

Requirements for the use of modified atmosphere treatments as a phytosanitary measure (2014-006)

IPPC Second consultation

1 July to 30 September 2019

**IPPC Secretariat
2019 IPPC Regional Workshop**

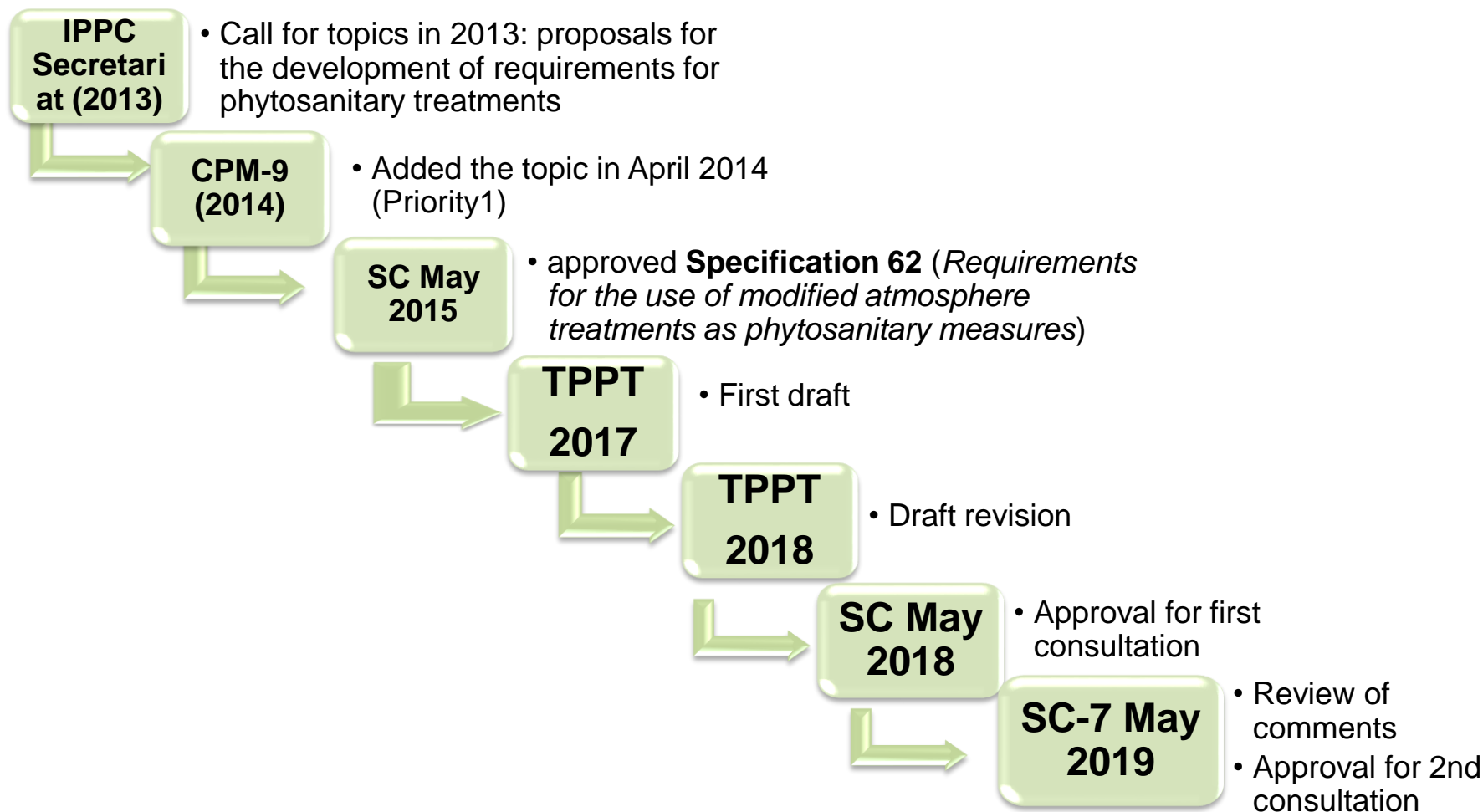


**Food and Agriculture Organization
of the United Nations**



**International Plant
Protection Convention**

Background



General Considerations

Reason for the ISPM:

Modified atmosphere treatment is used for other purposes than as phytosanitary measure

Modified atmosphere treatment could be a good alternative phytosanitary treatment

Then technical guidance including specific guidance on the application and verification is essential for the proper application of the treatment.

Modified Atmosphere Treatments

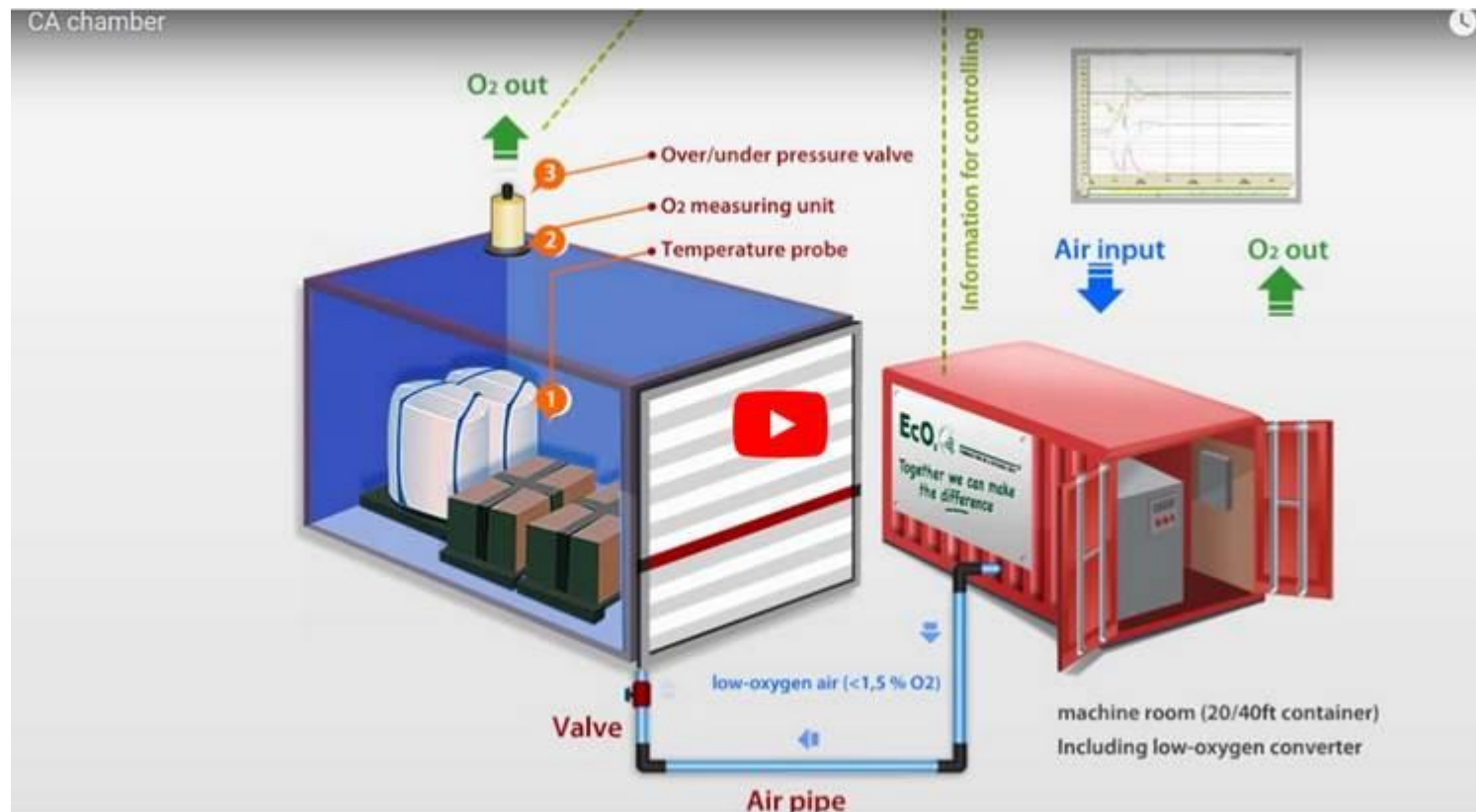
- Altering ambient atmospheric gas concentrations:
 - Increase in the carbon dioxide content
 - Reduction in the oxygen content,
 - Or both
- To create an atmosphere lethal to target pests, without the introduction of a toxic agent (fumigation).
- Lethal atmosphere should be maintained for the duration specified, e.g. by application in gas tight enclosure/packaging or by controlled addition of more gases during treatment.
- Treatment parameters are: gas concentration, temperature and humidity

Methods for modifying atmospheres

Gas concentrations may be modified by:

- **changing the proportion of O_2 and CO_2** by adding a gas (such as CO_2 or nitrogen) and maintaining this atmosphere
- **converting O_2 to CO_2** by combustion of a hydrocarbon
- hermetic or semi-hermetic storage in which the **respiration** of the commodity and organisms infesting it deplete the level of O_2 and increase the level of CO_2
- **partial vacuum**, which lowers concentrations of all atmospheric gases proportionally

Treatment unit for Modified atmosphere: (air in the enclosure is replaced by low-oxygen air)



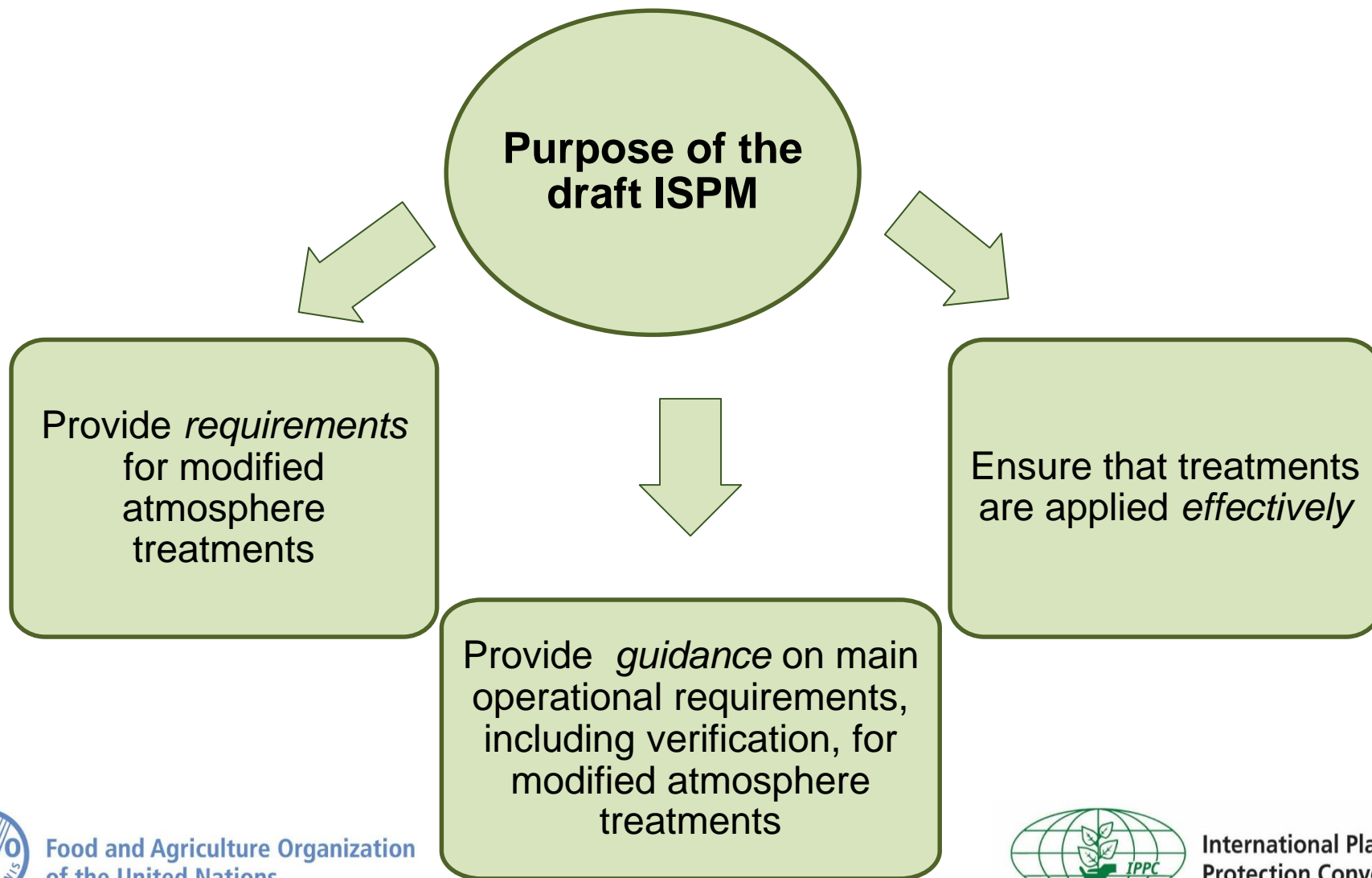
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Inside of a Modified atmosphere treatment enclosure:



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General Considerations



Major drafting issues

1. To explain in an understandable way what a modified atmosphere treatment is and how it may be applied.
2. Modified atmosphere treatment is undertaken by treatment providers or the NPPO in a treatment facility.
3. Treatment providers should be authorized by the NPPO in the country in which the treatment is conducted or initiated. This authorization normally includes approval of both treatment facilities and treatment providers.

Major drafting issues

4. Consistency issues with other draft ISPMs on treatment requirements: This is the third (out of 5) treatment requirement standards to go to consultation.
5. Relevant consultation comments from ISPM 42 (*Requirements for the use of temperature treatments as phytosanitary measures*)” and ISPM 43 (*Requirements for the use of fumigation as a phytosanitary measure*)” have already been incorporated.

Implementation issues

- **Development of treatment schedules.** There are currently no approved modified atmosphere treatments, among the annexes to ISPM 28
- CPs are invited to submit proposals for modified atmosphere treatments in the ongoing call for phytosanitary treatments.

→ Call for Phytosanitary treatments:

<https://www.ippc.int/en/core-activities/standards-setting/calls-treatments/>.



INTERNATIONAL YEAR OF
PLANT HEALTH

2020

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