
			PURPURICENUS TEMMINCKII	1
			SIRICIDAE	1
			TRICHODORIDAE	1
	WOOD PALLET		ANOBIIDAE	2
		→	ANOPLOPHORA GLABRIPENNIS	7
		→	APRIONA GERMARI	1
		→	BATOCERA LINEOLATA	1
		→	BUPRESTIDAE	2
		→	CERAMBYCIDAE	14
			CHLOROPHORUS SP.	1
			CURCULIONIDAE	1
			INSECTA	18
			LEPIDOPTERA	2
			LYCTUS	4
		→	PHORACANTHA SEMIPUNCTATA	1
			SAPERDA SP.	1
			SCOLYTIDAE	4
		SINOXYLON SP.	1	
		SIRICIDAE	1	
	TRICHODORIDAE	1		
	XYLEBORUS SP.	2		
<b>CHINA</b>		<b>Sum*</b>	<b>116</b>	

**Cerambycidae: 59**

**A. glabripennis (18), Anoplophora sp (2), Apriona (7), Batocera (3), other (29)**



**WPM with live pest(s) from China, intercepted by EU in 2014**

CHINA	DUNNAGE	→	CERAMBYCIDAE	3
	OTHERS		TINTHIA CYMBALISTIS	1
	PACKING MATERIALS	→	APRIONA GERMARII	3
		→	CERAMBYCIDAE	4
			ENDOCLITA SP.	1
	WOODEN CRATE	→	ANOPLOPHORA GLABRIPENNIS	1
		→	APRIONA GERMARII	1
			BOSTRICHIDAE	1
		●	BURSAPHELENCHUS MUCRONATUS	1
		→	CERAMBYCIDAE	4
			INSECTA	5
	WOOD PACKING MATERIAL	→	XYLOTRECHUS SP.	1
		→	ANOPLOPHORA GLABRIPENNIS	2
→		APRIONA GERMARII	13	



**2014: Cerambycidae + Bostrichidae, Buprestidae, Curculionidae (incl. Scolytinae)**

CHINA	WOOD PACKING MATERIAL	→	BATOCERA LINEOLATA	2
			BOSTRICHIDAE	5
		●	BURSAPHELENCHUS XYLOPHILUS	9
		→	CERAMBYCIDAE	14
		→	CURCULIONIDAE	1
		→	HESPEROPHANES SP.	2
			HETEROBOSTRYCHUS AEQUALIS	1
			INSECTA	7
			LEPIDOPTERA	1
			LYCTUS	2
			MONOCHAMUS ALTERNATUS	1
			SCOLYTIDAE	3
			SINOXYLON SP.	2
		WOOD PALLET	→	ANOPLOPHORA GLABRIPENNIS
	→		APRIONA GERMARII	1
	→		AROMIA SP.	1
	→		BOSTRICHIDAE	2
	→		CERAMBYCIDAE	19
			HETEROBOSTRYCHUS AEQUALIS	3
			INSECTA	6
		LYCTUS	8	
	PLATYPODIDAE	2		
	SCOLYTIDAE	4		
	SINOXYLON SP.	2		
CHINA			<b>Sum*:</b>	<b>141</b>

**Cerambycidae: 72**

***A. glabripennis* (5), *Apriona* (18), *Aromia* (1), other (48)**

***Bursaphelenchus xylophilus* (9)!**





## WPM with live pests from Vietnam, intercepted by EU from 2011 to 2014



2011

VIETNAM	WOOD PACKING MATERIAL	SINOXYLON SP	1
VIETNAM		Sum	1

2012

VIETNAM	WOOD PACKING MATERIAL	SINOXYLON ANALE	1
VIETNAM	WOOD PALLET	BOSTRICHIDAE	2
VIETNAM		SINOXYLON SP	3
VIETNAM		Sum	6

2013

VIETNAM	DUNNAGE	ORTHOPTERA	1
VIETNAM	PACKING MATERIALS	SINOXYLON SP	1
VIETNAM	WOODEN CRATE	CERAMBYCIDAE	1
VIETNAM	WOOD PACKING MATERIAL	BOSTRICHIDAE	1
VIETNAM	WOOD PALLET	HETEROBOSTRYCHUS AEQUALIS	1
VIETNAM		INSECTA	2
VIETNAM		Sum*	7

2014

VIETNAM	WOODEN CRATE	BOSTRICHIDAE	1
VIETNAM		INSECTA	1
VIETNAM		XYLEBORUS SP	1
VIETNAM	WOOD PACKING MATERIAL	BURSAPHLENCHUS XYLOPHILUS	1
VIETNAM		INSECTA	1
VIETNAM	WOOD PALLET	INSECTA	4
VIETNAM		SINOXYLON SP	9
VIETNAM		Sum*	20

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EPPO Reporting Service

NO. 4 Paris, 2015-04

EPPO Reporting Service

• Wood

## EPPO on interceptions for detecting pests

[http://www.eppo.int/PUBLICATIONS/reporting/reporting\\_service.htm](http://www.eppo.int/PUBLICATIONS/reporting/reporting_service.htm)

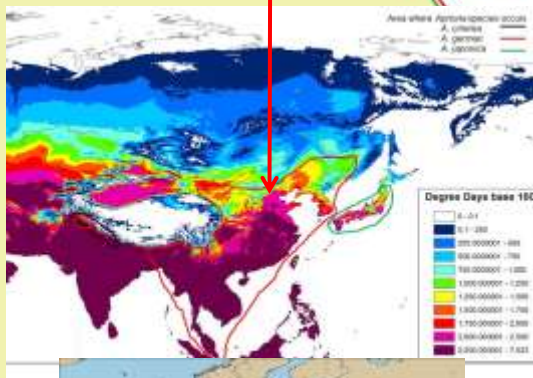
Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Anoplophora chinensis</i>	Unspecified	Wood packing material	China	Netherlands	1
<i>Anoplophora glabripennis</i>	Unspecified	Wood packing material (pallet)	China	Austria	3
	Unspecified	Wood packing material	China	Estonia	1
	Unspecified	Wood packing material	China	Finland	1
	Unspecified	Wood packing material (pallet)	China	Switzerland	1
<i>Apriona germari</i>	Unspecified	Wood packing material (pallet)	China	Belgium	1
	Unspecified	Wood packing material	China	Netherlands	4



- Finally, the emergency decision on ALB has been released!
- Similar measures for host imports and transport, as well as outbreaks of **other cerambycid pests, not yet listed**

***Apriona germari*** - most likely to establish due to climate matches

*A. Japonica*, *A. cinerea*



- Pathways for entry:
- WPM-regularly
  - wood
  - wood scrap – future
  - Plant for planting

Hungary is at northern limit of potential spread –less damage





[www.uniprot.org](http://www.uniprot.org)



### Big damage

- Larval galleries in the wood, twigs die, sometimes tree dies
- Loss in yield and wood quality
- Polyphagous: 70 species, mainly trees in 21 families: *Populus spp.*, *Morus spp.*, *Ficus carica*, *Malus spp.*, *Pyrus spp.*, *Salix spp.* – still more?




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### Pathways, other than WPM, for new threats

- Plants for planting
- Wood and bark, waste, scrap
- Cut branches
- Natural spread
- „Hitch hiking”
- Furniture,
- Other object from unprocessed wood



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## *Agrilus planipennis*



- **Hosts:** *Fraxinus* spp. *Ulmus*, *Juglans*, *Pterocarya rhoifolia* (in Japan)
- **Native:** Far-East (China, Japan, Korea, Russia - Far-Eastern part)
- **Introduced to:** USA, Canada – 10 million ash trees died, spread 20 km/year
- **Russia (Moscow)** 10 km/year – non-regulated!

**Establishment:** no barrier - hosts, climate

## *Agrilus anxius*



Col. Buprestidae  
Wood boring insects

- **Host:** *Betula* spp.
- **Native:** North-America (Canada, USA)
- **Introduced to:** ? Not reported



## *Agrilus anxius*



rustic furniture – potential harbour

<https://www.pinterest.com/explore/tree-bed/>

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## Agrilus anxius

Kártétel: Lárvák akadályozzák a háncsszövetben a szállítást.

Video: <http://www.youtube.com/watch?v=wXCynbv4Lc>



Fapusztulás: elhalt levelek a fán maradnak

Törzsdudorok



Lárva-járatok



D-alakú röpnílások



Parazitoid röpnílások

*Agrilus anxius* É-Amerikában súlyos kártevője a nyírfáknak, a fa néhány éven belül elpusztulhat. Sok aprítékfa import Lárva-járatok kéregben, kambiumban

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## Xylella fastidiosa

Vector of the bacterium *Philaenus spumarius* – widespread in Europe

2013: South Italy (Puglia region)  
2014: 23 000 ha!



*Xylella* restrict water and nutrient movement in the xylem, causing leaf edge scorch, leaf withering, branch desiccation, collaps in severe cases: death

A pest complex found on symptomatic trees: *X. fastidiosa* + fungi (*Phaeoacremonium* and *Phaemoniella* spp.) + *Zeuzera pyrina*



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## Cheap furniture Import from China – is it really a good bargain?

Furniture made from soft wood (*Pinus*)

UK experience: one fourth of examined chairs with galleries and/or fungal staining






**Chinese chair**

Outside:  
no  
problem




Inside  
PWN +  
Monochamus  
vector





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## Cerambycids in the sofa

- Sofas from China and Malaysia surveyed
- 2/3 of the with signs of insect damage
- > 1/3 with remained bark



WPM in EU Internal movement



**FURTHER SPREAD PWN PORTUGAL 2006:**

- millions of trees destroyed
- millions of of EU contribution paid



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## EU interceptions pinewood nematode WPM

Most by: SE & FI

2012	4 ( <b>3 PT</b> ; 1 CAN)
2010	4 (3 USA; 1 PT)
2009	6 ( <b>4 PT</b> ; 2 USA)
2008	26 ( <b>19 PT</b> ; 7 CN)
2007	2 (1 USA; 1 ?)
2000 – 2005	> 50 (most USA)



## Introduction of ISPM 15 treatment and its marking within the EU

Needed to prevent further spread of pine wood nematode

IPPC conference is planned to support the global use of the ISPM 15 standard on WPM – end of 2015, early 2016!



Thank you for your attention

