

FIRST COMMERCIAL SULFURYL FLUORIDE COCOA BEAN FUMIGATION IN THE EUROPEAN UNION

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Cocoa (*Theobroma cacao* L.) is an internationally traded commodity with estimated annual production of over 3 million tons and a global market value of over \$5 billion (World Cocoa Foundation, 2010). In the European Union (EU) cocoa beans are mostly stored in warehouses in bulk piles or in jute bags at major ports including Amsterdam, Antwerp and Hamburg. The sea harbour area of Amsterdam is one of the largest cocoa processing areas in the world. Storage can be short or long term depending on the timing between supply and demand and the economies of scale (Jonfia-Essien, 2004). Correct storage conditions and appropriate treatments are required to avoid the development of mould and infestation of insects and other pests.

In the Netherlands the need for new treatments for pest control in stored cocoa beans to avoid quality loss was recognised by the Cocoa Committee of the Amsterdam Regional Business Association (ORAM). ORAM, in collaboration with the Netherlands Organisation for Applied Scientific Research (TNO), identified new potential pest treatments. Feasibility evaluations were initiated in association with government authorities and industry partners.

One new treatment considered was the fumigation with sulfuryl fluoride (SF). Commercial use of ProFume[®] gas fumigant (99.8% SF, Dow AgroSciences, Indianapolis, IN USA) on stored cocoa beans in the USA was first described by Bookout and Milyo (2006). These authors confirmed the effectiveness of the fumigant, no adverse sensory effects and good customer acceptance. Following assessment of available information on SF, and three trial fumigations on stored cocoa beans in 2008 and 2009 in Germany and the Netherlands, ORAM concluded that SF would provide a valuable treatment option. A registration submission of SF was subsequently made in the Netherlands to include cocoa beans on the label. Following evaluation, the approval was granted in July 2010 and the first commercial fumigation completed. Further registration submissions are planned for other EU countries where cocoa beans are an important commodity.

References Cited

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