International Forest Quarantine Research Group (IFQRG)

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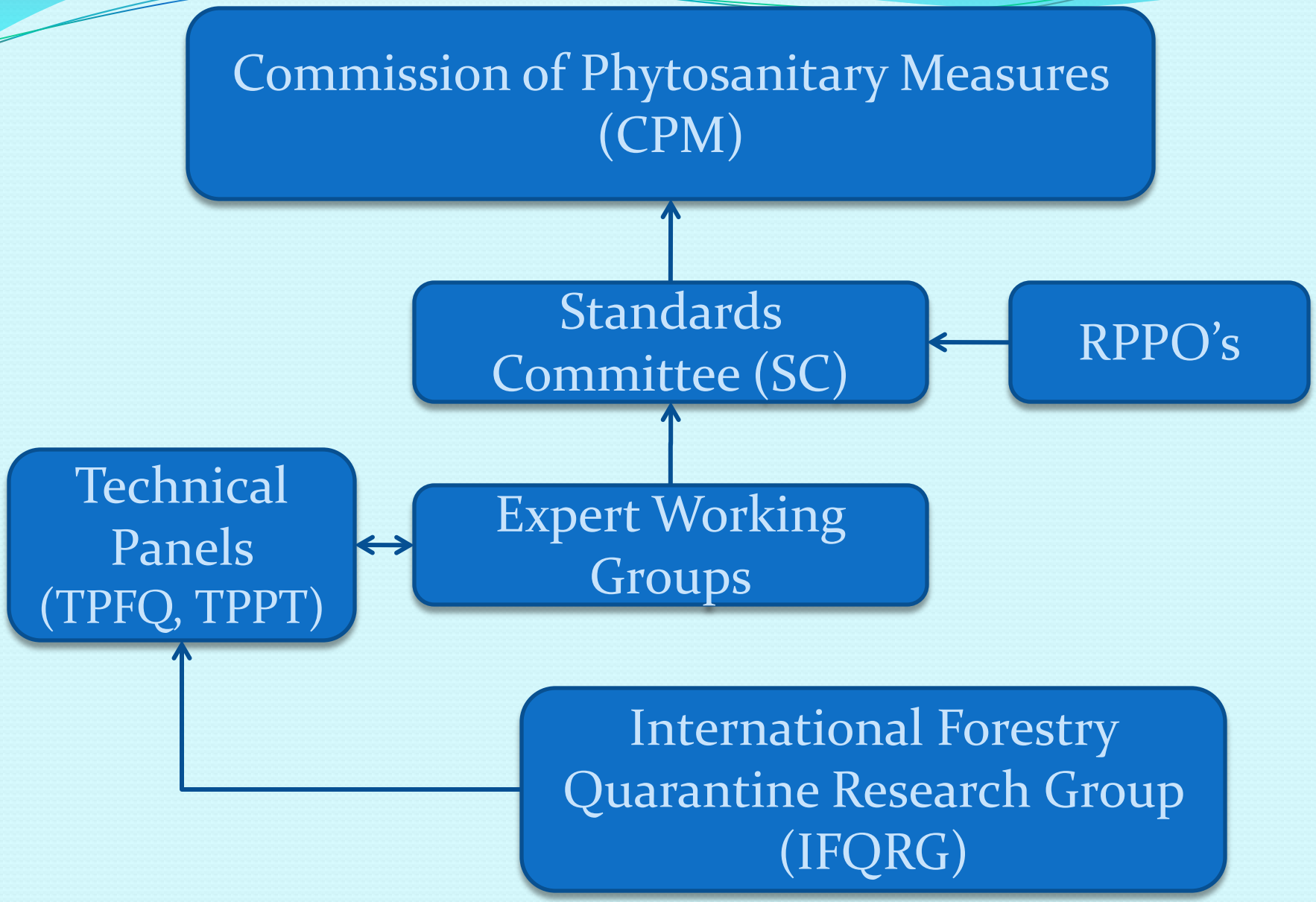
IFQRG-9 2011

IFQRG Charter

- Advisory body to the IPPC providing scientific analysis and review of global phytosanitary issues and new information.
- Forum for the discussion and clarification of key issues related to the phytosanitary implications of global trade.
- Identify and undertake collaborative scientific research aimed at high priority forestry quarantine questions.


Commission of Phytosanitary Measures (CPM)
Standards Committee (SC)
RPPO's
Technical Panels (TPFQ, TPPT)
Expert Working Groups
International Forestry Quarantine Research Group (IFQRG)

IFQRG – 9 Agenda

- General Business
  - Introduction, updates, Action Items from IFQRG – 8.
- Agency Reports
  - IPPC to include CPM, TPFQ, TPPT.
- Current Phytosanitary Issues
  - NAPPO, EPPO, COSAVE, APPPC, other RPPO's.
- Standards Development
  - Management of phytosanitary risks for the international movement of wood.
  - Guide to implementation of phytosanitary standards in forestry.
  - Wood packaging
    - Treatment criteria.
    - Methyl bromide manual.
    - Fumigant penetration in wood.
    - Appropriateness of probit-9.
    - Pests to be included in ISPM-15 annex.
    - Microwave and radiofrequency manual.
- Research Reports
  - Phytosanitary policy and regulations.
  - Pest detection techniques.
  - Pest epidemiology.
  - Wood treatments.
- Standards Committee request to IFQRG
  - Experimental protocols for treatment testing.
  - Pests to be included in treatment testing.
  - Determination of efficacy data for HT and MB.
  - Statistical confidence levels acceptable for ISPM-15 treatments.

ISPM Development

A 4-stage process

- IPPC Secretariat contacts NPPO's to select topics for standards. Priority topics reviewed by SC.
- SC selects technical experts identified by NPPO's to develop draft ISPM's.
- Draft ISPM's approved by SC and submitted for country consultation.
- Standards are adopted by CPM and published on the International Phytosanitary Portal (IPP) by the Secretariat.

ISPM – 15
Treatment Development

- Heat treatment 56°C / 30 minutes throughout profile of wood.
- Fumigation by methyl bromide according to approved schedule.
- De-barked wood.

ISPM – 15

- Flexible, amendable template for universal wood treatments.
- Past revisions to MB schedule … final concentrations, schedule length. Bark tolerance language added in 2009.
- Draft appendix recently in country consultation (2010).

Draft Appendix to ISPM 15: 2009

Submission of new treatments for inclusion in ISPM - 15

Determination of:

- Response of quarantine pest species to proposed treatment.
- The most treatment resistant species and life stage within each pest group, and selection of appropriate testing conditions.
- Whether a substitute test species may be used.
- Efficacy against the target test species.
- Equivalency of efficacy during experimental testing with same under operational conditions.
- Assessment of treatment success .
- Submission of treatment for approval.

Standardization Testing Protocol

1) Use a Reference Screening Pest
    1) *Sitophilus, Oryzaephilus, Trogoderma, Tribolium*, **or** other arthropod taxa
    2) *Bursaphelenchus xylophilus* (Pinewood nematode)
    3) *Heterobasidion* spp.
    4) Any species from each of the Scolytinae, Bostrychidae, Buprestidae, and Cerambycidae

2) Validate Lethal dose on most tolerant pest(s)
    1) Expose 60-100 test units to the lethal level
    2) Bracket testing one dose above and one below lethal level
    3) Use infested wood or pest alone

3) Simulate Operational Conditions
    1) Expose 60-100 test units to the lethal level in infested wood
    2) If there is survival at lethal level, test 1 or 2 doses above.
    3) Level with 100% mortality will become lethal dose

Probit 9 versus some other measure

Example: $N = \log(0.05 / \log(p^r)$

New Treatment Submission

- ISPM – 28 concerns new treatment submission and adoption.
- 72 treatments submitted since call for treatments in 2005, 2007.
- Lack of developed criteria has hampered treatment evaluation.
- Most treatments closed or withdrawn. Many sent back to NPPO's for more information.
- Most treatments recommended to SC have been irradiation treatments.
- 7 original submissions for wood and ISPM-15.

Wood Treatment Submission

- **Phosphine** – withdrawn – deemed more suitable for wood products than SWPM.
- **MITC plus SF** (Ecotwin) – more information needed on chemical interaction and ALB susceptibility (Japan).
- **Hydrogen cyanide** – more information needed on appropriate target species.
- **Methyl iodide** – only ALB information needed; opportunity for us to help (Japan).
- **Microwave** – recommended to SC (2010) for member consultation; approved by SC as a Draft Annex to ISPM 28:2007 for 2011 member consultation; country comments currently under review (2011).
- **Sulfuryl fluoride** – awaiting demonstration of Probit 9 efficacy for PWN across broad temperature range. SC did not approve for member consultation in 2011. Greenhouse gas concerns.
- All of these wood treatments are on a fast track.

Microwave

- 60°C for 1 minute throughout wood profile.
- Wood must be de-barked.
- Wood less than 20 cm.
- Submitter currently responding to country comments surrounding industrial proficiency on scale-up, prospect of treating frozen wood.

Sulfuryl fluoride

- Split temperature schedule forwarded by TPPT to SC (2010).
- 15 –17.9°C and then > 30°C.
- Will limit usefulness in industrial practice.
- Experiments to fill in temperature gap (18–30°C) scheduled for completion in 2011.
- SC did not approve for member consultation in 2011. Treatment and references to it were removed from Annex of ISPM – 15: 2009.
- Need to address greenhouse gas concerns.

ISPM–15 challenges

- Acceptance thresholds higher for potential new treatments.
- Research costs for new treatment development.
- Compliance.

Candidate for new submission

Radiofrequency (RF)
as a dielectric heat treatment for wood

IFQRG Challenges

- Diverse membership
- Expanded participation