



Danish Crown

Welfare Outcome Measure Reporting 2022/2023

September 2023



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1. Introduction

The ability to demonstrate adherence to our Animal Health & Welfare policies and continued progress against our target commitments is of crucial importance to our business. The use of animal welfare outcome measures (WOMS) is an established approach which allows the assessment of animal wellbeing in a range of contexts including farm, transport, and slaughter processes. This then allows us to track and trend performance across business activities, geographies, and species. While not every sector has the same degree of historical data, the development of consistent reporting approaches is an ongoing priority that will increase transparency, inform policy, and drive implementation of best practices at both farm and slaughter level. In some instance we have examples of extremely comprehensive long-term industry data sets, including 7 years of WOM reported for our Englandsgrise pigs being supplied into the UK retail market.

Key Measures are reported below.

Data for the calendar year 2022 is summarized with previously reported data sets (where available) for comparison.

Data must be interpreted within the context of a number of unprecedented industry pressures including:

- Covid 19 – and the associated impact on both farm and slaughter process and procedures over the 2-year period from January 2020
- Disease challenges e.g. African Swine Fever and Avian Flu in central Europe
- Legislative changes e.g. restrictions on use of Zinc Oxide in pig feeds and the subsequent impact on gut health in weaned pigs

Where figures of at or near 100% compliance are reported these have remained consistent for at least the last 2 years (with exception of broiler chickens and fin fish which have been reported for the first time in 2021), this reflects the historic progress made in these areas and the ongoing resolve to uphold policy commitment across the business as a whole.

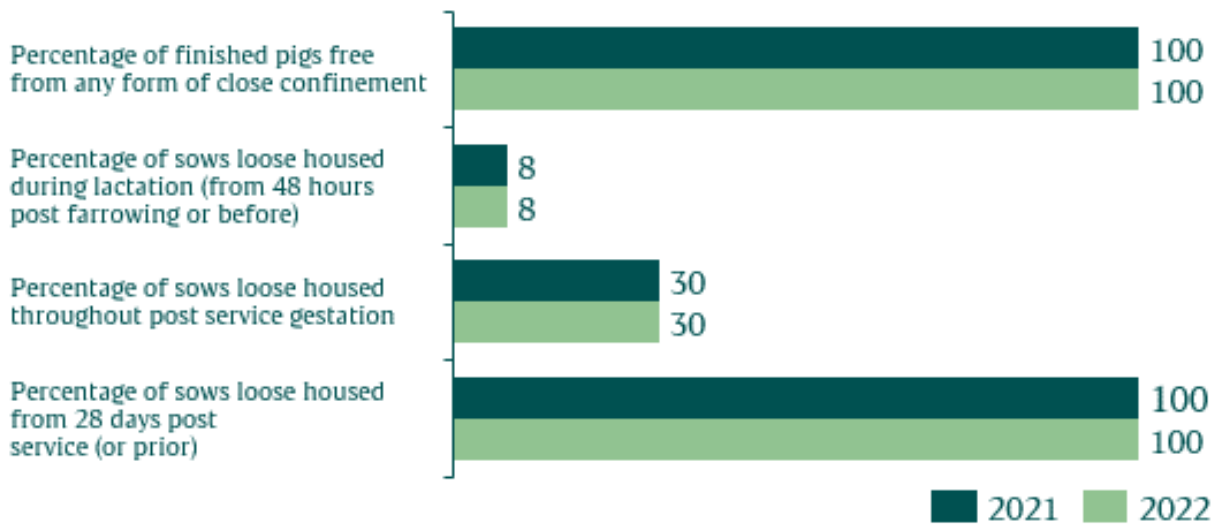


2. Close confinement

To reconfirm our policy commitments, close confinement must actively be minimized at all life stages, except where this is to meet specific needs e.g. temporary tethering of individuals undergoing veterinary treatment or intervention.

This overarching commitment is supported by detailed species-specific, time-bound requirements. Species specific performance outcomes in respect of confinement are illustrated below (Figure 1).

Figure 1. Percentage of animals free of close confinement within Danish Crown pork supply base



Individual Pork confinement outcomes include:

- 100% of sows are tether-free; tethering is not permitted in any of our supply chains
- 100% of Sows are loose housed from 28 days post service; all (100%) sows are free from permanent close confinement
- 30% of sows are loose housed throughout post-service gestation period; this applies to Danish UK contract ('Englandsgrise'), Friland, Antonius, and Bornholmer supply chains in Denmark, and our pig production in Sweden
- 100% of all pigs are free from routine tethering at all life stages
- 100% of finished pigs used in manufactured products are free of close confinement at all life stages e.g. cage systems
- 8% of sows are housed in loose lactation systems (Friland pigs, Antonius, Bornholmer and Swedish supply chain)

- 100% of our pigs in Sweden are already produced within free farrowing systems

Pending confirmation of impact assessment and time scales likely to be associated with an indicative EU ban on systems of confinement as early as 2027, Danish Crown is actively engaged in and supportive of initiatives to adopt alternative housing and husbandry systems.

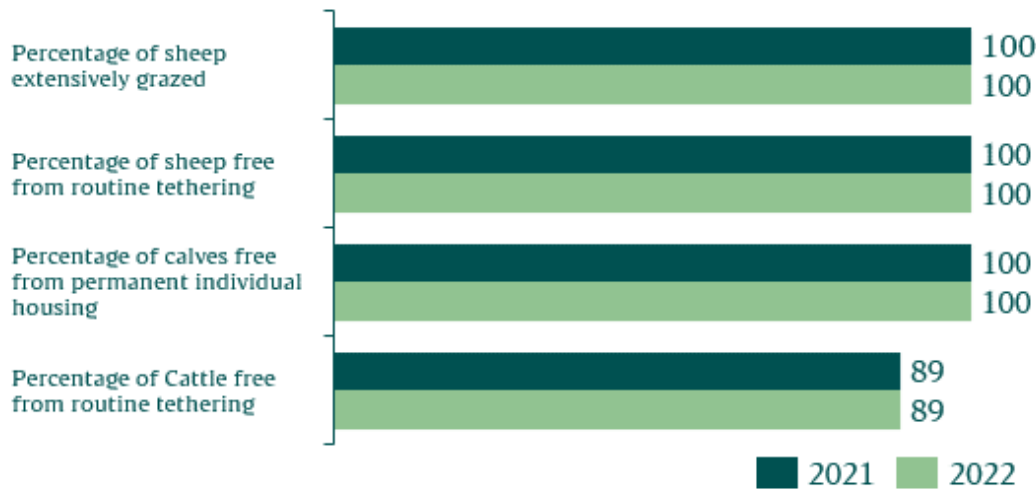
Recent areas of emerging consumer concern, such as free-farrowing systems for pigs, are currently a minority practice across the business as a whole but as implementation is predicted to increase this is also driving research initiatives within Danish Crown to ensure that welfare of both sow and litter is safeguarded. Danish Crown continues to support and participate in research projects that will facilitate an effective transition to free-farrowing systems in years to come; [Loose sows \(seoes.dk\)](https://seoes.dk).



There is still a provisional target for the supply base to have moved from confinement farrowing by 2030 but in common with much of the pig industry the ongoing uncertainties around what is perceived as 'best practice' means that there is a degree of caution and a need to future proof transition choices, given the considerable financial outlay and a commitment to ensure that any changes do not compromise piglet welfare.

Experience and best practice recommendations from territories within the Danish Crown business where free-farrowing is mandatory i.e. Sweden where 100% of sows are loose housed throughout gestation and lactation, will help inform overall policy and approach.

Figure 2: Percentage of animals free of close confinement within Danish Crown ruminant (cattle & sheep) supply base



Individual Ruminant Outcomes include:

- 100% of sheep are free from tethering and have some form of extensive pasture access
- 100% of calves and 89 % of the total cattle supply base (incl. dairy cattle) are free from tethering and in the minority systems where tethering does occur it is subject to minimum requirements re: movement and space to meet animals' primary behavioural needs.
- 87% of calves are housed in pairs or group systems throughout rearing period
- 100% of calves are group housed from a maximum of 8 weeks of age

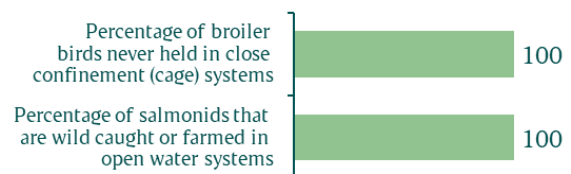
Our already high levels of compliance with regards to these metrics have been sustained over successive years.

Poultry & Finfish

Having completed an extensive supply chain mapping exercise within our subsidiary businesses we have enhanced visibility of the supply base and associated production characteristics (this is part of an overarching commitment to move towards a policy of 100% 'within group' raw material procurement).

This enhanced visibility will facilitate more extensive assessment of welfare outcomes in future reporting periods but ensures that at present there is an understanding of compliance with respect to core metrics.

Figure 3: Percentage of animals free of close confinement within Danish Crown broiler & fin fish supply base in 2022



- 100% of broiler birds are never held in close confinement (cage) systems
- 100% of finfish are wild caught or farmed in open water systems

Danish Crown aim to maintain this high level of compliance across minority species and improve overall visibility across these sectors.



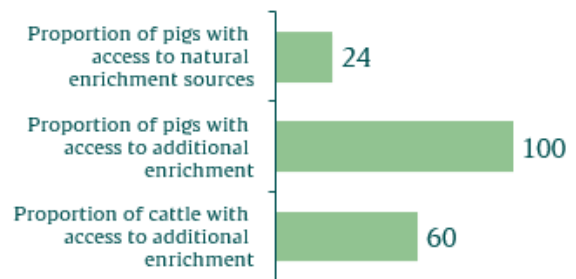
3. Enrichment

The role of environmental enrichment in helping to satisfy maintenance behavioural needs is now well established when assessing animal welfare. This is true both of more intensive production systems more typically associated with pigs and poultry and additionally plays a role even in extensive cattle husbandry systems.

Irrespective of country of origin all EU pig production systems must adhere to farm level guidance that enrichment is compliant with COMMISSION RECOMMENDATION (EU) 2016/336 of 8 March 2016 on the application of Council Directive 2008/120/EC laying down minimum standards for the protection of pigs as regards measures to reduce the need for tail-docking. In certain geographies e.g. Sweden and Germany this must be achieved through the provision of one or more sources of natural, optimal enrichment e.g. soft wood, hay, straw, sawdust. This accounts for a total of 24% of pork production, but in all of our supplying territories the provision of enrichment (whether through single or combined, natural or man-made sources) must collectively provide a form of optimal substrate that facilitates rooting and chewing behaviours while having a wide range of sensory properties (taste/smell).

In addition to the above requirements, our Friland and Friland Organic, KRAV and the EU-organic production systems have access to outdoor range areas and are finished in straw-based systems satisfying the criteria for optimal enrichment at each life stage. A significant proportion of cattle (60%) also have access to enrichment e.g. cow brushes, and social facilitation is a key aspect of higher welfare production associated with Friland and Organic including KRAV production and very specifically the Dansk Kalv initiative. No cattle (0%) are sourced from feedlot of CAFO systems.

Figure 4. Percentage provision of cross-species enrichment within the Danish Crown supply base in 2022



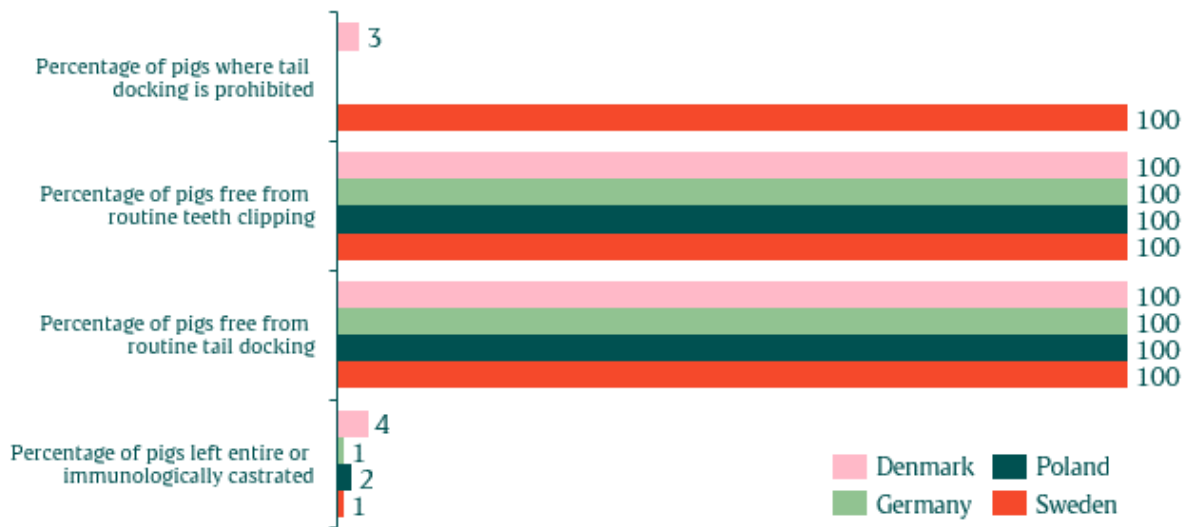


4. Surgical interventions

Danish Crown encourages farming practices that reduce the need for management mutilations. This is reflected in current reporting metrics and additionally

underpinned by relevant research initiatives and commitments e.g. the increase in entire male pigs to be processed through our supply chains.

Figure 5. Percentage of animals free from physical/surgical interventions within Danish Crown pork supply base in 2021



With regard to pig husbandry and management:

- Routine tail-docking and tooth-clipping or grinding are not permitted across our supply chains; 100% of our pigs are free from these procedures carried out as a routine. They can only be performed following a risk assessment and a recommendation by a veterinarian.
- Tail-docking is forbidden in our Swedish supply chain as well as in the Friland, Antonius and Bornholmergris quality programmes in Denmark; equivalent to 8% of total supply.
- Developing alternatives to surgical castration is a priority issue. In Denmark, 4% of our male pigs are intact, while in Germany it is around 1%. In Poland, around 2% of piglets are castrated by the means of immunological (i.e. non-surgical) castration.

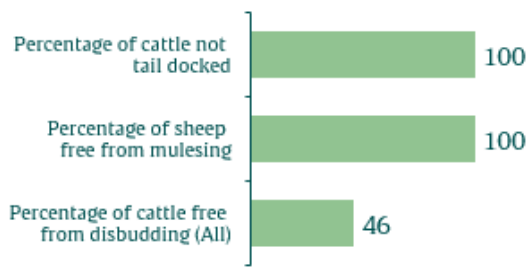
Striking a balance between animal welfare, sustainability and meat quality is a key issue for Danish Crown; most evidenced in the development of

alternative approaches to surgical castration. Danish Crown have adopted two key approaches e.g. in our Polish supply base where a proportion of males are immuno-castrated. Additionally, as referenced in our Animal Welfare Position Statement 2022/2023 Danish Crown will quadruple the amount of entire (non-castrated) male pigs that are being slaughtered in its supply chain from 450,000 in 2022 to 1.65 million annually, with the first throughput of these additional entire males scheduled to commence in summer 2023 and it is anticipated the business will be able to report a significant trend increase over the next 18 months.

In addition, in the latter part of 2022, Danish Crown have implemented a system of assessing tail length in pigs at point of delivery to Danish abattoirs, as a means of evaluating the extent to which veterinary recommended tail docking is being advised; thereby providing greater visibility of where targeted intervention to support and negate a need to tail dock is required.



Figure 6. Percentage of animals free from routine physical/surgical interventions within Danish Crown ruminant (beef & lamb) supply base in 2022



With regard to ruminant husbandry and management:

- Routine tail docking of cattle is not permitted across our supply chains.
- The incidence of disbudding i.e. the removal of horns in calves less than 2 months of age in order to reduce the incidence of bruising and potential injury to animals or people, varies by geography. In Poland approximately 80% of our cattle are free from disbudding. In Denmark around 41% of cattle are free from disbudding, and in Sweden and Germany it is not allowed to be performed routinely in the organic system (10% and 14% of all cattle respectively). Overall, 46% of all cattle and 75% of beef cattle in our supply chains are free from disbudding.

Danish Crown’s commitment to limiting physical surgical interventions is evidenced in that tail docking of cattle, beak trimming in commercial meat chickens

(Figure 7), and mulesing of lambs is not practiced by any producers supplying into Danish Crown products across any and all retail businesses and geographies.

Figure 7. Percentage of grower birds free from routine beak trimming within Danish Crown broiler supply base in 2022



Additionally, tail docking of pigs is not practiced within our Swedish supply base i.e. 100% of pigs are undocked and we have a number of initiatives as described to further promote and embed alternatives to surgical intervention across our supply chains. Where currently unavoidable e.g. castration of pigs as an export market pre-requisite, then surgical interventions are typically undertaken following administration of anesthesia and/or analgesia (pain relief).

Over and above a commitment to the reduction or elimination of specific surgical procedures Danish Crown has an absolute commitment to prohibiting the following, namely:

- Gavage feeding of ducks and geese (and therefore foie gras production as either a primary or secondary activity is excluded from all supply chains)
- Live plucking of poultry species (and therefore while Danish Crown does not have a feather textile business any supply chains associated with this practice are excluded from our supply base).



5. Breed specifics

As already indicated in our animal welfare position statement under our Sustainable business strategy – “Every Little Thing Counts” - which in this context refers to an ongoing commitment to recognise a ‘less but better’ approach to meat consumption and prioritising quality over quantity. As such we support initiatives that gradually move away from exclusively prioritising the use of high prolificacy breeds within

our supply chain, to those that can deliver other health and welfare metrics such as improved viability (lower mortality). As the majority species within the Danish Crown portfolio this is primarily focused on considerations in relation to pig production (although we also exclude cattle breeds with exaggerated conformation traits from our supply chain e.g. Belgian Blue).

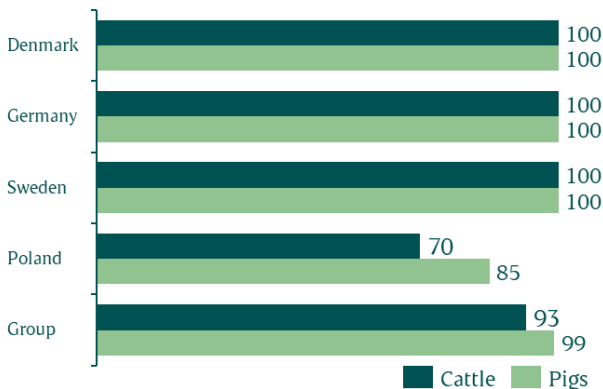


6. Transport

Self-reported data from all suppliers producing own label and branded product across Danish Crown businesses and across all geographies shows 100% of transport times from farm to slaughter to be 8 hours or less over land except in Poland. This is principally due to geography and logistics and is further exacerbated by biosecurity measures associated with prevalence of African Swine Fever in this region.

At group level over 90% of farm to slaughter transport times (own-label and branded) across the Danish Crown Group are 8 hours or less (Figure 8). Under these circumstances potentially extended transport times have typically been managed through the use of intermediate holding sites to allow animals to be fed, watered and rested en route. In those minority instances where planned journeys exceed 8 hours then these are undertaken subject to enhanced training requirements of hauliers (certificated to undertake transport in excess of 8 hours) and in dedicated, superior vehicles providing drinking facilities in transit. All EU lamb (100%) transport is conducted within 8 hours (based on planned journey times) and no poultry species are transported in excess of 12 hours i.e. 100% are transported for 12 hours or less.

Figure 8. Percentage transport time < 8 hours in 2022



Irrespective of species or geography Danish Crown has an absolute commitment to safeguarding the welfare of potentially vulnerable animals during transit and therefore animals in the latter stages of pregnancy,

those that have recently given birth or those in obvious ill health or with significant physical injury must not be loaded for transport.

Indices of fitness to travel are monitored across our processing sites e.g. comparative levels of lameness in Englandsgrise pigs, which have shown a significant reduction over the last 12 months (Figure 9).

Figure 9. Percentage of lameness at unloading across the Danish Crown UK Welfare (Englandsgrise) pork supply chain in Denmark

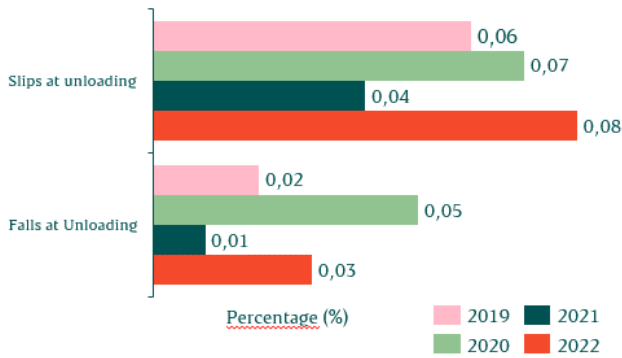


There is a body of independent evidence to indicate that transport and animal handling have the potential to negatively impact on animal welfare and hence Danish Crown extensively monitors these metrics within the supply chain, both in terms of species-specific and method of production considerations; one of the most mature data sets being associated with UK retail supply of Englandsgrise (UK contract) pigs.

Year-on-year assessment of the percentage of slips and falls occurring at unloading indicates a broadly unchanged incident over a 4-year period (Figure 10). Marginal fluctuations are more likely to be associated with limitations of accurate real-time visual assessment during unloading given the low overall incidence reported. Further verification is possible from historic CCTV footage (given that all sites now employ permanent CCTV monitoring) but no specific trends have been identified at site level necessitating specific intervention, and handling is to a generally high standard reflective of the emphasis the business places on training for all individuals involved in live animal processing.

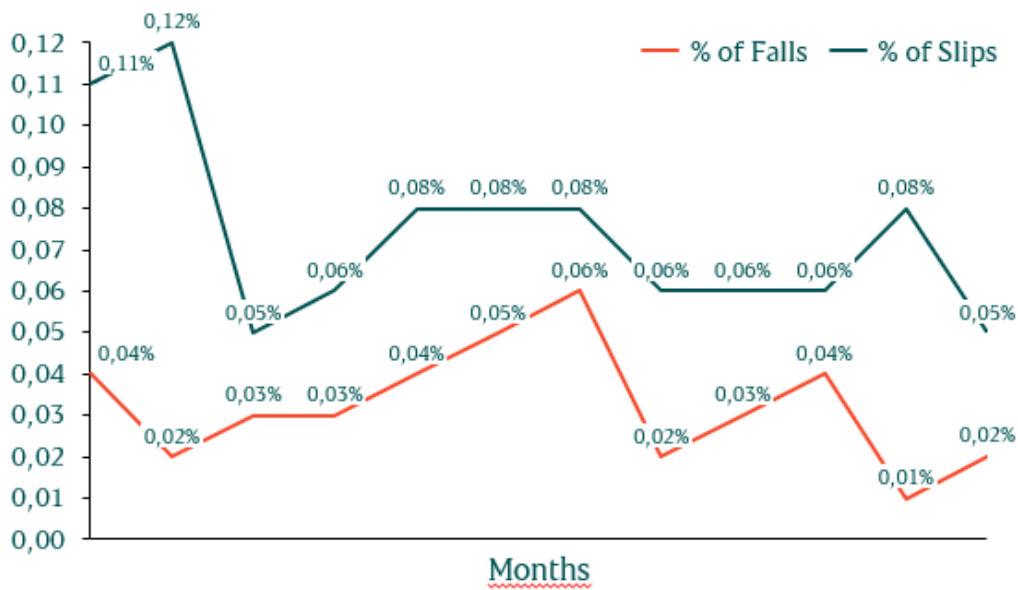


Figure 10. Percentage of slips and falls at unloading across the Danish Crown UK Welfare (Englandsgrise) pork supply chain in Denmark



Further review of seasonal trend analysis of a sub-set of slip and fall data (illustrated over a 12 month period for Englandsgrise pigs, *Figure 11*) illustrates slight seasonal variation i.e. a decline over the summer months and increase in autumn/winter; presumably associated with increased dirt and moisture on the unloading ramps, and as such Danish Crown slaughter sites are mindful of the impact of wetter conditions on the need to ensure best practice handling at all times.

Figure 11. Seasonal trend analysis of slips and falls (Englandsgrise pigs) in 2022 (January to December)





7. Fasting in Fin Fish

Pre-slaughter handling considerations in fin fish extend to optimal fasting periods. This is challenging to define in absolute terms given the impact of ambient temperature on the metabolism of ectothermic ('cold blooded') species such as fish. The supply base work to

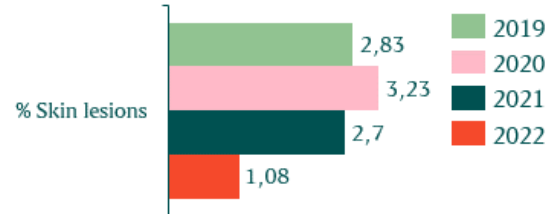
understand the factors influencing product quality – including starve time – based on water temperature (or 'degree days') and this is regulated to ensure both fish welfare and product quality.



8. Skin lesions

Pigs are inherently social animals and while maintaining stable farm groups is advantageous, the process of mixing unfamiliar groups during transport and lairaging can have a significant impact, resulting in aggressive interactions, fight damage and skin lesions. Danish Crown require that pigs are kept in farm groups during transport and lairage and that the time which pigs are held in the lairage is minimised. Similarly, all processing sites must ensure that planned intake and slaughter schedules limit the proportion of pigs which need to be lairaged overnight. The impact of transit and handling is further monitored through incidence of skin damage relative to the percentage of pigs held overnight.

Figure 12: Percentage of skin lesions across the Danish Crown UK Welfare (Englandsgrise) pork supply chain



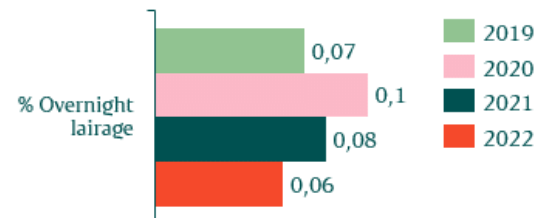
While there has been a year average trend increase in skin damage between 2019 and 2020 this now appears to have stabilised/reduced in 2022 (Figure 12). The trend graph for Englandsgrise pigs (Figure 13) illustrates that the annual average is underpinned by a significant trend decrease over the twelve-month recording period of 2022.

Figure 13: Seasonal trend analysis of skin lesions (Englandsgrise pigs) in 2022 (January to December)



It is suggested that in common with a number of metrics impacted by the anomalous situation associated with the peak of Covid-19 that disruptions to predicted intake scheduling may have resulted in increased lairage times and this is supported by the Danish Crown overnight lairage data (Figure 14). Similarly, the comprehensive sub-set of Englandsgrise data suggests that while figures have remained comparatively low overall there was a significant proportional increase in 2020. However, subsequent trend analysis illustrates that there has subsequently been a trend decrease towards 2022.

Figure 14. Percentage of overnight lairage across the Danish Crown UK Welfare (Englandsgrise) pork supply chain in Denmark





9. Slaughter

The Danish Crown Group Animal Welfare Policy has an indicative requirement that all livestock species are pre-stunned prior to slaughter in accordance with European regulatory requirements (Regulation 1099/2009 EC). This is irrespective of geography or species. This is adhered to in 100% of instances for the pork supply base, the poultry supply base (including pre-stunned Halal) and 100% for cattle in all geographies except Poland where there is an explicit legislative requirement to allow for non-stun, [shechita slaughter](#) as of 2014 but this represents a minority of total animals. 100% non-EU lamb (NZ) is sourced from sites that undertake high frequency (recoverable) electric Halal stunning whereby animals are insensible at time of stun but consistent with stunned Halal requirements. All lamb (100%) is therefore subject to some form of stunning to effect insensibility at time of slaughter (Figure 15).

Figure 15. Percentage of red meat & pigs subject to pre-slaughter stunning in 2022



Similarly, all (100%) poultry is pre-slaughter stunned either through irrecoverable controlled atmosphere stunning or high frequency electric stunning. While (100%) of farmed finfish are pre-slaughter stunned either at time of harvest (dead haul) or at final processing site (Figure 16). Specifically for salmon, 100% are stun-killed using percussion or electrocution.

Figure 16. Percentage of poultry & farmed finfish subject to pre-slaughter stunning in 2022



Controlled atmosphere stunning remains the majority approach within the pork supply base due to the recognised benefits of group handling, the effectiveness of the process and the lack of any other scientifically validated, commercially viable alternative delivering equivalent or enhanced welfare outcomes. While no viable commercial alternatives to CO2 at high concentrations have been developed yet, Danish Crown supports the search for alternatives. Reflecting this commitment, Danish Crown is a member of an EU consortium whose aim is to find viable alternatives to CO2 stunning in the environment of large-scale processing operations. The commission will focus on animal welfare but also consider other factors including environmental impact and financial implications. Danish Crown is also prepared to invest in humane alternatives when commercially available.



10. Secondary stunning

In addition to requiring that all species are pre-slaughter stunned we recognise that the effectiveness and consistency of stunning is crucial to animal welfare during the slaughter process. Where possible we favour the use of methods that result in an irrecoverable stun (stun-kill) such as Controlled Atmosphere Stunning (CAS) systems used in our pig supply chains. Where

electrical or percussive systems are used then our suppliers report on the percentage of animals that require a secondary or 'back-up' stun. Across Danish Crown (group) this equates to < 0.09% of all animals (all species and territories).



11. Antibiotics

Danish Crown's performance in respect of antibiotic use has been externally recognized in global benchmarks, reflecting the strength of the [VetStat 'yellow card'](#) system which is applicable across a significant majority of the total supply chain system which is applicable across a significant majority of the total supply chain.

"Its strongest performance comes in the environment measurement area, where it demonstrates leadership in relation to animal welfare, antibiotic use".

<https://www.worldbenchmarkingalliance.org/publication/food-agriculture/companies/danish-crown-2/>

An explanation (English Version) of the VetStat system as evaluated by AACTING "Network on quantification of veterinary Antimicrobial usage at herd level and Analysis, Communication and benchmarkING to improve responsible usage" can be found [here](#).

Policy commitments are articulated [here](#)

Performance in key areas is summarized below:

Proportion of supply chain free of routine prophylactic and routine metaphylactic antibiotic use	100%
Proportion of supply chain free of AGP use	100%
Proportion of supply chain free of growth hormone use	100%
Proportion of supply chain free of cloned or genetically modified livestock and/or parent stock	100%

Danish Crown adheres to International Veterinary Guidelines articulated as "as little as possible but as much as necessary" with respect to antibiotic use. The routine prophylactic and routine metaphylactic use of antibiotics is not permitted in any of our livestock supply chains. Where animal species are raised in group situations sharing common resources e.g. finfish and poultry, then it is recognised that group treatment may be necessitated where clinical disease has been identified in one or more individuals. This is consistent with responsible [use guidelines](#) which make clear that preventing the spread of infectious disease to animals in close contact and at considerable risk and which may already be (sub-clinically) infected or incubating the disease is a preferential approach in terms of maintaining net welfare criteria and ultimately reducing total treatment occasions.

Danish Crown continue to prohibit the use of antibiotic growth promoters and growth hormones in their supply chains to maintain consistency with European legislation, irrespective of country of origin, given the well- documented concerns around inclusion of these products in livestock supply chains. Similarly, there remains a ban on the use of cloned or genetically modified livestock. While aware of the arguments around livestock that have been genetically modified to confer disease resistance the long-term impact has yet to be evaluated and will be considered only on a case-by-case basis as and when a compelling rationale for inclusion is presented.