

Bioaerosol Management Plan

Farm name: Lockes & Blackhall Farm

Operator: North Farm Livestock Ltd

Date: July 2020

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Introduction

This bespoke dust and bioaerosol risk assessment/management plan has been prepared to support the overall Environmental Management System in place at Lockes & Blackhall Farm. The overriding principle is to ensure that the day-to-day activities are carried out in accordance with this document to help minimise the overall environmental impact. There are two sensitive receptors within 100m of the Blackhall Farm; House 1 and Row of Cottages.

Setting

Blackhall Farm is approximately 750 m to the north-north-west of Locks Farm and is approximately 1.1 km to the south-south-east of Edgefield. Blackhall Farm is at an altitude of around 62 m with the land rising towards higher ground to the north and falling towards the River Bure Valley to the south.

Figure 1 shows the location of the receptors which have been considered in this plan, these locations are summarised in Table 1.

Figure 1: Receptors in the vicinity of Blackhall Farm



Table 1: Receptor locations

Receptor	Distance from site	Direction	Type of receptor
Receptor 1: House 1	50m	North East	Residential
Receptor 2: Row of Cottages	100m	North West	

The purpose of this Assessment and Dust and Bioaerosol Risk Management Plan is to:

- Establish the likely source of dust and bioaerosols arising from the farm
- Set out procedures at the farm in order to mitigate or minimise the risk
- Formalise an effective method of dealing with any complaints quickly and efficiently.

Potential sources

In accordance with the document, 'How to Comply with Your Environmental Permit for Intensive Farming', Appendix 11 Assessing Dust Control Measures on Intensive Pig Installations, a risk assessment of dust and bioaerosol pollution was performed.

As a result, the following sources have been identified as contributing to a potential *low risk* dust/bioaerosol source:

Pathways and receptors

The pathway for all of the above sources is via the atmosphere. With the most sensitive receptors being inhabitants of nearby residential dwellings, the wind direction will significantly influence how receptors are affected. We have not received any complaints from neighbours relating to odour from the farm. The prevailing wind direction is south westerly and, therefore, odour emission should be predominantly blown away from nearby neighbours.

Table 2 gives a summary of some of the main at-source and exhaust control methods for particulate reduction from pig farms. In addition, all staff will receive training on all aspects of the farm operation which could lead to pollution, including the odour, noise and dust management plans, dealing with accidents and our general responsibilities under the permit.

Table 2: A summary of at-source and exhaust control methods for particulate reduction from pig farms

Source of dust	Example	How is reduction achieved?	Comments
General	Day-to-day activity	Weekly inspection of the site by the operator.	Look for any signs of dust which may leave the installation boundary or be a hazard to staff or visitors.
Pig feed	Dust from silos	Covers put over feed silo pipes. Feed is blown into hoppers when delivered.	Bags or containers should be in place on silo exhausts to catch any excess feed and dust.
	Storage of feed	Use of covers for feed containers.	Biosecurity issue as well.
	Feed spill control	Collection of any spilt feed is undertaken to avoid dust being generated.	Good management practice and avoids possible pollution into a watercourse.
	Feeding method	Hoppers are automatically filled to minimise dust emissions. A material sock is fitted to the end of the auger pipe that delivers the feed directly into the bin.	Auger pipes tend to have downpipes that stop around 30–60cm short of the internal feed bin. Fitting a material sock to the end of the pipe that delivers the feed directly into the bin may reduce the feed dust that is created by freefalling into the bin. The feed delivery into the bin is effectively sealed by the cover.
	Spilled feed is swept up	Any spillages are cleaned up immediately.	

Source of dust	Example	How is reduction achieved?	Comments
Bedding material	Straw is added daily as bedding.	Bedding is applied internally to the building rather than being blown in. Bedding is stored under cover to maintain quality. Any visible bedding/dust is swept up.	Bedding is supplied in bales rather than in bulk. Bales are opened inside the housing rather than blown in to reduce dust. Wet straw may contain fungal spores. Weekly inspection by the operator.
Ventilation	Buildings are naturally ventilated and have automatic side curtains.		
House cleaning	General management	Weekly inspection by the operator and any visible on vents, etc. is removed.	
Building layout and design	General management	Good house cleaning between batches is essential to reduce the volume and potential for air contamination within the house and via exhaust system.	Care is taken to avoid dust accumulation. Cleaning takes place in such a way that does not cause a release of dust to air or water, eg dust is not blown off-site or washed into surface water drains.
Building layout and design Dry filters	Natural	Specification and design of ventilation system to provide good air quality for the animals and staff.	Natural screens also reduce odour, noise and visual impact on the local environment. However, sufficient space is required and it can be difficult to retrofit. Screens and/or barriers must not be placed too close to buildings as this may impede good and effective ventilation.
	Housing is designed to minimise the effect of high winds	Screens and wind breaks are used where possible.	

Checklist

Source of dust	Example	How is reduction achieved?	Achieved Yes/No	Comments
Feed	Dust from silos	Covers put over feed silo pipes		
	Feed spill control	Collection of any feed spill is undertaken to avoid dust being generated		
	Feeding Method	A material sock is fitted to the end of the auger pipe that delivers the feed directly into the bin		
		The internal feed bin is covered with a plywood-constructed top; the auger pipe is fitted through the cover		
	Over-administration of feed	Avoidance of spilled feed crushed on the floor by carefully monitoring the process		
	Weekly inspection	Dust which is in danger of leaving the perimeter is swept up		
Bedding material	Application of bedding	Bedding is applied internally, rather than being blown in		
	Storage of bedding	Bedding is stored under cover		
	Weekly inspection	Any stray bedding is swept up		
Manure removal systems	Non-slatted	Sheds are scrapped through daily		
Ventilation	Natural ventilation	Ventilation is carefully controlled, maintained and monitored		
	Weekly inspection	Any visible dust is removed		

Source of dust	Example	How is reduction achieved?	Achieved Yes/No	Comments
House cleaning	Good management	Thorough cleaning between batches		
Building layout and design	Natural ventilation	Screens and wind breaks kept in good order		

