



Peter Woolley
Alpha Fumigation Services Ltd

Fumigation - a small but critical part of the supply chain for the export of pulses

The vast majority of Fava Beans exported from the UK are fumigated either prior to departure or in transit. This is carried out to ensure that no live Bruchid beetle eggs or larvae are present within the Bean and for Phytosanitary requirements.

As the range of insecticidal sprays or gases available to the trade, which are approved for this purpose, is very limited the fumigant of choice is Aluminium or Magnesium Phosphide which both generate phosphine gas through absorption of atmospheric moisture. This is the gas which in smaller amounts can be used for mole and rodent control in their burrows.

In addition to being highly toxic, it is very penetrating gas, slightly denser than air, which allows it to penetrate through bulk piles, some wood and many types of packaging, such as those used for the export of bagged beans.

It is the sustained concentration of gas over time that allows it to kill the insect larvae and eggs which are the most difficult life cycle stages to kill.

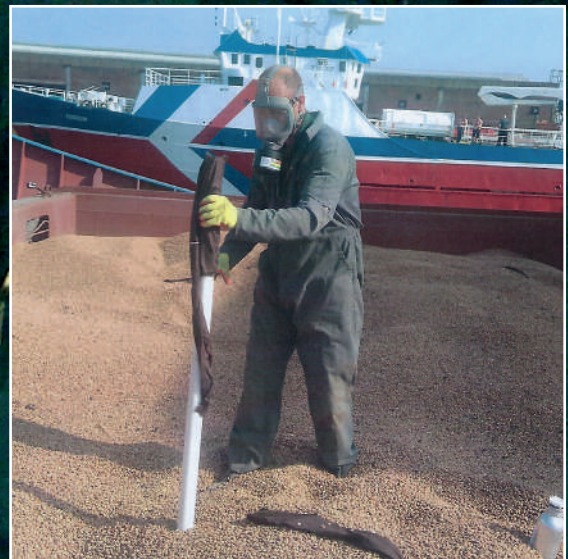
The vast majority of fumigated beans are destined for Egypt and its population of 100m with exports going both in containers and bulk vessels, typically in the 4-8,000 tonne range.

So how does the fumigation work? With bulk vessels, trained fumigation personnel need to attend the ship prior to commencement of loading for checks on the gas tightness of the holds, carry out an explanation of the process and a Health and Safety briefing with the Chief Officer. Also gas masks and monitoring equipment are left with the crew for their own safety.

After loading has been completed, we return to the shipment to apply the fumigant prior to sailing so that the ship effectively sails 'under gas'. Then, working with colleagues in Egypt, we arrange for the cargo to be met at disport, usually Alexandria or Damietta, for removal of fumigant residues and gas checking prior to commencement of discharge.

For containers there is a different protocol. They need to have the vents taped prior to loading and checked for overall condition of seals etc. The fumigant is then applied by trained personnel after completion of loading prior to the container being sealed. If it is being transported 'under gas', the container should be appropriately labelled with the fumigant used, time and date and a skull & crossbones sticker.

If fumigation is carried out effectively, it should ensure that the pulse shipment reaches the end user in the same condition as it left the UK without any accompanying creepy crawlies.



Fumigant being applied to the cargo



A bulk shipment discharging in Damietta, Egypt