#### Photo resource showing good and poor examples of biosecurity practices

#### Topics structured by risk pathway

Industry and government have worked together in partnership to compile this photo gallery



British Egg Industry Council

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Images containing information which might identify a site have been obscured for confidentiality reasons.

#### Site entrance

## 1. Secure gated entrances Poor

#### Open access to site; no signage





No secure outer perimeter – open access with no immediately visible signage - if the gates are left open there is no obvious perimeter barrier and the signs on the gates cannot be easily read.

#### 1. Secure gated entrances Good

Closed gate; good signage



#### 2. Fencing Good

Well maintained secure fencing around site perimeter and poultry buildings.





# 3. C&D – vehicle and personnel Poor

Very small amounts of disinfectant for vehicle wheels and no means of cleansing of gross debris before applying disinfectant.







# 3. C&D – vehicle and personnel Poor

Insufficient supply of disinfectant for a vehicle. Grossly contaminated vehicle and no means of cleansing before disinfection.



Non-disinfectable footwear.





## 3. C&D – vehicle and personnel Good

Pressure washers available for cleansing and disinfection of vehicles.





#### 4. Signage

Good



Examples of clearly displayed signage.





## 5. Visitors' book Good

Covered and well signposted visitor logs (books) at site entrance.

Hoses providing water source for cleansing before disinfection.



#### **Areas surrounding buildings**

## 7. Areas between buildings Poor

Muddy sites, bedding stored outdoors and mossy roofs likely to attract wild birds. Hard to cleanse and disinfect vehicles.



## 6. Curtilage7. Areas between buildings



# 6. Curtilage 7. Areas between buildings Poor



Generally unclean/heavily contaminated (concrete) surfaces and significant amounts of standing water in front of the poultry housing.



#### 6. Curtilage 7. Areas between buildings Poor



Cattle manure heap in close proximity to the poultry housing, observed to be attracting wild birds. Generally muddy with areas of standing water which could harbour virus. Hopefully the uncovered/unprotected straw bales are not intended for poultry bedding.

## 7. Areas between buildings Poor

Debris piled up in close proximity to shed likely to provide cover for rodents.



Overgrown vegetation in close proximity to housing likely to attract wild birds and rodents.



#### 7. Areas between buildings Good

Very tidy and well-maintained sites, clean intact concreted surfaces, free from debris and overgrown vegetation etc.





#### 7. Areas between buildings Good

Well maintained housing with clean roof, protected roof ventilation chimneys and clean, well-maintained curtilage.



## 6. Curtilage7. Areas between buildings



#### Good

Very tidy and well-maintained sites, clean intact concreted surfaces, free from debris and overgrown vegetation etc.



#### 7. Areas between buildings

#### Good

Very tidy and well-maintained sites, clean intact concreted surfaces, free from debris and overgrown vegetation etc.







Clean, well-maintained concrete with a good drainage slope to divert water away from the poultry housing. Clean concrete standing in front of the feed silo.

**But** – bedding stored outside, but double wrapped bales – <u>as long as inner wrapping is fully intact and</u> appropriately disinfected before being moved into the poultry housing.

#### 8. Animal By-products

#### Poor

Poorly closed ABP bin, liable to attract scavengers.

ABP skips best placed at perimeter of site to remove the need for ABP collection vehicle to enter the curtilage of the site.





#### **Buildings / housing**



Overgrowth of vegetation in gutters and missing section leading to water spilling over.

#### 9. Roofing Poor



Poor roof design allowing water to drain into shed and potential access by small wild birds.



Mossy roofs likely to attract wild birds; unnetted ventilation cowls.

## 9. Roofing Poor



Moss covered roof likely to attract wild birds.

## 9. Roofing Poor

Holes in roofs – potential for rain to wash in any wild bird faeces.





#### 9. Roofing Good, BUT

Netted roof vents and use of anti-perching spikes to deter wild birds from roosting (albeit significant apparent moss/lichen growth present).



#### 10. Flooding, leaks, water ingress

#### Poor







#### **10. Flooding, leaks, water ingress**

Poor

Muddy concrete around doors and presence of sandbags suggests risk of water ingress into the housing.





Inadequate roller door seal may potentially allow external water ingress into the housing.

#### 11. Door / Access

Poorly designed entry into sheds with one poorly positioned footdip. Ideally, doors should stop 6 inches from the ground with a solid concrete lip. This would allow a dedicated footdip to stand in front of each door and so encourage use prior to entry (would not be possible if entry is into egg room which requires pallet truck access).

There is also nowhere to clean boots/shoes prior to using the footdip. One door situated in the corner, and opening in a manner that precludes the correct siting of a footdip.



#### Poor





#### 11. Door / Access

Contamination with leaf debris likely to reduce disinfectant efficacy. How frequently replenished? Footdips should be covered to preserve effectiveness of the product and prevent dilution with rain.



Poor

Overgrown vegetation around entrance likely to encourage wild birds/rodents.

High risk of footwear contamination due to generally muddy area and no means of cleaning footwear before using footdip.

Poor footdip placement.



#### 11. Door / Access

#### Poor

Modern shed in a good open area with limited trees. However, lack of attention to detail.

#### Issues:

- Pooling of water in front of the shed.
- Access door to the shed to the left is poorly designed so that nothing can be placed in front of it. Therefore,
- Single footdip placed to the side of the door as it cannot be placed anywhere else making it impossible to step directly inside.
  - No water supplied to allow the removal of dirt prior to disinfecting.
    - Door to the right access to the egg store. No disinfectant at all.





## 12. Separate access to other areas **Poor**

Dirty concrete around entrance to office.



#### 13. Windows / Netting / Openings Poor

Netted sides incomplete, allowing access to wild birds.



#### 13. Windows / Netting / Openings Poor

Roof vents meshed **but** mesh has detached from its attachments leaving gaps accessible to small wild birds.


Poor

Incompletely netted tunnels, allowing easy wild bird access.



Obvious gaps potentially allowing wild bird ingress into the polytunnel



Well meshed side vents, but evidence of water staining suggests leaking/overflowing guttering?



Well meshed ventilation cowl, but overhanging trees likely to attract wild birds.



Attention to detail, extending mesh to cover all gaps.





Use of fine meshing to cover any gaps.



**Innovative** - fine gauge netting angled away from the housing/ventilation inlets allows it to be largely self cleaning when it rains to prevent excessive dust build up.



Well meshed ridge inlet with narrow gauge 9mm netting to prevent access by even very small wild birds.



Narrow gauge 12mm meshing as secondary wild bird proofing on light baffle inlets.



## 14. Building maintenance Poor

Unrepaired storm damage allowing easy access for wild birds.





## 14. Building maintenance Poor

Various gaps in building structure, allowing access to small wild birds and rodents.







## 14. Building maintenance

#### Poor

No gutter end cap in place.



## 14. Building maintenance Poor

Holes in wall and door and poorly fitting pophole, allowing rodent access.





#### **14. Building maintenance**

Poor

Gaps allowing wild bird access.







#### **14. Building maintenance**

Poor

Gaps allowing wild bird access.

Gap between netting and roof, allowing wild bird access.





Poor

#### Mossy roof and no netting of ventilation cowls

Damage to meshing over ventilation inlet.



Missing cowl cover, mossy roof and weld mesh covering side inlets not sufficiently narrow to prevent access of small wild birds.





Wild birds had previously been observed nesting in some ventilation covers – right hand photo shows no netting present, potentially allowing access into roof space.





Gaps in meshing covering ventilation inlets.





Vent meshed but with gaps around the ratchet arm potentially allowing ingress by small wild birds when baffle is open. Possibly better to consider looser fitting meshing affixed externally to enable flexing when the baffle is opened?

#### 15. Ventilation Poor



Ventilation chimney directly open to the exterior with potential for contaminated material (wild bird faeces, feathers etc.) to fall directly into the bird area. Potential for any contaminated material accumulated on the valve to fall or be washed into the bird area when the valve opens?

#### Good

Well meshed ventilation cowls and clean roof.





Well meshed fan inlets / outlet.







#### Good

Well meshed roof vents, well maintained roof.



#### **16. Muck belts**





Covers missing from muck belt; easy access for rodents.

#### **17. Feed**

#### Poor

Feed spillages around hoppers attractive to wild birds and rodents.



Feed spillage and wild bird faeces underneath feed hoppers.



#### **17. Feed**

#### Poor

Significant wild bird faeces contamination around silo ventilation inlets due to wild birds perching on the feed pipe. Potential for wild bird faeces to be washed into the silo. Unclear whether there are any internal mitigating features inside the structure to prevent such ingress of contaminated material onto the feed.



#### **17. Feed**

Poor

Feed pipes lying on the ground.



### **17. Feed** Good, BUT

Silo sitting on a well-maintained concrete pad with no evidence of feed spillage but feed delivery vehicle area is soil, which can't be disinfected.





## 18. Rodent control / wild birds Poor

Mouse droppings in roof space



Rodent burrows around housing



## 18. Rodent control / wild birds Poor

#### Dead rat and damage to building structure.



Gap allowing rodent access and evidence of some external water ingress. Presence of a rodent bait box immediately adjacent to this gap may suggest prior suspicion/knowledge of a rodent problem.



Dead wild goose outside shed not disposed of.



## Bedding Management / Storage





Poor



Damage to outer and inner wrapping of bedding stored outside, exposing it to contamination.



Puddling on top of stored litter allowing for wild bird faecal contamination.

Poor

Wild bird faeces at entrance to open straw store.



Wild bird feather in straw store.





Straw unprotected from wild bird access.





Poor

Straw store open to wild bird access and straw being stored uncovered outside.



Partially netted barn and evidence of extensive water contamination on straw.





Bedding straw accessible to contamination by wild birds and rodents.



Straw store open to wild bird access.

#### Poor



Bedding stored outside but double wrapped with additional cover. Vital to discard any bales that appear damaged and ensure that the inner wrapping is disinfected before carrying into the poultry housing.



Straw barn is netted but with obvious gaps potentially allowing wild bird access.

Poor



Bedding not being stored securely, allowing potential contamination by wild birds.





Poor

Obvious evidence of rodent droppings on bedding straw.

Obvious evidence of rodent droppings on bedding straw and suggestion that rodents may be nesting in the straw.





### 19. Storage Good

Secure wild bird proof sheds for bedding storage.



#### Good



Unpopulated poultry house used to store straw bedding under cover.


#### **19. Storage**



## Good

#### Wrapped bedding securely stored indoors.





#### **19. Storage**

Wrapped bedding stored outdoors but securely sheeted and inner wrapping is thoroughly disinfected before being taken into bird housing.



### Good

Fully netted barn to prevent wild bird access to bedding.



## 20. Bedding-up (adding litter)

Frequent bedding top-ups represents an inherent risk of introducing contamination – essential for rigorous cleanse and disinfection of vehicles/equipment in addition to careful storage of bedding to avoid contamination by wild birds.



#### Poor

Danger of wild birds entering when doors opened for bedding top-up.



# The "Hard Inner Shell"

## **21. Shed Entrance**

Presence of leaves and externally used leaf blower casts doubt on the value of the lobby as a biosecurity barrier.



Poor

(a) Lobby Area

Cluttered and untidy lobby and poor footdip – highly unlikely to be an effective biosecurity barrier.



21. Shed Entrance (a) Lobby Area Poor

Photo casts doubt on the value of the lobby as a biosecurity barrier.



## 21. Shed Entrance (a) Lobby Area Good, BUT

Lobby with covered footdip, but need to step back onto earth floor after use. Would be better raised up with footdip under doorway, so it is hard to avoid using.



## 21. Shed Entrance (a) Lobby Area Good, BUT



#### **Good points:**

a. Lobby raised to allow footdip to be placed in front of door, so difficult to by-pass.

b. Hand brush for the footdip with a long handle and at good height to be visible and encourage use. *Might benefit from having a cover over top of brush.*c. Clean and tidy.

#### **Points for improvement:**

a. Air gap above and around the lobby to allow wild birds to fly in and out.

b. Round footdip is too small.

c. Have to walk on the ground after cleaning boots and using footdip.

d. Door left open.

## 21. Shed Entrance (a) Lobby Area Good

Clean and tidy well-organised lobby with solid and secure hygiene barrier.



Covered footdips and use of pallets to reduce recontamination, rather than stepping back onto earth floor.



## 21. Shed Entrance (a) Lobby Area Good

Intermediate entrance



Provision of hand washing facilities and hand sanitiser.



### **21. Shed Entrance**

#### (b) Step-over barrier

Poor

Cramped area; not particularly easy to use.

Covering of footdip unnecessary if indoors and may discourage use.



Seat provided to facilitate use but unclear which footwear is for use inside the house – mixture present.



21. Shed Entrance (b) Step-over barrier

### Poor

Points for improvement:

- a. Poor step-over area
- b. Boots in and out of the step-over area
- c. No clear indoor and outdoor boots
- d. Footdip too small and should be inside barrier
- e. Disinfectant too shallow
- f. No brush



Poor design which doesn't make effective use particularly easy and is potentially easy to bypass.



## 21. Shed Entrance (b) Step-over barrier Poor

Dirty area within step-over and apparent mix of inside and outside boots.

Poor footdip – shallow and poor placement.

Chair to aid use, but covered in PPE which may discourage use.



### 21. Shed entrance (b) Step-over barrier Poor



Stepover hygiene barrier messy on both sides and unclear how practically easy it is to effectively change from outdoor to shed boots whilst keeping outdoor boots on the "dirty" side. The chair may be better placed on the outside of the barrier to allow staff to sit down and remove outdoor boots then swing legs over to step directly into the shed boots?

## 21. Shed Entrance (b) Step-over barrier Good

Solid and secure swing over hygiene barrier.





## 21. Shed Entrance (b) Step-over barrier Good

Solid and secure swing over hygiene barriers.





## 21. Shed Entrance (b) Step-over barrier Good, BUT



Boot wash and brush provided to allow thorough cleaning of boots before disinfection, **but** the aperture size may be challenging to allow effective immersion and cleaning of larger boot sizes.

ALSO: the disinfectant foot dip appears to be more heavily contaminated with material than the welly wash, casting doubt on how effectively the prior welly wash is actually being used before the disinfectant?

## **21. Shed Entrance**

Footdip requires a cover and would be better placed directly under raised door so cannot be by-passed, to prevent recontamination of footwear after use but before entering the bird area.

No water source or brush to clean footwear before disinfection.



(c) Footdips Poor

No water source or brush to clean footwear before disinfection.



## 21. Shed Entrance (c) Footdips Poor

Footdip cover not properly in place. How effective is this footdip actually likely to be, given the grossly muddy environment?



## 21. Shed Entrance (c) Footdips Poor

Shallow, small footdip – no measuring lines on it to facilitate accurate mixing of disinfectant at correct dilution.

Have to step back onto concrete before entering the building.





## **21. Shed Entrance**

(c) Footdips

Good quality covered footdip but located on wrong side of door opening necessitating stepping back onto the tarmac before entering the house.



Poor

Boots likely to be re-contaminated once stepping out of the disinfectant.



## **21. Shed Entrance**

Good quality covered footdip but located on wrong side of door opening, necessitating stepping back onto the tarmac before entering the house.



#### (c) Footdips

Poor

#### Footdip some distance from door.



## 21. Shed Entrance (c) Footdips Good, BUT

Footdip not covered.

Placed close to door, but unlikely to allow full immersion of footwear.



Covered footdip with string to open.

Would be better placed under the raised door so cannot be by-passed.



## 21. Shed Entrance (c) Footdips Good, BUT

#### **Good points:**

- Covered external footdip
- Good depth of disinfectant.
- Disinfectant is clean (is it being used?)



#### **Points for improvement:**

- No hand-brush.
- Placement could be better so that the footdip cannot be by-passed.
- No clear guidance or measures for mixing disinfectant at correct strength.
- Need Log of when the disinfectant was replenished.

Boot brush scrub with water source to facilitate cleaning before disinfection.



Would be better placed on a clean solid base and closer to door to avoid recontamination of footwear after use.

## 21. Shed Entrance (c) Footdips Good

Sturdy, deep footdip with brushes incorporated.

Cover with handle to facilitate use.





Well maintained and coverable footdip for outdoor use containing in-built brushes to aid cleaning.

Good size sturdy plastic tray to allow full immersion of whole foot.

Brushes to facilitate cleaning.



## Poor

This staff canteen was used as a common clocking in/out point, for staff working on various sites. Dirty footwear is present.



Disposable boot covers are fragile and easily torn and may give a false sense of security if used in place of dedicated house footwear, or thorough disinfection.



#### Poor

#### No clear hygiene barrier between inside and outside.



## Poor







Apparent mix of indoor and outdoor footwear within the barrier area. Provision of seat facilitates. Questionable placement of footdip?

## Good

Tidy and clean swing over hygiene barrier area with very clean boots.



Good

Well organised and stored disposable overalls of various sizes.



Hand sanitiser available.



Provision of brushes and hand sanitising facilities



#### **23. Showers and Changing Areas**



Poor



Disinfectant mats not as effective as immersion footdips.

Door, when open, exposes anyone to the outside. Poor privacy – unlikely to encourage fully effective use of showers.

No barrier to keep outside footwear separate from the interior.

# 23. Showers and Changing Areas Good

Clean and tidy showering facility.



#### 24. Water header tank

#### Poor



Water header tank lid appears to be incompletely secured potentially allowing access by rodents.

# **Record keeping**

# 24. Personnel, including Managers Good



Legible staff attendance records.

Need to record <u>all</u> staff visits, including area managers etc., unless e.g. manager lives on site and not working elsewhere.

# 25. Visitors' book

#### Poor

No provision for full name or specific contact details.

No provision of reason for visit or whether bird areas accessed.

Date	Name	Company	Poultry farm 45 hours *	visited in fast	Actival Time	Departure
29/7/					0700	0815
5/ 5/22					10-35	11 20
9/8/22					09.20	NID
18/22					12:40	
23/5/2					13 30	
1-9-1	22				14.30	
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# 26. Medicines Good, BUT

Clearly legible medicine records (albeit not complete).

IEDICINES RECORD													
Date of Purchase of medicine:	How administered:	Name of medicine and quantity purchased. Batch numbers:	Expiry date:	Identity of animal group treated:	Treatment Started. Date:	Treatment Finished. Date:	Total quantity of medicine used:	Length of Withdrawal period for meat. N° Days:	Withdrawal period for eggs. N° Days:	for sale of animal or produce:	administered		
1	FEED	FLUBENENT		POSETRY	29-7-21								
	water	Poulvac E.Coli	11/2022	Poultry	21.7.21 6-8-21	6-8-21	30,000 Doses 10,000 pr 14	0	0				
	water	Poulvac 13 Primer	ozhora	Poultry	18-8-21	18-8-21	.30,000 DoSeS	0	0				
7-		- 1											

#### **27. Production and Mortality**

Ideally in an electronic format (with any password protection disabled, when appropriate) to allow rapid electronic graphing and analysis (with colour coding) to aid production of source and spread timelines.

If not, then must be fully legible.

Avoid use of white boards that are then wiped once weekly data is sent to head office – need daily (to compare with weekly) figures to produce accurate source and spread timelines.

### 28. Feed and Water

## Good

Clearly legible water consumption records.

NE	EKLY	RECO	ORD					SH	ED	1													
ing	Ace	5.00	Check	Temp	erstare												Upt		Shaveg	Soft Chip	Straw	Stagfeed	Notes
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				18			8			27	0		2	5	7	1	-11-	-11-					
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_				19			2	10	5 5	5 1	2		2	3	1	2	-11-						1
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