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## **PROGRESS IN RESEARCH ON FUMIGANTS AND CONTROLLED ATMOSPHERES – WHAT DO WE NEED TO KNOW?**

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### **ABSTRACT**

Over the last years, prospects of fumigation have improved:

- The pressure on methyl bromide as an ozone depleter has initiated intensive steps to replace this gas.
- Replacement initiatives clearly revealed that modern pest control in various areas of application can not be performed without new fumigants or modified technique with old ones.
- Safety precautions in many countries have successfully been intensified.
- Improved sealing led to reduction in amounts of released gas without losing effectiveness.

Pressure testing is now routine in some countries to ensure gas tightness prior to fumigation; the use of tracer gas with air is discussed as another mean to investigate the gas tightness before the treatment starts.

The combination of efficacy data, temperature, gas tightness and weather enables a prediction of dosage and exposure period which together with automated gas release from cylinders or generators allow precision and regulated fumigation.

The use of carbon dioxide under pressure has been further developed with recapturing of the gas several times and the treatment was shown to be effective even with compressed and finely powdered goods.

Humidified nitrogen is now the standard gas for insect control in artefacts of organic origin.

The scope of the indicated changes is discussed.