Bioaerosols
A Desk Study Conducted by Cré part funded by the EPA

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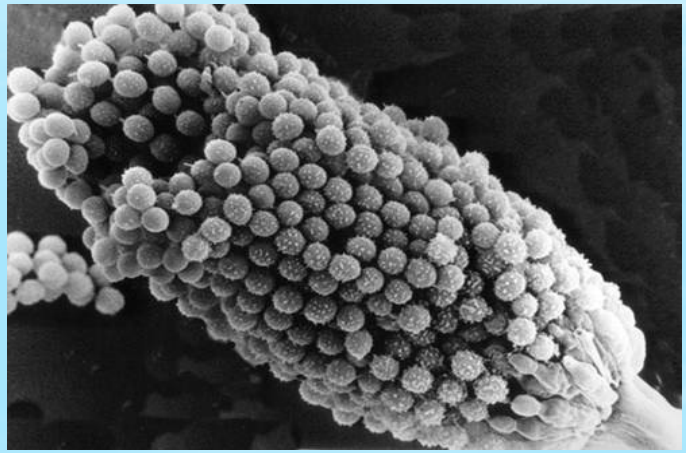
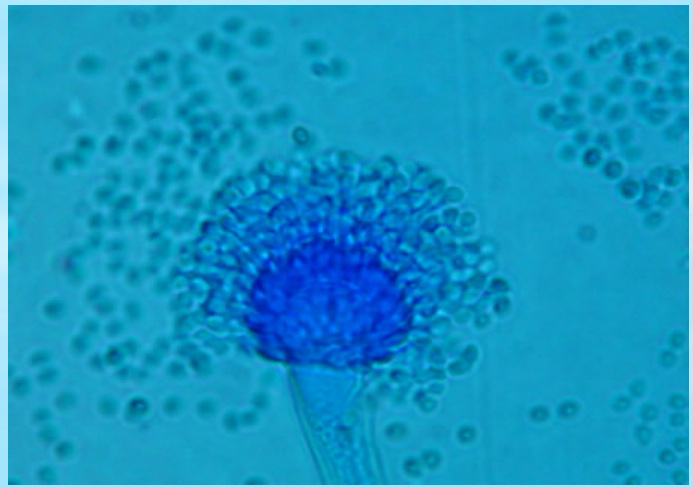
Bioaerosols and composting

- Composting is a microbial process
- Agitation of the compost produces bioaerosols
- Bioaerosols are fungus, bacteria, endotoxins, fine dust
- Major emphasis *Aspergillus fumigatus* fungus e.g. St Anne's Park residents





Bioaerosols in general

- Bioaerosol levels in composting not higher compared to other industries
- e.g. timber processing, poultry industry, hay making
- *Aspergillus fumigatus* is ubiquitous and is found in nature such as in forest floor – decaying organic matter

Methods of minimising bioaerosols

Operational control

- Keep compost moist
- Keep windrows as high as possible
- Turn windrows frequently
- Good house keeping

Bioaerosols and Health Risks

- General population not at risk to systemic and tissue infection
- Immuno-compromised individuals are at an increased risk, also asthmatic and other ‘allergic’ individuals
- Occupational exposure to bioaerosol may be significant
- Workers should take certain precautions

Conclusion

- Need for multidisciplinary research, health specialists, microbiologists, environmental scientists
- Irish data needed for *Aspergillus fumigatus*.
- Set back distance 200m. However this should be flexible and site specific depending on feedstock, bunds, trees prevailing winds etc
- Need for educational material for site managers