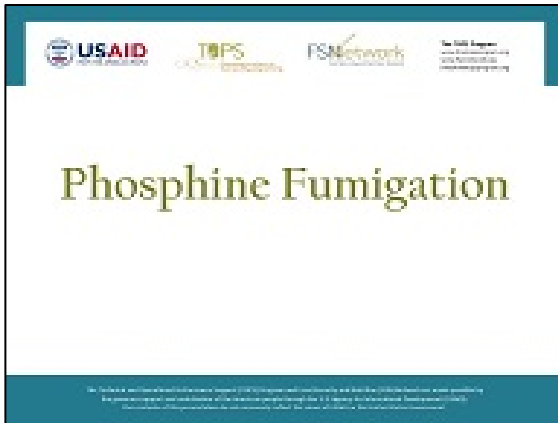
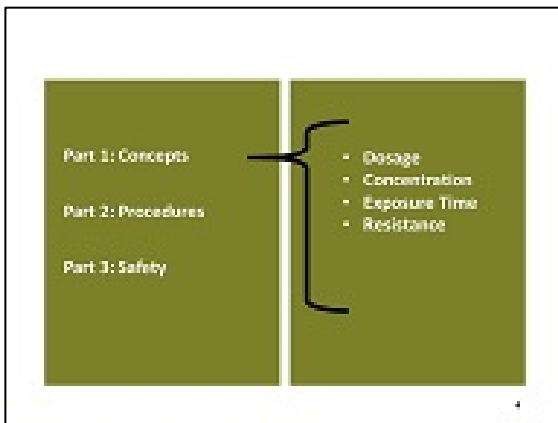


Fumigation Part 1 HANDOUT







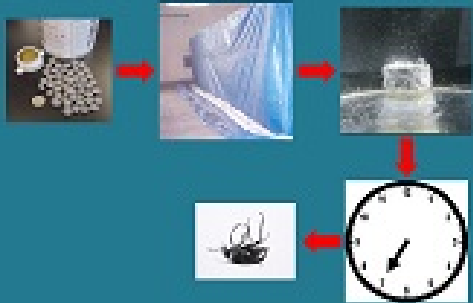
Fumigation Part 1 HANDOUT

Phosphine (PH_3)

Cheap, Easy, and Effective



How does fumigation work?



weight per VOLUME or (g/m^3)

Dosage




of tablets / MT


Do NOT fumigate below 15°C

Fumigation Part 1 HANDOUT

Gas molecules

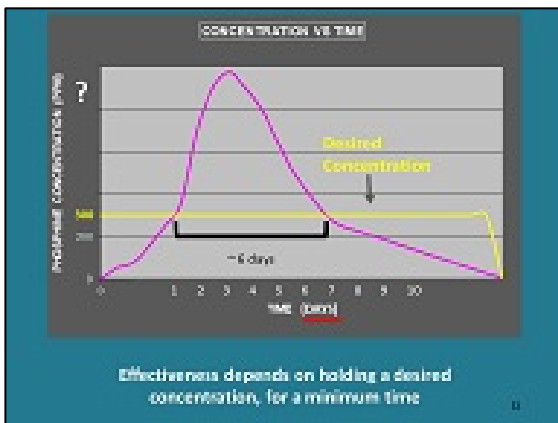


expressed in ppm



Concentration

Effectiveness depends on holding a desired concentration, for a minimum time



Dosage



Concentration




Concentration is a function of dosage (but all doses follow the same pattern)

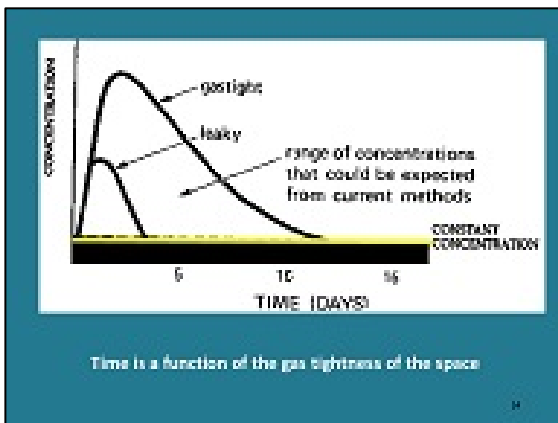
Fumigation Part 1 HANDOUT

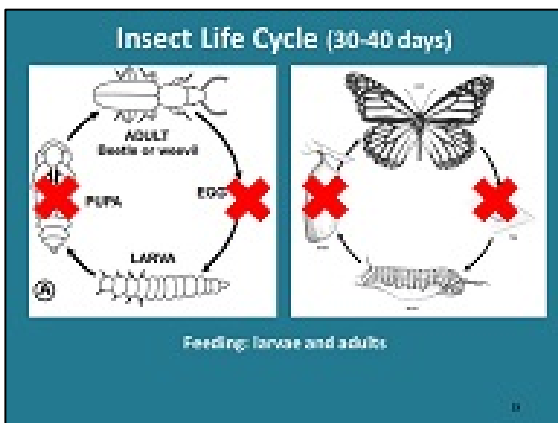
Related to:

- Targets
- Insect life cycle

Exposure Time








Fumigation Part 1 HANDOUT

General Recommendation

Minimum to Kill All Life Stages

- 200 - 300 ppm
- 7 days

Higher dosage (concentration) for shorter time
DOES NOT kill more Insects



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REVIEW: How does fumigation work?



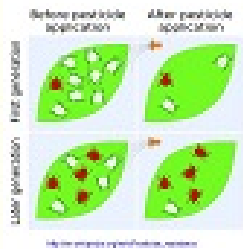
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Resistance

Insect is born with a mutation for resistance to a pesticide

That insect survives fumigation and mates others that also survived

Repeated use of phosphine selects for all resistant survivors in the population!!!



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Fumigation Part 1 HANDOUT

Resistance

How to Manage



- Practice good IPM
- Don't fumigate if there isn't a problem
- Increase exposure time
- Use different fumigant or mode of action

Alternatives to Fumigation: Heat Treatments



Gas heaters

Alternatives to Fumigation: Modified Atmosphere