

'FUMIGATION ON BOARD SHIPS WITH CASE STUDIES'

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INTRODUCTION

CASE STUDY 1

RODENTS IN THE HOLD



- Panamax Vessel Loading Soya Bean Meal.
- New Orleans to Black Sea - X Mas Holidays.
- How did the Rodents get into the Hold.
- Blame Game - Vessel at Receiving End.
- Implications/Options
 - Continue Loading and Fumigate
 - Legal Way
 - Practical Way
- Origin of Rodent proves the Point.
- Ensure Good Cargo Watch Keeping Practices.



INTRODUCTION

CASE STUDY 2 - CORRECTING THE INFESTATION PROBLEM

- Handy Max Carrier Loading Rice in Bags.
- West Coast India to West Africa.
- Part Cargo Loaded apparently Good.
- Infestation Sighted During Loading.
- The Approach
 - Complete Loading
 - Evacuate Vessel
 - Fumigate
 - Check Cargo
- Mates Receipt claused in a balanced manner.
- Vessel completes Contract of Sale and Carriage though delayed.
- Thumb Rule - Cargo condition to be reflected in Mates Receipt.



INTRODUCTION

CASE STUDY 3 - TURNING A BLIND EYE TO INFESTATION.

- **Maize Export W.Coast India to S.E. Asia**
- **Infestation Noticed During Another Assignment.**
- **All parties Aware Yet Go Ahead.**
- **Clean Mates Receipt / BL issued.**
- **Club Cover withdrawn.**
- **Rejection of Cargo at Discharge Port.**
- **Delay, Losses etc.**
- **Empty Holds a Breeding Ground for Infestation**
- **Future Employment?**



INTRODUCTION

CASE STUDY 4 - STORY OF M.V. GHOST BUSTER

Castor Seed Fumigation with Phosphine Gas.
48 Hours After Sailing Many Crew Members Sick.
72 Hours later All Crew Members Affected.

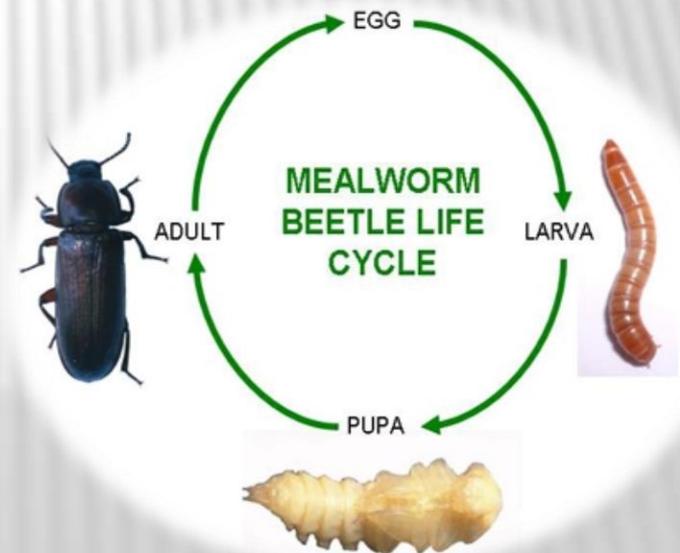
4th Day at Sea 4 Casualties → 2/0
→ 3/0
→ AB
→ MESSBOY

Lapses - Vessel
- Fumigation Agency
- Shipper Chain.



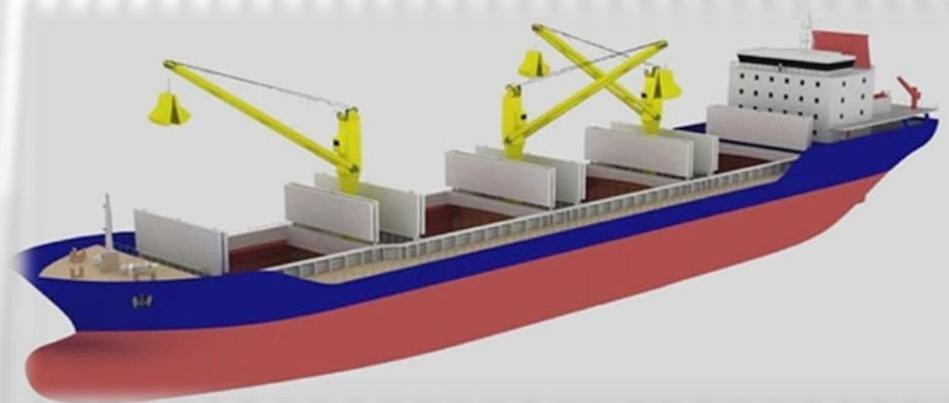
BACKGROUND

- What is Infestation -
- The Pest Cycle -
- Inherent Vice -
- Shelf Life -
- Pest Problems in ships -



FUMIGATION IN GENERAL

- **What is Fumigation?**
- **Fumigant.**
- **Fumigant Formulation.**
- **Need for Correct Dosage.**
- **Necessity for ‘In Transit’ Fumigation.**



PROPERTIES

- **High Toxicity required for Pests.**
- **Low Toxicity To Plants and Humans / Other Organisms.**
- **Readily available and Economic.**
- **No Harmful Residual to the Commodity.**
- **Safe for use every respect.**
- **End Use Quality not effected.**
- **Excellent penetration properties.**
- **Environment friendly.**



FUMIGANTS

- **Care in Selecting The Fumigant.**
- **Phosphine.**
- **Methly Bromide.**
- **Pre Loading/Loading.**
- **Ship Board Infestation.**
- **Discharge Port.**

SAFETY

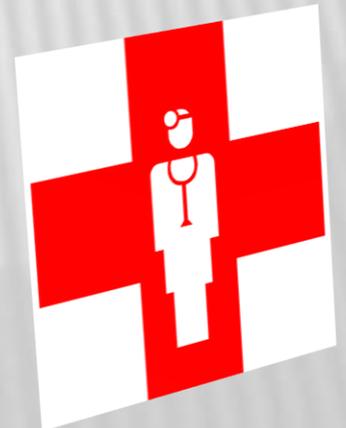
- **CHECK LIST**

- Holds Gas Tight?
- Smoke Detection System Status.
- Electrical Conduits from Hold.
- Gas Proof Sheeting.
- Rain Precautions
- Crew Exposure
- Know the Fumigant
- Medically Equipped?

- **DOCUMENTS NEEDED**

- **SAMPLING**

- Need for Sampling
- Interpretation of Sample.



ALUMINIUM PHOSPHIDE

- Properties
- Working Mechanism
- Reaction
- Residual Part.
- Labelling.
- Acceptable Application Methods.
- What is Phyto Explo.



CONCLUSION

- **Case Studies from Personal Experience.**
- **Prevention is better than Cure.**
- **Knowledge is Power.**
- **Time to Spread the Light.**
- **Work for Safe Ships, Happy and Healthy Crew, besides Clean Seas.**
- **Infestation a National Problem too, it affects the National image as well as food security and Trade.**

THANK YOU

