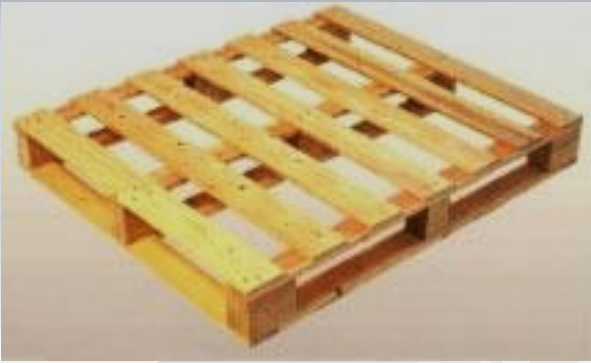# Current Efforts in Updating a Measure of Effectiveness of ISPM 15

Robert A. Haack   FS (emeritus)
Jesse A. Hardin   APHIS
Barney P. Caton   APHIS
Toby R. Petrice   FS

What is Wood Packaging Material (WPM)?

Pallets

Dunnage

Spools

Crating

What Insects Commonly Occur in WPM?
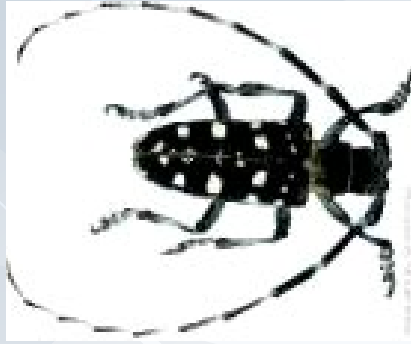
Photo: Udo Schmidt

Buprestids (Metallic Wood Borers)	**Cerambycids** (Longhorned Beetles)	**Scolytinae** (Bark and Ambrosia Beetles)	**Siricids** (Woodwasps)
>15,000 W >700 NA	>35,000 W >1200 NA	>6,000 W >600 NA	100 W 20 NA

> 56,000 Worldwide species
> 2,500 North American species
Over 100 exotic borers in NA

Why are Borers Commonly Found in WPM?

- **WPM often made from recently cut trees.**

- **Often infest dying and recently cut trees.**

- **Most borers have long generation times (1-3 years),**

Life cycles of most Scolytines are months to a year.

UGA0284067

Container Ships Cross Oceans in 1-2 Weeks
So borers can easily survive

14,000 TEU
Largest in 2006

24,000 TEU – Today

TEU = Twenty-foot Equivalent Units

What is ISPM 15?
(ISPM = International Standards for Phytosanitary Measures)

**NL - 01
HT DB**

Codes:
Country
Producer
Treatment

ISPM No. 15:
"Guidelines for Regulating Wood
Packaging Material
in International Trade"
(1st Approved in 2002)

Note: 183 signatories to IPPC
Now 44 adopted ISPMs

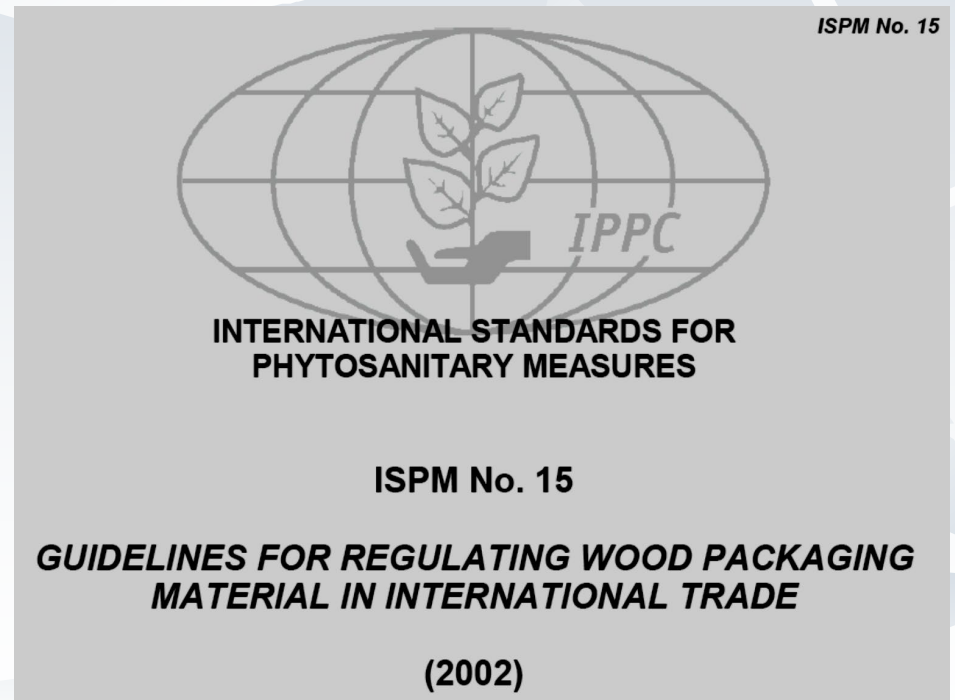# ISPM 15: Background Information

First approved in 2002

NZ – 1st implemented in 2003

North America - 2005-2006 (10-month phase in)

Goal of ISPM 15
Reduce the Risk of Introducing Pests Associated with WPM

Has ISPM 15 Made a Difference?

National Center for Ecological Analysis and Synthesis (NCEAS at UC Santa Barbara)

**Kerry Britton, Eckehard Brockerhoff
Joseph Cavey, Lynn Garrett
Robert Haack, Frank Lowenstein
Amelia Nuding, Lars Olson & James Turner**
(APHIS, FS, NCEAS, TNC, U MD, NZ)

In person meetings: 2008 - 2010
(Workshop supported by TNC)

The AQIM Database
(Agriculture Quarantine Inspection Monitoring)

- AQIM is maintained by USDA APHIS

- Shipments selected randomly for inspection at cooperating US ports (records both + & - data)

- WPM started to be inspected in 2003 (> 40 ports)

- NCEAS analyzed AQIM 2003-2009 data ca. 35,000 records with WPM

- Now: analyze through 2020 (over 100,000 records)

NCEAS Findings

Haack et al. 2014. Effectiveness of the International Phytosanitary Standard ISPM No. 15 on Reducing Wood Borer Infestation Rates in Wood Packaging Material Entering the United States. *PLoS ONE 9(5): e96611*

- Overall, 50 consignments with borers out of 35,000

- Infestation rates fell by 36-52% (depending on start date and countries included)

- Pre = 0.17-0.25% vs Post: 0.11-0.12%

- Compared to NZ data from 1989-91 (Bulman 1992) 4.3% to 0.1% = a 98% drop

Major Changes to ISPM 15

2009 – Debarking required

Maximum size limit for any residual bark
(Based on research in Canada, Germany, UK & USA)

Reuse, repaired and remanufacture WPM defined

2013 – Dielectric heating approved (DH)

2018 - Sulphuryl fluoride approved (SF)

IFQRG ⟶ TP ⟶ SC ⟶ CPM

Future AQIM Analyses

2003-05	2006-09	2010-20
PRE	POST-1	POST-2
0.2%	0.1%	? %

What is the trend for 2010-20?

Downward? Steady? Upward?
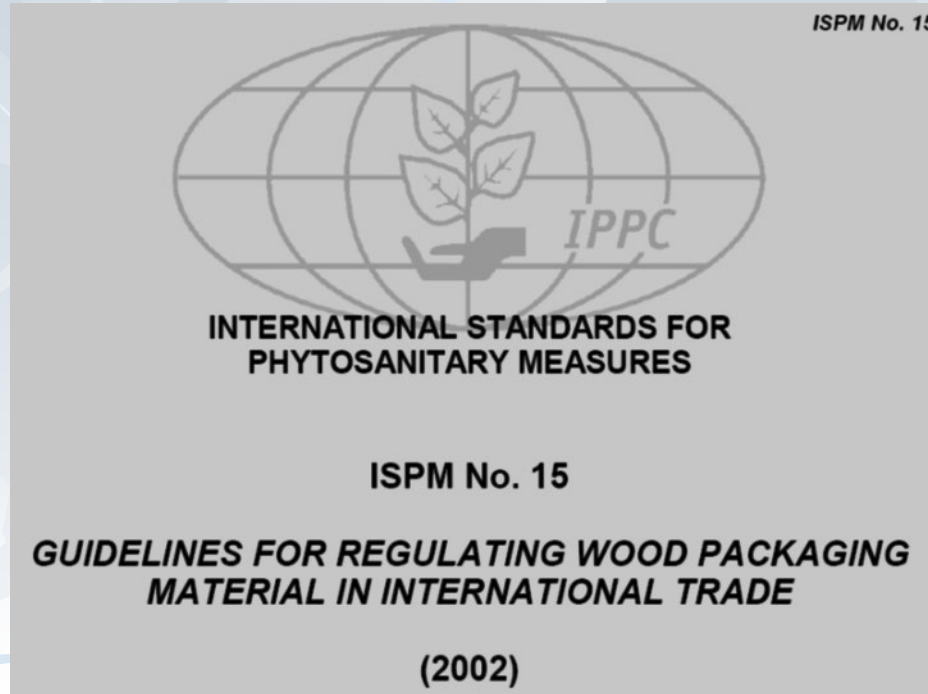
Look at all countries & selected groups e.g., Italy

0.36%   0.07%   ? %

Why we _might not_ see a larger drop

- **Pest tolerance of the treatment**

- **Unintentional noncompliance**

- **Fraud**

- **Post-treatment colonization of WPM**

- **Policy anticipatory effect**

- **Data issues in AQIM (done on a consignment basis)**

Thanks!   Questions?

ISPM No. 15

INTERNATIONAL STANDARDS FOR
PHYTOSANITARY MEASURES

IPPC

ISPM No. 15

GUIDELINES FOR REGULATING WOOD PACKAGING
MATERIAL IN INTERNATIONAL TRADE

(2002)

NL - 01
HT DB

ES-50-0008
HT DB
WWW.EUROPALET.COM

Post presentation addendum:

During the Q&A session on 12/8/2021, a participant asked whether or not the AQIM data contained information on what type of solid wood packaging material was inspected. Bob stated he was not sure if that information was captured and would check.

After the presentation concluded, it was confirmed that yes- the AQIM database contains a field that indicates the type of wood packaging inspected such as dunnage, pallet, and crating.