Overview of Impermeable Covers for Odor and Emission Control

Air Management Practices
Assessment Tool (AMPAT)

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Impermeable Covers

Impermeable covers are used to reduce odor and air pollutant emissions from manure storages.

Why Impermeable Covers

Impermeable covers are very effective at reducing odor, ammonia, and other air pollutant emissions.

Permeable vs. Impermeable

Impermeable covers provide a much higher level of odor and air emission control than permeable covers.

Impermeable Cover

Rigid Impermeable Cover
Flexible Impermeable Cover

Installation

Fastening

Maintenance

Safety

- Simple Covers
  - Not meant to be walked on
  - Fences, signs, etc.
- Gas covers
  - Under cover is dangerous
  - Asphyxiation, fire, drowning
  - Prepare safety plan for any access on cover

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Extension and Outreach
Rainfall Handling

Effectiveness

<table>
<thead>
<tr>
<th>Component</th>
<th>Reduction</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH3</td>
<td>85-99%</td>
<td>Dependent on edge sealing</td>
</tr>
<tr>
<td>H2S</td>
<td>85-99%</td>
<td>Dependent on edge sealing</td>
</tr>
<tr>
<td>Odor</td>
<td>85-99%</td>
<td>Dependent on edge sealing</td>
</tr>
<tr>
<td>Particulate Matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile Organic Compounds (VOC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$5</td>
<td>Depends on type and gas and rainwater handling system</td>
</tr>
</tbody>
</table>

For Further Information:

- If you are an educator and wish to have copies of PowerPoint files, contact Dan Andersen (dsa@iastate.edu).

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