PIG · HEALTH & BIOSECURITY

Keep the virus at the gate, not in the pen.

Two field manuals — Hypor (Europe) and a Chinese ASF control manual — read straight from the page: where they line up, and where they split.

Biosecurity is two jobs, not one

EXTERNAL
Stop pathogens getting onto the farm.
siting · downtime · quarantine · transport

INTERNAL
Stop them spreading once they are inside.
zones · cleaning · all-in-all-out

It is filtering, not curing

African swine fever has no vaccine. You cannot treat your way out — the only lever is keeping the virus from ever crossing the line, and slowing it if it does. Every gate, shower and downtime on this deck exists to make the dose that arrives smaller.

And ~95% of what a disinfection achieves is the cleaning that comes first. Disinfectant finishes a surface that is already visibly clean — it cannot rescue a dirty one. Biosecurity is mostly soap, water and discipline, not the strength of the chemical.

The numbers both manuals build on

Site a new herd
≥ 3.5 km
from any similar farm

Quarantine new stock
6–12 weeks
before they join the herd

Cleaning is
~95%
of the disinfection result

Where the two manuals disagree

	HYPOR (Europe)	CHINESE ASF MANUAL
Shower before entering	**≥ 3 minutes** automatic showers for high standards	**10 minutes** shampoo + body wash, one-way dirty→clean
Keeping people pig-free	**3–6 nights away** from pigs before entry (by risk)	**staged on site:** home 24h → 48h → 24h → 24h
Distance strategy	**site the farm** ≥ 3.5 km out from other herds	**ring the farm:** core zone 1 km, wash points ≥ 3 km

Same goal, two ways to buy it

Both are trying to make less virus arrive at the pig. Europe buys it with distance and downtime; post-ASF China buys it with zones, heat and staged on-site isolation. Neither number is wrong. The mistake is running half of one and half of the other.

Based on Hypor Biosecurity Manual 3.0 and a Chinese pig-farming ASF biosecurity field manual (five-zone / five-defence-line system). Full provenance: 01-monday/SOURCES.md

EXTERNAL BIOSECURITY

Keep it off the farm

Farm siting and sanitary zones — Hypor Manual 3.0 and the Chinese ASF manual

Distance is the cheapest disinfectant

Airborne spread and shared traffic rise the closer herds sit. Hypor puts a new building at least 3.5 km (2.2 mi) from any similar farm, preferably in forest, not downwind of other pig units. The quarantine barn sits at least 3 km from the clean areas of the farm.

SANITARY ZONES — TWO WAYS TO SLICE THE FARM

Hypor — at least 3 zones

Dirty zone
outside the farm — always contaminated

CAZ
controlled access: clothes change, truck arch

RAZ
restricted access: only farm pigs & staff

Chinese ASF — 5 zones, 5 lines

Buffer / off-site
isolation dorm & 1st wash ≥ 3 km out

Isolation zone
front gate — no public-road contact past it

Living zone
staff rest, food prep — low risk

Production zone
the barns — core, within a 1 km ring

The principle under both

Each zone has its own sanitary level, and every move between zones is one-way and controlled. Hypor's rule: an uncontrolled contact with a lower zone instantly downgrades the higher one to the lowest status. A zone you cannot keep separate is not a zone.

Why China adds a third-and-more zone

The old clean/dirty split stopped being enough as new pathogens emerged. Both manuals now insist on at least a third health zone; the Chinese ASF system rings the farm in five, filtering the virus dose down one checkpoint at a time before it reaches a pig.

What page 1 compressed

External biosecurity is siting plus separation. Get the farm far enough out and the zones clean enough, and most of the virus never gets a chance to test your protocols.

DOWNTIME & QUARANTINE

The hardest numbers on the farm

Where the two manuals split most — how long is 'long enough' away from pigs

HYPOR VISITOR DOWNTIME — PIG-FREE NIGHTS BEFORE ENTRY

	HIGH	MEDIUM	LOW
Pig-free (away from pigs)	**6 nights**	**4 nights**	**3 nights**
On the territory / country	**3 nights**	**1 night**	**1 night**

Risk is set by role — farmers high, technicians medium, managers low. Over 14 pig-free days, only the country of origin still matters. Own staff, same farm, no other pigs: 1 night.

The Chinese ASF manual buys the same thing differently

Instead of nights away, it stages isolation ON the farm as people move inward: self-isolate at home ≥ 24h, then the isolation dorm 48h (shower daily), then the isolation-zone dorm 24h, then the living zone 24h — four filters before the barn. A surface swab that reads ASF-positive sends the person back to shower and change.

New breeding stock — the biggest single risk

Introducing animals is the highest-risk event on any farm. Hypor quarantines new stock a minimum of 6 weeks in a separate unit — stretched to 12 weeks when the source herd's health status differs sharply from the destination. Quarantine both screens for disease and lets the new gilts adapt to the farm's own bug population before they join it.

The one both agree you must do — and time differently

Shower in, every time, one-way dirty→clean, dedicated clothes including underwear. Hypor: at least 3 minutes. Chinese manual: 10 minutes.

How to read the gap

Do not average them. Pick the standard your disease pressure justifies and run it every time — a 10-minute rule kept half the time is worse than a 3-minute rule kept always.

ASF PREVENTION

Trucks, feed and the five defence lines

Transport is one of the highest-risk routes onto a pig farm

TRANSPORT DOWNTIME — NIGHTS BEFORE A VEHICLE IS REUSED

Animal transport truck	**≥ 2 nights**	cleaned, disinfected, dried + certificate
Dead-animal truck	**≥ 2 nights**	ideally the first stop of the day
Feed truck (bulk)	**≥ 1 night**	first delivery of the day where possible
Feed delivered in bags	**7 days**	downtime before it is used

The Chinese ASF answer: wash, then heat, then rest

External pig trucks arrive 24h early, wash at an off-site point ≥ 3 km out, get sampled, then rest 12 h after a second disinfection before they touch pigs. Vehicles are dried in a sealed room held at 70 °C for 20 min; materials get 70 °C for 1 h, or a 30-min disinfectant soak, then 4 h of ozone. Heat is doing the work a longer downtime does in Europe.

Feed and its blind spots

Feed trucks disinfect at the controlled-access line and deliver without the outside truck ever touching the restricted zone. Two silos per line let one rest while the other fills. Bagged feed and straw are treated as farm contacts — 7-day downtime before they go in.

Five defence lines, one idea

Off-site pre-wash → wash-and-disinfect centre → isolation zone → living zone → production zone. Each line drops the virus dose again, so what reaches the barn is a fraction of what left the road. It is the same filter page 1 described, built out of checkpoints.

INTERNAL BIOSECURITY

Cleaning does 95% of the work

Stop the spread once the virus is inside — Hypor Manual 3.0 + the ASF manual

Why the disinfectant is the last 5%

Hypor is blunt: roughly 95% of effective sanitation is the cleaning, not the chemical. Organic matter — muck, feed, dust — shields the virus and soaks up disinfectant. Hot water and detergent remove the shield; only then does the disinfectant reach the surface. A dirty pen sprayed with strong chemical is a dirty pen.

THE SEQUENCE THAT ACTUALLY WORKS

1 **Dry-clean & soak**
remove bulk muck, wet down

2 **Wash**
hot water + detergent to bare surface

3 **Dry**
first drying period — before disinfectant

4 **Disinfect**
now it can actually re ach the surface

5 **Dry again**
second drying — before pigs go back in

All-in, all-out — empty the room between batches

The Chinese manual runs the barn all-in-all-out and by batch: a room fills, empties completely, then gets the full clean-dry-disinfect-dry cycle before the next group. A never-empty barn never breaks the chain of infection from old pigs to new.

Colour-code the barn, and never cross tools

Each barn gets its own coveralls and equipment, colour-managed, and nothing crosses between units. Dead pigs are handled and removed the same day, sprayed before they leave. Internal biosecurity is mostly a set of lines staff agree not to step over.

What page 1 compressed

If you only fix one thing, fix the cleaning. The strongest disinfectant on the shelf cannot outperform a bucket of hot water and detergent used properly first.

VECTORS & VERMIN

The routes people forget

Flies, rodents, birds and water — Hypor Manual 3.0 + the Chinese ASF manual

Flies
~15% adult
at any moment — the rest are eggs, larvae, pupae. Kill both stages, or the population rebuilds.

Rodents
≥ 60 cm baffle
rat-guards on every outside opening, plus an 80 cm gravel band along the barn walls.

Wild birds
≥ 2 repellers
per feed tower, mesh on every opening, and nests within 100 m of the fence removed.

Other animals
40 cm deep
fences dug in 40 cm below ground so nothing digs under. No cats — they carry pig pathogens.

Water is a transmission route, not a utility

The Chinese manual draws from a deep well (150 m or more) into a treated holding tank, topped up with fresh chlorine dioxide as it is used. Hypor has farm water tested twice a year by an outside lab. Surface water in the rainy season is one of the easiest ways in.

Why the small routes decide outbreaks

Farms pour effort into gates and trucks, then lose the herd to a fly, a rat, or a bird over the feed tower. A vector does not shower, does not sign the book, and does not stop at a checkpoint. The forgotten routes are exactly where a good programme quietly fails.

HEALTH MONITORING

The barn tells you before the test does

Biosecurity keeps the dose down; monitoring catches what still gets through

Health starts at birth, not at the gate

A piglet is born with no antibodies of its own. Its first defence is the colostrum it suckles in the first hours — that borrowed immunity carries it until its own system develops over the first 3–5 weeks of life (DanBred). Biosecurity protects a herd whose youngest members are, for weeks, running on someone else's immune system.

The earliest sign is behaviour

A pig going off feed, standing apart, or lying differently shows hours before red spots or a positive test.

The forgotten risk is the quiet one

Fomites and visitors are the routes farmers most underestimate — the contacts that leave no obvious mark.

No vaccine means no second chance

For ASF the whole game is keeping the dose out and spotting the first sick pig fast. Detection is part of biosecurity.

The gap a camera could close

Biosecurity decides how much virus arrives. But the first sick pig still has to be seen, and most hours of the day nobody is in the barn to see it. The tell — a pig off its feed — is visible behaviour, if anything is watching at that hour. DeepLoop is working on that: reading how pigs eat, move and rest continuously, so the earliest change is not missed.

Save this and check one thing tomorrow

Walk your own downtime and shower rule, your quarantine time, and your fly and rodent control. Whichever is the weakest of the three is where your next break-in comes from.

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