

Score the pig, not just the pen.

Animal-based measures, each with a target and an alarm value — EFSA (2022) and KTBL/FLI (2020).

Two ways to judge welfare — only one asks the animal

Resource-based what the pen provides • Space, floor type, slats • Air quality, ammonia, draught • Water, feeder access • Enrichment material	Animal-based (ABMs) what the pig actually shows • Tail, ear & skin lesions • Lameness, poor-doers (runts) • Body soiling, body condition • Mortality, disease
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A pen can meet every resource rule while the pigs in it are lame, bitten or wasting. EFSA's 2022 opinion puts animal-based measures at the centre: the outcome on the animal is the proof. Resources explain a problem; the animal is where you find it.

A number is not a verdict — it needs a target and an alarm

TARGET zone no herd-level problem	EARLY-WARNING watch, find the cause, improve	ALARM zone acute problem — act now
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KTBL and the Friedrich-Loeffler-Institut set a target value and an alarm value for each indicator, so a herd result lands in a zone. It is a self-check tool for the farmer, read as a trend over time — not a pass/fail inspection number.

The KTBL / FLI self-check thresholds (% of animals)

INDICATOR (animal-based)	TARGET ≤	ALARM ≥
Mortality — weaners verified + euthanised, of total	2.0 %	4.0 %
Mortality — fatteners verified + euthanised, of total	1.5 %	3.0 %
Poor-doers / runts (weaners) of all animals	2.0 %	4.0 %
Lameness (clear) of animals assessed	1.0 %	3.0 %
Tail lesions (clear) of animals assessed	2.0 %	10.0 %
Skin lesions (severe, score 2) excl. tail & ears	2.0 %	5.0 %
Ear lesions (clear) of animals assessed	2.0 %	5.0 %
Body soiling (heavy) of animals assessed	5.0 %	10.0 %

Orientation values for the farmer's own control (EiKoTiGer). Not intended for external inspection.

EFSA — the measures worth reading at the abattoir

Rearing (finishing) pigs • Tail lesions • Carcass condemnations • Lung lesions	Cull sows • Body condition • Shoulder ulcers, vulva lesions • Carcass condemnations
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The rule this deck is arguing for
Read the animals, not only the pen. Score the outcome measures on a regular sample, compare each to its target and alarm value, and act on the trend — before a rising tail-lesion or lameness rate crosses the alarm line and becomes an outbreak.

Based on KTBL/FLI 2020 (EiKoTiGer target & alarm values, Table 1; scoring per Schrader et al. 2020) and EFSA AHAW Panel 2022, Welfare of pigs on farm, EFSA Journal 20(8):7421.

Resources explain welfare. Animals reveal it.

EFSA AHAW Panel 2022 — animal-based measures (ABMs) at the centre of the assessment

Why an animal-based measure

A resource measure tells you what the pig was offered — the space, the air, the water, the straw. An animal-based measure tells you what the pig did with it: whether it is lame, bitten, soiled or wasting. EFSA's 2022 opinion frames welfare around these outcome measures because two identical pens can produce very different animals.

RESOURCE-BASED (the input)

ANIMAL-BASED (the outcome)

Space allowance, floor & slat type	Lameness, locomotion
Air quality, ammonia, air speed	Tail, ear and skin lesions
Enrichment material	Tail biting, redirected behaviour
Feed & water provision	Poor-doers, body condition, soiling

The trap resource rules leave open

Meet every space and equipment requirement and the pen passes an audit. But tail biting, lameness and wasting all happen inside compliant pens. If you only check the resources, you can be fully compliant and still be running a welfare problem you never measured. The animal is the missing half of the check.

What EFSA recommends measuring

For rearing pigs, EFSA names tail lesions, carcass condemnations and lung lesions as the most useful and promising measures to collect at slaughter; for cull sows, body condition, carcass condemnations, shoulder ulcers and vulva lesions. Page 4 turns these into on-farm numbers with a target and an alarm.

What page 1 compressed into one row

Judge the pen and the pig. The pen tells you the risk; the pig tells you the result. Everything else on this deck is a way of reading the pig on a schedule.

Target, early-warning, alarm

KTBL/FLI 2020 — the orientation frame for a farmer's own welfare self-check

Why a single number is not enough

"3% lame" means nothing on its own. The KTBL/FLI EiKoTiGer project set, for each indicator, a target value (the green zone you aim for) and an alarm value (the threshold of an acute problem). A result between them sits in an early-warning zone. Now the same 3% reads as a verdict against an agreed scale.

TARGET value / zone

At or better than the target, there is no herd-level welfare problem for that indicator on current evidence. This is the achievable green zone.

EARLY-WARNING zone

Between target and alarm. Keep watching the indicator, look for causes, and improve at least over the medium term before it worsens.

ALARM value / zone

At or past the alarm value there is an acute welfare problem needing action now. Clarify the cause and take targeted measures; call in the vet or a specialist.

How it is meant to be used

It is a self-check under the German Animal Welfare Act's on-farm-monitoring duty (TierSchG §11(8)) — explicitly NOT a tool for external inspection. The alarm is set deliberately early, so management can react before the early-warning zone becomes an alarm. Read all indicators together, and read them repeatedly over time.

A caution the authors flag

With a small sample and a low target, a single affected animal can push a result into the alarm zone. Treat one-off findings with judgement — check whether they persist across repeat assessments before concluding there is a herd problem.

The full self-check table

KTBL/FLI 2020, Table 1 — target and alarm values for weaners and fatteners

CONTINUOUS — recorded on all animals

INDICATOR (animal-based)	TARGET ≤	ALARM ≥
Mortality — weaners verified + euthanised / total stock	2.0 %	4.0 %
Mortality — fatteners verified + euthanised / total stock	1.5 %	3.0 %

Antibiotic use (therapy index) and slaughter findings are also recorded continuously, but read against existing benchmark systems (QS, HIT) rather than a fixed target/alarm.

TWICE-YEARLY — scored on a sample of pens

INDICATOR (animal-based)	TARGET ≤	ALARM ≥
Poor-doers / runts (weaners) of all animals	2.0 %	4.0 %
Body soiling (heavy) of animals assessed	5.0 %	10.0 %
Skin lesions (severe, score 2) excl. tail & ears	2.0 %	5.0 %
Ear lesions (clear) of animals assessed	2.0 %	5.0 %
Tail lesions (clear) of animals assessed	2.0 %	10.0 %
Lameness (clear) of animals assessed	1.0 %	3.0 %

Ectoparasite suspicion is a yes/no indicator: target = No, alarm = Yes. Water supply is checked but not scored.

How to read the scale

Lesions are scored by severity — skin lesions use grade 2 (severe) as the trigger, so the number is the share of animals with a serious lesion, not any mark. Lameness has the lowest alarm of all (3%): even a little clear lameness signals a problem worth acting on. Tail lesions carry a high alarm (10%) because outbreaks spread fast.

Tail biting is a whole-system alarm

EFSA 2022 risk factors + KTBL tail-lesion target 2% / alarm 10%

Why the tail is the tell

Tail biting rarely has one cause. EFSA lists it as multifactorial — it flares when something in the system is wrong, which is exactly why a rising tail-lesion rate is worth reading as an early warning about the whole pen, not just the tails.

EFSA — WHAT RAISES TAIL-BITING RISK

- ⚠ Reduced space allowance
- ⚠ Higher proportion of slatted flooring
- ⚠ High air speed and poor air quality (e.g. high ammonia)
- ⚠ Lack of enrichment material
- ⚠ Poor health status
- ⚠ Deficiencies in feed composition

Docking is not the answer EFSA lands on

Tail docking does reduce tail-lesion risk — but EFSA is explicit that it is not necessary where housing and management are appropriate, and recommends tail docking should not be performed and tail biting should be prevented instead. Providing enrichment already during lactation lowers the risk in weaners and growers.

The number to hold

Target 2% of animals with a clear tail lesion; alarm at 10%. But do not wait for 10%. The value of scoring tails every few weeks is the slope — a rate climbing from 2 toward 10 is telling you a system fault is building while there is still time to fix it.

Why it belongs on a welfare-indicator deck

It is the clearest case of the whole argument: a single animal-based measure that, read as a trend against a threshold, points back at space, air, enrichment, health and feed all at once. Score the tail, and you are auditing the pen.

Lameness, skin, ears, poor-doers

KTBL/FLI 2020 — the sample-scored indicators and what each low alarm means

INDICATOR (animal-based)	TARGET ≤	ALARM ≥
Lameness (clear) of animals assessed	1.0 %	3.0 %
Skin lesions (severe, score 2) excl. tail & ears	2.0 %	5.0 %
Ear lesions (clear) of animals assessed	2.0 %	5.0 %
Poor-doers / runts (weaners) of all animals	2.0 %	4.0 %

Lameness — the lowest alarm of all

At a 3% alarm, lameness has the tightest threshold on the whole table. Locomotion is a sensitive, painful outcome, hard to hide and hard to fake — a small clear-lameness rate already warrants finding the cause (floor, claw health, injury, infection).

Skin and ear lesions — social and environmental

Severe skin lesions (scored grade 2, tail and ears excluded) flag mixing aggression, space and floor problems; the alarm is 5%. Ear lesions carry the same 2% / 5% band and often rise when biting is redirected from docked tails onto ears — read the two together.

Poor-doers — the wasting animal

The share of runts (Kuemmerer) among weaners captures animals that fall behind and stop thriving: target 2%, alarm 4%. A rising runt rate points at health, competition at the feeder, or early disease long before mortality moves.

Read them together, not one at a time

KTBL is explicit that a measure improving while another worsens is normal — a change in management shifts several at once. The verdict is the whole picture across indicators and across repeat assessments, never a single indicator on a single day.

The score is a snapshot. Welfare is a film.

The gap these thresholds leave open — and what it would take to close it

How the scoring actually happens

The self-check is done on a sample of pens, by eye, roughly twice a year. It is a good discipline — but between two assessments, months pass in which no tail, no gait and no runt is being scored. A welfare problem that starts and peaks inside that gap is simply not in the data.

Read on a sample

A few pens stand in for the whole barn — the affected pen may not be the one scored.

Read by eye

Lesion and lameness grades need trained, repeatable assessors; scores drift between people.

Read twice a year

A tail-biting outbreak can start and burn out between two half-yearly checks.

Wednesday's paper measures the gap

A Spanish team ran the full Welfare Quality protocol every two weeks across one fattening cycle. The scores moved — housing drifted from “enhanced” toward “acceptable”, and the same building scored differently depending on the week. A single visit could have landed almost anywhere on that curve.

What it would take to close it

Not a better threshold — the thresholds are sound. It would take reading the animal-based signs continuously instead of twice a year, so a rising lesion or lameness trend is caught while it is still small. That is the part nobody is standing in the barn long enough to see.

Save this and check one thing this month

Pull your last two mortality and tail-lesion figures. If either has moved toward its alarm value, the trend has already started — whatever the calendar says about the next scheduled welfare check.

Based on KTBL/FLI 2020 (EiKoTiGer) and EFSA AHAW Panel 2022 (EFSA Journal 20(8):7421).
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