

## Swine Farm Waste Management Odor Control Checklist

Source	Cause	BMPs to Minimize Odor	Site Specific Practices
Farmstead	<ul style="list-style-type: none"> <li>• Swine production</li> </ul>	<input type="checkbox"/> Vegetative or wooded buffers <input type="checkbox"/> Recommended best management practices <input type="checkbox"/> Good judgment and common sense	
Animal body surfaces	<ul style="list-style-type: none"> <li>• Dirty manure-covered animals</li> </ul>	<input type="checkbox"/> Dry floors	
Floor surfaces	<ul style="list-style-type: none"> <li>• Wet manure-covered floors</li> </ul>	<input type="checkbox"/> Slotted floors <input type="checkbox"/> Waterers located over slotted floors <input type="checkbox"/> Feeders at high end of solid floors <input type="checkbox"/> Scrape manure buildup from floors <input type="checkbox"/> Underfloor ventilation for drying	
Manure collection pits	<ul style="list-style-type: none"> <li>• Urine</li> <li>• Partial microbial decomposition</li> </ul>	<input type="checkbox"/> Frequent manure removal by flush, pit recharge, or scrape <input type="checkbox"/> Underfloor ventilation	
Ventilation exhaust fans	<ul style="list-style-type: none"> <li>• Volatile gases</li> <li>• Dust</li> </ul>	<input type="checkbox"/> Fan maintenance <input type="checkbox"/> Efficient air movement	
Indoor surfaces	<ul style="list-style-type: none"> <li>• Dust</li> </ul>	<input type="checkbox"/> Washdown between groups of animals <input type="checkbox"/> Feed additives <input type="checkbox"/> Feeder covers <input type="checkbox"/> Feed delivery downspout extenders to feeder covers	
Flush tanks	<ul style="list-style-type: none"> <li>• Agitation of recycled lagoon liquid while tanks are filling</li> </ul>	<input type="checkbox"/> Flush tank covers <input type="checkbox"/> Extend fill lines to near bottom of tanks with anti-siphon vents	
Flush alleys	<ul style="list-style-type: none"> <li>• Agitation during wastewater conveyance</li> </ul>	<input type="checkbox"/> Underfloor flush with underfloor ventilation	

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Pit recharge points	<ul style="list-style-type: none"> <li>• Agitation of recycled lagoon liquid while pits are filling</li> </ul>	<input type="checkbox"/> Extend recharge lines to near bottom of pits with anti-siphon vents	
Lift stations	<ul style="list-style-type: none"> <li>• Agitation during sump tank filling and drawdown</li> </ul>	<input type="checkbox"/> Sump tank covers	
Outside drain collection or junction boxes	<ul style="list-style-type: none"> <li>• Agitation during wastewater conveyance</li> </ul>	<input type="checkbox"/> Box covers	
End of drainpipes at lagoon	<ul style="list-style-type: none"> <li>• Agitation during wastewater conveyance</li> </ul>	<input type="checkbox"/> Extend discharge point of pipes underneath lagoon liquid level	
Lagoon surfaces	<ul style="list-style-type: none"> <li>• Volatile gas emissions</li> <li>• Biological mixing</li> <li>• Agitation</li> </ul>	<input type="checkbox"/> Proper lagoon liquid capacity <input type="checkbox"/> Correct lagoon startup procedures <input type="checkbox"/> Minimum surface area-to-volume ratio <input type="checkbox"/> Minimum agitation when pumping <input type="checkbox"/> Mechanical aeration <input type="checkbox"/> Proven biological additives	
Irrigation sprinkler nozzles	<ul style="list-style-type: none"> <li>• High pressure agitation</li> <li>• Wind drift</li> </ul>	<input type="checkbox"/> Irrigate on dry days with little or no wind <input type="checkbox"/> Minimum recommended operating pressure <input type="checkbox"/> Pump intake near lagoon liquid surface <input type="checkbox"/> Pump from second-stage lagoon	
Storage tank or basin surface	<ul style="list-style-type: none"> <li>• Partial microbial decomposition</li> <li>• Mixing while filling</li> <li>• Agitation when emptying</li> </ul>	<input type="checkbox"/> Bottom or midlevel loading <input type="checkbox"/> Tank covers <input type="checkbox"/> Basin surface mats of solids <input type="checkbox"/> Proven biological additives or oxidants	

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Settling basin surface	<ul style="list-style-type: none"> <li>• Partial microbial decomposition</li> <li>• Mixing while filling</li> <li>• Agitation when emptying</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Extend drainpipe outlets underneath liquid level</li> <li><input type="checkbox"/> Remove settled solids regularly</li> </ul>	
Manure, slurry, or sludge spreader outlets	<ul style="list-style-type: none"> <li>• Agitation when spreading</li> <li>• Volatile gas emissions</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Soil injection of slurry/sludges</li> <li><input type="checkbox"/> Wash residual manure from spreader after use</li> <li><input type="checkbox"/> Proven biological additives or oxidants</li> </ul>	
Uncovered manure, slurry, or sludge on field surfaces	<ul style="list-style-type: none"> <li>• Volatile gas emissions while drying</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Soil injection of slurry/sludges</li> <li><input type="checkbox"/> Soil incorporation within 48 hours</li> <li><input type="checkbox"/> Spread in thin uniform layers for rapid drying</li> <li><input type="checkbox"/> Proven biological additives or oxidants</li> </ul>	
Dead animals	<ul style="list-style-type: none"> <li>• Carcass decomposition</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Proper disposition of carcasses</li> </ul>	
Dead animal disposal pits	<ul style="list-style-type: none"> <li>• Carcass decomposition</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Complete covering of carcasses in burial pits</li> <li><input type="checkbox"/> Proper location/construction of disposal pits</li> </ul>	
Incinerators	<ul style="list-style-type: none"> <li>• Incomplete combustion</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Secondary stack burners</li> </ul>	
Standing water around facilities	<ul style="list-style-type: none"> <li>• Improper drainage</li> <li>• Microbial decomposition of organic matter</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Grade and landscape such that water drains away from facilities</li> </ul>	
Manure tracked onto public roads from farm access	<ul style="list-style-type: none"> <li>• Poorly maintained access roads</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Farm access road maintenance</li> </ul>	

**Additional Information:**

Swine Manure Management; .0200 Rule/BMP Packet  
Swine Production Farm Potential Odor Sources and Remedies; EBAE Fact Sheet  
Swine Production Facility Manure Management: Pit Recharge—Lagoon Treatment; EBAE 128-88  
Swine Production Facility Manure Management: Underfloor Flush—Lagoon Treatment; EBAE 129-88  
Lagoon Design and Management for Livestock Manure Treatment and Storage; EBAE 103-83  
Calibration of Manure and Wastewater Application Equipment; EBAE Fact Sheet  
Controlling Odors from Swine Buildings; PIH-33  
Environmental Assurance Program; NPPC Manual  
Options for Managing Odor; a report from the Swine Odor Task Force  
Nuisance Concerns in Animal Manure Management: Odors and Flies; PRO107, 1995 Conference Proceedings

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