

1 November 2021

Statement on mink production

Summary

In 2003, the Danish Animal Ethics Council prepared a statement on fur farming. The housing systems used for mink have not changed considerably since then, and several countries have now introduced a ban on fur farming. Mink were still produced in Denmark until 2020, when the Covid-19 pandemic hit Denmark, and mink were believed to pose a risk to human health. All mink in Denmark were therefore culled and a temporary ban on mink production was introduced. The Danish Animal Ethics Council believes that the current situation is a good opportunity to consider, from an animal ethics and animal welfare perspective, the future conditions for mink production if this is to be resumed. On that basis, the Council has discussed three key questions: Whether the purpose of mink production is acceptable; whether mink production in its current form (up to 2020) can be considered acceptable; and, if not, on what animal welfare conditions production should be carried out if resumed.

In public debate fur is often criticised for being a luxury item. However, the Danish Animal Ethics Council finds that defining when a product can be considered a luxury can seem arbitrary. A rejection of mink production on this basis is therefore rooted in a more fundamental discussion about for what purposes it is acceptable to use animals, which goes beyond the scope of this statement.

The Danish Animal Ethics Council believes that allowing animals good possibilities to express their natural behaviour is a crucial precondition for animal welfare. Keeping animals under very restrictive conditions can therefore not be considered up-to-date and appropriate in terms of animal welfare considering the current knowledge about the behavioural needs of animals. Therefore, the Council is of the overall opinion that keeping mink in the existing cages is unacceptable.

The members of the Danish Animal Ethics Council agree that an alternative to the existing cage system needs to be developed if mink production is to be resumed. If so, the Council recommends focussing research on rethinking the housing system rather than merely adjusting the existing system, and the Council presents a number of specific recommendations to be incorporated in this case.

The Danish Animal Ethics Council has not discussed whether a new housing system that takes more account of the biology of mink and that adequately takes account of the welfare of mink is compatible with a practicable and economically viable mink production. Some members of the Council believe that the option to establish a genuinely new and more up-to-date type of mink production should remain open. Among these members, some believe that any reestablishment of mink production should await the development of a new housing system, while others believe that the current system may be used for a shorter period of time while the new system is being developed. The remaining Council members would rather see the introduction of a permanent ban on mink production, arguing that it is unlikely that mink could be farmed for fur in a way that is in line with appropriate welfare standards.

Background

In 2003, the Danish Animal Ethics Council prepared a statement on fur farming. The statement concerned the production of fur from mink and foxes. The statement was prepared following considerable focus on fur farming in the political and public debate. Fur farming had been banned in some European countries, and Denmark was about to translate the 1999 Council of Europe Recommendation concerning fur animals into Danish law. The Danish Animal Ethics Council therefore decided to examine the fur farming industry in Denmark, hoping to be able to contribute to the debate on fur production.

The fur farming debate has since continued. Norms for keeping and using animals have changed, several countries have banned fur farming, and some fashion houses have stopped using fur altogether. Fox production was prohibited in Denmark in 2009 but already established farms could get permission from the Ministry of Food, Agriculture and Fisheries to continue fox production up to and including 2023. However, the last fox farm in Denmark was closed in 2020. Mink, on the other hand, were still farmed in Denmark up to 2020, and the farming method used had remained more or less the same since 2003. Mink were still kept in cage systems, although a few new initiatives had been introduced: for example, mink can now be kept in groups, and there is a requirement for enriched cages. Around 12-13 million mink pelts were produced annually in 2018-2019, while in previous periods the level of production had been up to 17 million pelts annually. Up to 2020, Denmark was the world's largest producer of mink fur.

However, in 2020, along with the rest of the world, Denmark was hit by the Covid-19 pandemic. It became evident that some animal species, such as mink, could also be infected by the virus and could pass it on to other mink as well as back to humans. Because of the large number of mink and a high mink density at farms in Denmark, Danish mink served as a potential reservoir of infection for humans. Furthermore, the virus had mutated in the mink and the new strain could potentially pose a more serious risk to humans. As a consequence, all mink in Denmark were culled, and a temporary ban on mink production was introduced. When this statement was prepared, it was still uncertain whether, and if so to what extent, the industry wanted and could resume production once the temporary ban ceases. The Council is aware of the establishment of a new association *Danske Mink* (Danish Mink), the objective of which includes forming a network for future mink producers.

The Danish Animal Ethics Council believes that the current situation, with a temporary ban and uncertainty for the industry, is a good opportunity to consider, from an animal ethics and animal welfare perspective, what mink production should look like in the future, if it is to be resumed. Hoping to contribute to these considerations in the societal debate, the Council will in this statement therefore discuss three key questions concerning a possible reestablishment of mink production in Denmark:

- Whether the purpose of mink production is acceptable.
- Whether mink production in its current form (up to 2020) in the light of current knowledge about animal welfare and norms for animal husbandry, can be considered acceptable.
- If mink production in its current form is considered unacceptable on what animal welfare conditions should production be carried out if resumed.

Thereby, the Council hopes to be able to contribute to the debate about whether mink production is acceptable, should be banned or should be done under different conditions if production is resumed in Denmark. The Council is aware that there are other relevant questions regarding mink, such as the implications of farmed mink escaping into the wild; health and financial matters; as well as considerations regarding the environment, climate and sustainability. However, the Council has chosen not to include these topics.

For a general description of the biology and behaviour of mink, and of mink production and a general overview of arguments in the fur production debate, the Council refers to its statement from 2003. In this statement, the Council first provides a brief description of the conclusions from its previous statement and consultation responses considered relevant for the Council's present statement. The Council refers to the mentioned material for further considerations behind the recommendations made at the time. This is followed by a brief overview of developments in this area since the Council's statement in 2003 in relation to the questions discussed by the Council in this statement. Finally, the Council's current considerations and recommendations regarding possible future mink production are presented.

Previous statements and consultation responses by the Danish Animal Ethics Council

Statement on fur farming (2003)¹

In its statement from 2003 on fur farming, the Danish Animal Ethics Council discussed the ethical implications of the purpose itself of farming mink to produce fur. There was a wide range of different opinions about fur farming in the public debate at that time, and the Council believed these generally fell into two groups: those who believed fur farming should be assessed on the same terms as other livestock farming, and those who believed that the very purpose of mink production made a difference to the ethical assessment. Regarding the purpose, what seemed unacceptable was to mass produce animals only to use their fur for embellishment or as a status symbol, when the same effects can be achieved through other means. On the other hand, if one considers fur to be a product in line with other products made from animals, it seemed difficult to see how fur should differ as a particular luxury item. For example, it is difficult to argue that fur is any more of a luxury item than meat, when plenty of alternatives exist for both in our part of the world. The Council therefore believed that the definition of when something is a luxury could seem arbitrary, and that rejecting fur farming on this basis was rooted in a more fundamental discussion about for which purposes it is acceptable to use animals.

The Council was divided in its assessment of fur farming and the conclusions of the Council members roughly fell into three categories, namely:

- That the purpose of fur farming is not any different from that of other livestock farming, and fur farming is therefore acceptable if carried out in a way that takes adequate account of animals' needs.
- That the purpose of fur farming differs from that of other livestock farming as being more of a luxury item, and fur farming is therefore only acceptable if, as

compensation for the purpose, the level of animal welfare is higher than in other livestock farming.

- That the purpose of fur farming constitutes an unacceptable use of animals in a production context, and fur farming should therefore be phased out.

The Danish Animal Ethics Council also discussed the possible requirements to be imposed on fur farming to make it acceptable in terms of animal welfare. The Council noted that the occurrence of stereotypies, which is considered a sign of welfare problems, is not as common when mink are kept e.g. at zoos, and the Council therefore found it fair to assume that mink can be kept in ways that are acceptable in terms of animal welfare. However, the Council questioned whether the requirements that would thus have to be imposed would be compatible with a viable production. The use of wire cages with limited interior structures protects e.g. the animals' fur but this consideration also limits the possibilities for designing new systems that cater more for the welfare of the animals. The Council noted that just because things can be done a little better, it doesn't mean they can be done well enough, and it may be necessary in the long run to entirely rethink how things are done in order to find the most optimal production system for fur animals. The Council also pointed to a number of welfare-related problems and concluded that the current housing systems did not adequately cater for the behavioural needs of the animals. While some Council members would rather see fur farming ended all together, all members agreed that permitting fur farming in the future would have to be contingent upon improving conditions to ensure a higher degree of animal welfare.

Finally, the Danish Animal Ethics Council discussed the argument that if fur farming was prohibited in Denmark, fur farming would continue in other countries and under conditions that would presumably be even worse in terms of animal welfare. Although the Council found that such a development would be regrettable, it agreed that it could not be used as an argument in itself for maintaining fur production in Denmark. On the other hand, the Council found that, because Denmark was a world leader in fur production, the best alternative to a ban would be for Denmark to set an example for other fur producing countries by improving conditions for fur animals at Danish farms.

Consultation on the Executive Order to amend the Protection of Fur Animals Order – a new requirement for shelves and tubes for mink (2013)²

In its response to the consultation in 2013 on access to both shelves and tubes (as opposed to the previous requirement for access to either shelves or tubes), the Council supported greater focus on ensuring an enriched environment for mink and therefore welcomed the introduction of requirements for both shelves and tubes. Furthermore, the Council pointed to other measures than tubes to meet the needs of mink, such as straw briquettes and chewing ropes, which might be even more effective.

Consultation on the analysis by the task force on group housing of mink (2015)³

In its response to the consultation concerning group housing, the Danish Animal Ethics Council stressed that the Council did not take a position on mink production *per se*, but merely submitted its comments given that mink production did exist. From a general perspective, the Council was of the opinion that farming of any animals should take account

of the biology of the animals, and therefore, when choosing to farm mink this should, as far as possible, be done with respect for the solitary nature of mink. The Council believed that knowledge about group housing of mink indicated that this type of system cannot, and is not expected to be able to, take account of the welfare of mink in the same way as pair housing systems. Consequently, the Council supported a ban against group housing. However, the Council acknowledged group housing as a welcome attempt at developing the way in which mink are being housed. At the same time, the Council encouraged the industry to continue exploring possibilities to develop housing that caters for the welfare of mink better than previous and current systems.

Consultation on a bill to cull and temporarily prohibit mink production (L 77) (2020)⁴

In its consultation response in 2020 concerning a temporary ban on mink production in Denmark, the Danish Animal Ethics Council pointed out that norms regarding animal husbandry in general have evolved since the Council's statement on fur farming in 2003. The Council recalled its previous criticism of very restricted types of husbandry, for example its criticism of permanent tethering of cattle in tie-stall housing (2019)⁵ and keeping laying hens in cages (2014)⁶, because these systems are inherently unfit to cater for the welfare of animals with regard to freedom of movement and the possibility of the animals to exert their behavioural repertoire. The Council did not consider these systems up-to-date and appropriate in terms of animal welfare considering the current knowledge about the behavioural needs of animals.

Like some of the Council members in 2003, in 2020 some Council members believed that mink production should be phased out and that the temporary ban should be made permanent. Other Council members believed that considering whether to re-establish mink production in Denmark called for a more detailed discussion involving a review of current mink welfare research and possibilities for developing housing sufficiently able to cater for mink welfare. Therefore, at that time, these Council members could not take a position on whether a temporary ban on mink production should be made permanent.

The Danish Animal Ethics Council recommended that, during the temporary ban, a decision should be made on the future animal welfare requirements for mink production if mink production were to be resumed in Denmark after expiry of the ban.

Developments in mink production since 2003

Other legislative requirements and possibilities have been introduced since the Council's statement in 2003, and research and experience have produced more knowledge about mink and mink welfare. Furthermore, norms for keeping and using animals have changed. Below, a brief account is presented of the status of factors within these areas, that the Council finds important in its deliberations on a possible future reestablishment of mink production in Denmark.

Legislation

Keeping mink for fur production is currently subject to the general rules on keeping animals in the Animal Welfare Act and the Keeping of Animals Act, for example, as well as various

executive orders on culling, and requirements for health monitoring and training (this is not an exhaustive list). Below is an outline of the rules pertaining specifically to the welfare of mink in fur production, and relevant aspects of these rules for the Council's considerations in this statement.

*Protection of Fur Animals Order (2015)*⁷

The Protection of Fur Animals Order sets out e.g., requirements that fur animals have enough space to express their normal movement behaviour and to prevent behavioural or other disorders (sections 8 and 9). The Executive Order also requires that consideration be made for the species-specific needs of the animals, as well as for their age, gender, weight and biological needs and for the size of the group (section 9). Cover should be provided (section 8), as well as access to appropriate materials to stimulate natural activity (section 10). Very fearful animals may not be used for breeding, and breeding programmes must have particular focus on characteristics that can lead to improved health and welfare in the animals, including selection of trusting animals (section 19). Furthermore, the animals must be handled early on in their lives to ensure development of a higher degree of trustfulness (section 5).

For mink in particular, there is a requirement that they are kept in an enriched environment with appropriate occupational stimuli, i.e. as a minimum they must have permanent access to straw, a shelf and a tube (section 20). Mink must have access to a nest box large enough for all mink in the cage to use it simultaneously, and the nest box must be regularly replenished with plenty of straw (section 21). Adult mink must not be housed together, except for breeding pairs (section 22), and breeding females must be housed in every other cage from mid-April until weaning of the kits (section 23). After weaning and until the litter is 10-11 weeks old, the kits are housed together in 1-2 cages (section 24). Furthermore, there must be access to an area (in addition to the nest box) of at least 30 x 70 x 45 cm. The requirement for the size of the area depends on the size of the mink, and if more mink are kept together in the same cage, there are requirements for how much space should be available to each mink (section 26).

*Mink Culling and Temporary Mink production Prohibition Act (2020)*⁸

In the autumn of 2020, as a consequence of the Covid-19 pandemic, a temporary ban on mink production was introduced. As mentioned above, the ban was introduced because mink had been assessed to constitute a potential reservoir of infection for humans, and because a new strain of the virus had been observed in mink. This new strain was believed to pose a risk to human health and it had not been possible to contain this strain. As a consequence, all Danish farm mink were culled. The temporary ban applies until 31 December 2021. At the time of preparing this statement, there is a political majority supporting an extension of the ban until 31 December 2022. An extension of the ban will, however, require a legislative amendment, and a bill to this effect is likely to be processed by the Danish Parliament (Folketing) in November-December 2021. If the Parliament approves an extension, it will thus be possible to re-establish mink production in Denmark from 2023, unless the ban is further extended for human health reasons or is made permanent for other reasons.

Mink production in other countries

A report from the European Food Safety Authority (EFSA) (2021)⁹ describes among other things the consequences of the Covid-19 pandemic for the mink production, where mink were also culled and mink farms shut down in other countries besides Denmark. According to the report, mink production is already permanently prohibited in several European countries: Austria, Belgium (Wallonia and Brussels), Croatia, Czech Republic, Luxembourg, North Macedonia, Serbia, Slovenia, Switzerland and United Kingdom. Moreover, several countries seem to be planning a ban or have already introduced bans with an ongoing phase-out period: France, Ireland, Slovakia, Norway, Bosnia and Herzegovina, Belgium (Flanders) and Germany. Apart from Norway, these countries, however, already had/have only few or no mink farms. The Netherlands, previously one of the world's large producers of mink, moved forward a ban originally planned to take force from 2024 when they culled all mink and closed down all mink farms due to Covid-19. Most of the remaining active mink farms in Europe are in Finland, Poland, Lithuania and Greece. Furthermore, there is a small number of mink farms in other European countries. According to the EFSA report, which is from January 2021, it is expected that more countries will ban mink production, both due to Covid-19 and because of previously expressed animal welfare concerns.

In several countries, public debate about mink production is currently ongoing, with some people arguing that, with production now fully or partially shut down anyway, mink production should be banned on grounds of animal welfare and animal ethics concerns, whereas others want to preserve and restore the mink production.

During the summer of 2021, the Danish Ministry of Food, Agriculture and Fisheries gathered information about mink production from other European countries, including national strategies for handling Covid-19 outbreaks. It appears here that countries which had banned mink production prior to the onset of the Covid-19 pandemic, did so on the grounds of animal ethics and/or animal welfare. Scotland and Hungary adopted bans in 2020, and Estonia in 2021, all citing animal ethics and animal welfare reasons (none of these countries, however, had mink farms). Italy and Sweden still keep breeding mink, but mating was temporarily banned in 2021. It is currently uncertain whether these bans will be extended. A number of countries continue to have mink production: Bulgaria, Finland, Greece, Latvia, Lithuania, Poland, Rumania, Spain and Ukraine.

Mink production was also debated at EU level when this statement was prepared. As part of its planned revision of EU animal welfare legislation, the European Commission has proposed an evaluation also of fur farming practices in order to improve animal welfare conditions in light of new research. The decision on the areas to be included in the revision will likely be adopted in 2023. The Netherlands and Austria have taken initiative to encourage the European Commission to introduce a ban on fur farming in the EU on the grounds of concerns regarding animal welfare and ethics, and human and animal health risks. Several countries have joined this initiative, while others have reservations, including regarding whether a ban should apply to all fur animals. The debate on the initiative to encourage a ban has also prompted calls for a ban against EU fur imports and fur trading. However, this is not possible as long as fur farming is permitted in the EU.

Mink keeping – research and experiences

General

Mink production follows a fixed annual cycle. Mink are mated and litters of kits are born in the spring. The mink that are not kept for further breeding are culled and pelted around November. Mating is by natural means, which is necessary to induce ovulation in the female mink. The female mink can express nesting behaviour in their nest box with straw, and they give birth to and nurse their kits, usually without the need for human support. The kits are weaned after a couple of months when nursing ceases naturally. After this, the mink are kept in pairs or small groups during the growing stage and until pelting. Over the winter and until the mating season, adult breeding mink are kept in solitary cages. Mink are only handled a few times during a year, typically when they are moved from one cage to another. No surgical interventions, such as tail-docking or castration, are performed.

Since 2011, it has been required by law for mink farms to receive health guidance. Housing in cages makes it easier to inspect the individual animal, and in 2011 researchers assessed mortality rates and the occurrence of disease and injuries as generally low on Danish mink farms¹⁰. Mink that are to be pelted are culled at the farm. The mink are placed in a box with gas. They quickly lose consciousness and die. After pelting, the fat from the mink can be used in biodiesel and natural gas and the rest of the mink can be used for organic fertilisers.

WelFur

In 2009, the European fur breeders' associations took initiative to develop an animal welfare assessment protocol for use in mink and fox farms and following the principles and methods developed under the Welfare Quality® project – a European, research-based collaborative project to develop welfare assessment protocols for production animals. The WelFur protocol was developed collaboratively between researchers from several European countries and an advisory group including the project manager of the Welfare Quality® project to ensure that the assessment of fur animals follows the same principles and standards as protocols pertaining to other farmed animals. After development and test of the protocol, development of an app for data collection and processing, as well as training of independent auditors, WelFur was launched in 2017 as a tool to assess the welfare of mink on European farms. The assessment is based on three visits across different seasons, as welfare-related challenges may differ throughout the life cycle of mink. The welfare assessment is based on research on animal welfare and includes conditions pertaining to feeding, housing, health and behaviour. A total of 22 indicators are examined. These include body condition; access to drinking water; the quality of nest boxes; space in cages; absence of wounds, injuries and disease; culling methods; exhibition of social behaviour; enrichment; fur-chewing; human-animal relationship; and temperament. Some conditions of significance for animal welfare that do not vary from farm to farm (e.g. natural mating and the absence of surgical interventions), or that have not been tested, are not included. Assessment is by random sample inspection of animals and by an independent auditing company. WelFur assessments are made in relation to best current practice and mink farmers can use the results of assessments to compare, manage and develop their own production within the WelFur framework. Assessments include a weighing together of points, on the basis of which the individual farm can be placed in one of four welfare categories. Like in Welfare Quality®, the weighing together of points is done using a

mathematical method that reduces the risk of good assessments in some areas overshadowing poor assessments in other areas.

Auction houses in Europe and North America have supported the implementation of WelFur by only accepting fur from the top three scoring categories, and results show that mink farms have introduced changes in order to become certified. Therefore, the use of WelFur appears to motivate mink farmers to develop their production. Because the protocol is widely used in the fur industry, Danish Fur Breeders' Association also see WelFur as a potential documenting tool aimed at e.g. consumers and the authorities.

The WelFur welfare assessment protocol is under continuous development. WelFur can also reveal whether, and in what areas, the individual countries differ with regard to the welfare of mink in their fur production. A recent report on mink welfare in European countries (2021)¹¹ assessed the welfare of animals in Europe to be good overall. This assessment is based on WelFur data collected from observation of more than 2 million mink during more than 7,800 inspections of more than 2,500 farms across 24 countries in the period 2017-2019. As mentioned, the welfare assessment involves placing the individual farm in one of four categories. These are Best, Good, Acceptable and Unacceptable, compared to current practice. The welfare of farmed mink in Denmark was overall the highest compared with farms assessed in the rest of Europe, with 39% of Danish farms scoring Best and 61% of farms scoring Good. (For the rest of Europe, 15% of farms were in the category Best, and 83% in the category Good). Although Denmark scores high in many areas, the WelFur report also revealed some challenges in Denmark (see below for more on this).

The Danish fur industry has also shown interest in developing new housing for mink. Here, a commitment of funding for research in housing systems for the mink production of the future was recently given, but it was withdrawn when the fur animals tax fund (*pelsdyrafgiftsfonden*) was closed down.

Breeding

Mink have been farmed for fur for more than 150 years and today there are more than 30 different colour variations of mink. Through breeding, farmed mink are in many ways different from the original wild North American mink. Farmed mink have become about twice as big as wild mink to get larger pelts. Litter sizes have also been increased through breeding of farmed mink, from on average 3 kits in 1945 to on average 5-6 kits today; however, the average litter size has remained constant over the last two decades. Litter size varies, though, from a single kit to around 10 kits. The birth size of kits will typically be smaller the larger the litter, but the kits of large litters more or less catch up with those of smaller litters along the way. Large litters can lead to aggression where space becomes limited. This means that large litters will have to be split up and some of the kits are therefore weaned earlier on as they are moved to another cage. According to the WelFur report, Danish farms had better weaning procedures than farms in the rest of Europe, presumably e.g. because of less use of late or no weaning and larger distance between mother mink and their kits after weaning.

Just as other farmed species, that have undergone a domestication process, farmed mink still have their fundamental species-specific behaviour and needs. However, for mink,

domestication has led to a change in temperament, which has made them less fearful. The WelFur report shows that Denmark overall scored slightly lower than the rest of Europe on temperament. The researchers behind the report found it surprising, that Denmark did not do better on this point, as for decades there has been attention on breeding for more curious and less fearful mink, as required under Danish regulations.

Fear reactions are a natural behaviour and cannot be entirely eliminated. However, it is possible to breed more curious and less fearful mink that will react less fearful to the conditions and routines common on mink farms. Curious mink are generally less afraid, e.g. of humans. They show fewer signs of stress and seem calmer, for example during handling. In such situations, the experiences of the individual mink can also be important, for example if a mink has had a negative experience during handling. The legislative requirement for early handling can help prevent the mink from experiencing fear when handled later on as part of the normal practices taking place at the mink farm. Research shows that less negative handling, along with environmental enrichment, also help to reduce the occurrence of fear in mink.

Enrichment

In mink production, mink have generally always been kept in housing systems with variations over a combination of a wire cage and a nest box. The cage made it easier to control hygiene, infection risk and animal health. Housing of mink has not changed considerably over the past 40-50 years, except on a few parameters. Today, cages and nest boxes are standardised and therefore more or less identical throughout Europe. Group housing has also been introduced, and in some places, e.g. in Denmark, there are requirements for several forms of enrichment.

As mentioned above, there are legal requirements for the size of the area to which a mink must have access, and the size of the area is adapted to the number and size of the mink. Research suggests that it means less to mink whether they have access to up to four times as much space as they have in the current cages, compared to the importance of enriching the area that is available. This suggests that what matters is what facilities are available in the cage to stimulate the mink's behaviour, rather than the size of the cage itself. However, more enrichment may require more space. There are no clear results from research as to the individual, separate significance of space, enrichment, and number of animals (as well as age and gender), as several of these factors are usually studied at the same time. For example, there has been no research into the separate effect of providing access to an even larger area, but there is clear evidence of a greater risk of aggression if several adult mink are kept together. Such aggression is interpreted to be territorial fights. In the wild, the size of a mink's territory depends on such factors as gender and the amount of food in the area. Males usually have larger territories than females, and male territories may overlap with 1-2 female territories. Mink also sometimes forage outside of their own territory, so there may be some overlap in the area where several minks roam.

Possibilities for environmental enrichment have been the subject of much animal welfare research. Abnormal behaviour in mink, such as stereotypic behaviour and fur-chewing, are commonly observed in connection with lack of stimuli and before feeding. It is thus a behaviour typically seen in specific periods. (Stereotypic behaviour, or stereotypies, is an

abnormal, repetitive, invariant behaviour without apparent immediate function. Fur-chewing is when mink chew or suck their fur, or the fur of other mink, to the degree that the fur is removed – typically on the tail). Abnormal behaviour is observed in particular during the slimming period prior to mating, especially if the mink are slimmed too fast or too much. The reason the mink need to be slimmed is that they are fattened prior to developing their winter fur in November, when they will be pelted. This is also when farmers select next year's breeding animals. The mink selected for breeding are then fed restrictively over the winter to ensure a lower weight and more appropriate body condition for mating, and, with regard to the females, for giving birth. During this period, the mink are hungry, and this is the reason for an increased occurrence of abnormal behaviour in the form of stereotypies and fur-chewing. Before mating, the females are fed plenty of food, which leads to more eggs being released and increased litter sizes. Reducing the amount of feed during winter to slim down the females is prohibited in Sweden. Here, females may only be slimmed down by reducing the energy content of their feed and by adding fibres, for example, increase feelings of satiety. However, a small reduction in the feed allocation of a maximum of 20% is allowed for eight days prior to mating. In the days up to mating, females are fed plenty of food, just as in Denmark.

Research shows that the different types of enrichment stimulate the mink in different ways and with different effects. For example, some types of enrichment reduce stereotypic behaviour, while others reduce the occurrence of fur-chewing. As mentioned earlier, in Denmark, mink cages are required to have both shelves and tubes. This has been proven by research to reduce both stereotypic behaviour and fur-chewing. There are also requirements for access to straw, but not for how the straw is to be provided, for example in a nest box and/or in the cage. Research suggests that how the straw is provided can be significant for how the mink use the straw, and for how much they benefit from having access to straw. Mink use straw in several ways, for example for nesting and for occupation, and mink also eat straw, especially during periods when they are fed restrictively (due to hunger, probably). Straw may potentially reduce fearfulness in young mink and the occurrence of fur-chewing. Furthermore, straw increases litter size and growth, e.g. because the female can build a better nest and is less stressed before giving birth. However, it is considered difficult in practice to provide free access to straw without a significant waste because of the wire-mesh floor of the cage.

There are other ways to stimulate the behaviour of mink, though. In research studies, chewing ropes, balls and pull chains/ropes (possibly installed between connected cages) and similar have proven to reduce fur-chewing and stereotypies. Changing between the various types of enrichment, which is a legal requirement in Sweden, can also have a positive effect. The WelFur report shows that the number and documented effects of cage enrichments were better in Denmark than in the rest of Europe. As mentioned above, Denmark has a requirement for access to shelves, tubes and straw. Not all countries in the EU have requirements for enrichment. The WelFur report concluded that there seems to be a link between legislation and the use of cage enrichment.

In general, research also shows that a sufficient amount of feed can reduce the occurrence of abnormal behaviour, including stereotypic behaviour and fur-chewing. The WelFur report concluded that there was a surprisingly large potential for welfare improvements in Denmark through reducing stereotypic behaviour and fur-chewing, which is presumably linked to measures to control the body condition of the mink during the winter season. As

mentioned earlier, during the winter season the mink are fed restrictively to slim them for the breeding season, and Danish farms had a greater number of thin animals than the rest of Europe. This is also assumed to be a contributing factor to a higher occurrence of abnormal behaviour, such as stereotypies and fur-chewing, and more widespread aggression, during this period.

Furthermore, research suggests that enrichment can also be achieved in the feeding process itself: for example, by using feed with lumps and texture that can reduce stereotypic behaviour and fur-chewing. The time of feeding can also be important. For example, mink seem less stressed and show less abnormal behaviour if they are fed at sunrise, which is one of their natural active periods.

Mink are predators and can forage for food both on land and in water. They mainly hunt on land, but they can also swim and dive, and they are therefore referred to as semi-aquatic mammals. The size and shape of the paws, which are only partially webbed, suggest that mink are more adapted to life on land than in water. The debate on mink welfare has focused particularly on the possibility of access to water as enrichment. It has been argued that mink have a distinct need for access to water. However, according to a Swedish report on research into animal welfare in mink production¹², specific conditions must be met to say that an animal has a behavioural need. The animals have to be motivated to exhibit the behaviour in question, and they will develop problems, such as disease, abnormal behaviour and stress, if they are prevented from doing so. In nature, wild mink hunt on land as well as in water, and research has demonstrated that mink are motivated to gain access to water. It is not clear, however, whether this motivation is driven by water as an opportunity to forage, or whether being able to swim is an enrichment in itself. It is also unclear whether mink become frustrated by not having access to water. A previous study claiming that this is the case has since proven to be based on an inadequate method. Furthermore, access to water rarely seems to reduce stereotypies and fur-chewing, for example. Thus, currently, there is neither a research basis to conclude that mink have a distinct need for access to water, nor that they do not have such a need. More knowledge is needed; particularly knowledge obtained under conditions that allow mink to express their natural behaviour with regard to water, if this is to be determined. However, research has demonstrated that if mink have access to water, they are likely to use it daily, but only for shorter periods. Access to water could therefore be an enrichment for mink. The water will have to be replaced regularly, however, in order to prevent bacterial growth and thus risk of disease. Practical experience shows that access to water can cause problems with moisture in the nest boxes, and it can therefore be difficult to implement water as enrichment in a production system.

Finally, there has been a research interest in the possibility to provide mink access to outside areas and housing in semi-natural enclosures. However, the possibilities have not yet been examined in a research context, nor at a scale useful in a production context.

Group housing

Young mink are traditionally kept in pairs (a male and a female). However, in group housing several mink are kept together in multi-tiered cages or in several interconnected cages during the growing stage in summer and autumn. Here, typically, three to four female kits are put together in the same cage, while the remaining male kits are put together with an

adult female, often the mother, in male-female pairs during the growing stage. The use of group housing started in the 1990's, arguing that it would allow the mink to express their social behaviour. The Netherlands was the first country to introduce group housing, but the system was much debated already from the start, as negative welfare consequences had already been documented, and in 2013 Sweden introduced a general ban on housing more than two mink together in the same cage. This is because mink are generally solitary animals, except in the mating season and when they are kits. Adult mink will therefore defend their territory, and adult mink in the same cage will show aggression, especially towards other mink of the same gender. In Denmark, adult breeding mink are housed alone, except during mating. The kits are housed with their mother for the first eight weeks. Subsequently, they can be housed with their siblings, which can encourage play and other social behaviour among the young animals, and this can therefore work for a period. The risk of problems occurs when the young mink become more territorial and are still housed more than two, and several of the same gender, together in the same cage, at a time when they are old enough to naturally leave the flock. Both research and experience show that the problems occurring in connection with group housing lead to bite marks that are visible on the leather side of the skins after pelting. In cases where aggression leads to serious bite wounds, the mink have to be separated, and the affected mink treated or culled. According to animal welfare research, group housing should therefore be avoided, as housing in pairs is safer in terms of animal welfare. Over the years, the Danish Fur Breeders' Association has also argued that group housing should be avoided. And so, group housing is (was) less common in Denmark than in the rest of Europe. According to the WelFur report, around half of young mink in the rest of Europe are kept in groups, as opposed to only around one quarter in Denmark, and according to the report this is part of the reason for Denmark's high scores compared to the rest of Europe.

Experiences from a zoo

In connection with preparing this statement, the Danish Animal Ethics Council gathered experience about keeping (farmed) mink from AQUA Aquarium & Wildlife Park. Here, mink are kept in pairs under semi-natural conditions in a 140 m² enclosure. The enclosure has dirt to dig in, sand for sand bathing, various vegetation and climbing facilities, and access to a nest box and water. This means that the mink can choose between different activities and locations. AQUA states that the mink are fed fish, birds and mammals, and the feed is used for enrichment to stimulate natural behaviour, for example by hanging it up, hiding it or giving it directly to the mink in various places such as in the water. In addition, the mink are often fed small amounts several times a day, and not necessarily at fixed times. The staff are under the impression that the mink use the water relatively often during the day, and that they are just as keen to explore on land as on the water surface and below the water. The mink do not seem to swim in the water as part of play or entertainment, but rather as part of moving around the enclosure. The staff have not witnessed any serious aggression between the mink and no stereotypic behaviour, but this has not been studied systematically.

Norms regarding keeping and using animals

As mentioned earlier, production of fur had been banned or was being phased out in several European countries even before the Covid-19 pandemic. Production of mink fur in Denmark

had decreased compared to previously, while the production of mink in Eastern Europe, for example, had followed an upward trend. The fur industry is characterised by large cyclical fluctuations, which is also reflected in the price level for individual pelts, and the drop in Danish production can therefore not be interpreted to reflect a general drop in global demand for mink fur. Following the public debate on fur farming, parts of the fashion industry have in recent years marketed themselves as no longer using fur.

Two arguments, in particular, seem to stand out in the public debate in the criticism of fur farming. One is that the purpose of the production, i.e. fur, in itself is unacceptable. The other is that animal welfare cannot be catered for under the typical housing conditions.

When the Danish Animal Ethics Council prepared its statement on fur farming in 2003, fur animals were one of the primary topics when human use of animals and animal welfare requirements were the focus of public debate. Today, however, this debate is no longer limited primarily to fur farming. Even though the use of animals in other types of production was also the subject of criticism 20 years ago, today the criticism of other productions is much more conspicuous. Driven by concerns for animal welfare, the climate and health, it is e.g. no longer a matter of course for products of animal origin to be part of, and perhaps even dominate, every meal. And arguments such as animals' right to life and not to be used as means to support human desires which only concern pleasure and convenience have become common in the public debate.

At the same time, animal welfare research has seen significant developments, and, consequently, so have the requirements for keeping animals. Conditions which are highly restrictive for animals' freedom to move have either been prohibited or are being phased out – through legislative means or by the industry itself and retailers. For example, this applies to tethering sows, tie-stall housing for dairy cattle and horses, and laying hens in cages. In addition to the possibility of freedom to move and exercise, enriching the animals' environment and stimulating their natural behaviour have become a major focus area for commercial farming as well as for private keeping of animals. For commercially farmed animals, this has come about through legislation and several animal welfare labelling schemes, and for family pets and hobby animals through care guidelines.

At EU level, the "End the Cage Age" campaign is also an example of a trend towards less restrictive animal husbandry. Here, the campaign has led to a citizens' initiative to phase out cages in agricultural production. The campaign was launched in 2018, and is specifically aimed at poultry, rabbits, sows and calves. In 2021, the European Commission announced that the citizens' initiative will be put forward as a legislative proposal in 2023.

Statement by the Danish Animal Ethics Council in 2021

The Danish Animal Ethics Council notes that housing systems for mink in fur production have not changed significantly in the around 20 years that have passed since the Council's statement in 2003, except that the use of group housing has gained ground and requirements for access to straw, shelves and tubes have been introduced. In 2003, the Council called for the development of systems that cater more for the welfare of the animals – a call that the Council has repeated in later consultation responses.

The Danish Animal Ethics Council has discussed the following three key questions for the possible reestablishment of mink production in Denmark:

- Whether the purpose of mink production is acceptable.
- Whether mink production in its current form (up to 2020) can be considered acceptable in terms of animal welfare.
- And, if not, on what conditions production should be carried out if resumed.

Finally, the Council points at other relevant considerations in connection with a possible reestablishment of mink production in Denmark.

Is the purpose of mink production acceptable?

As mentioned above, since fur is often criticised for being a luxury item in public debate, the Danish Animal Ethics Council also considered the purpose of mink production in its statement in 2003. The current Council members agree with the view from 2003 that the definition of when something is a luxury can seem arbitrary, and that rejecting mink production on this basis is rooted in a more fundamental discussion about for what purposes it is acceptable to use animals.

The Council members therefore believe that an ethical discussion of purpose should not be restricted to the context of mink but should apply to keeping and using animals in general, and consider whether the level of animal welfare provided and the fact that some of the animals die can be justified. However, such a fundamental discussion of human use of animals in general goes beyond the scope of this statement. Here, the Council therefore merely points to the necessity of assessing in such discussions whether the animals can be kept under acceptable welfare conditions, whether better use of the whole animal is possible, and whether there are alternative products with almost the same utility value that do not use animals.

Is mink production in its current form acceptable from an animal welfare perspective?

The Danish Animal Ethics Council submitted a consultation response in 2020, in which the Council presented its general considerations regarding existing mink production. Here, the Council pointed at developments in norms regarding animal husbandry and recalled its previous criticism of very restrictive types of husbandry due to their inherent limitations regarding animal welfare. The Council concluded that, with the current knowledge about the behavioural needs of animals, such systems cannot be considered up-to-date and appropriate in terms of animal welfare.

The members of the Council still agree with this general view. As stated in the Council's memorandum on animal ethics, animal welfare and the Danish Animal Ethics Council (2019)¹³, the members of the Council believe that good animal welfare entails both that animals can live in accordance with their nature and have their needs met, and that animals have the fewest possible negative experiences such as stress, hunger and disease, and as many positive experiences as possible. The Council acknowledges that there may be a need to prioritise between these criteria. Here, members find that providing animals good possibilities to express their natural behaviour is a crucial precondition for animal welfare, and measures to protect animals from death and disease cannot serve as an excuse for systematically preventing them from having their behavioural needs met. Thus, even though

the Council assesses that, in some areas, the welfare of mink may be acceptable, for example in terms of health, the Council believes overall that keeping mink in the (up to 2020) existing cages with such limited freedom of movement and few possibilities for enrichment is not acceptable – similar to the criticism also raised by the Council regarding other very restrictive types of animal husbandry.

On what conditions should production be carried out if resumed?

The members of the Council agree that an alternative to the (up to 2020) existing cage system needs to be developed if mink production is to be resumed in Denmark, in line with the phase-out of restrictive animal husbandry seen for other animal species, as referred to above. The Council does not find keeping mink in small cages acceptable, as such cages cannot sufficiently cater for the welfare of the animals.

The Council considers the current situation, in which the industry has been closed down and therefore in any event will need to be re-established, as an opportunity to think along different lines. In addition to considering animal welfare, mink housing systems could also take into account a working environment that makes it easier to care for and monitor the animals, for example through new technology. However, the question is what a different housing system, without small cages, could look like. The members of the Council note that, although much research has been conducted into mink welfare, studies are typically designed within, or close to, the framework set by existing cages. For example, the effect of more space has been studied, but only up to four times the existing cage size. There is only little knowledge about the effect of providing considerably more space, which also would provide opportunities for considerably more enrichment. Therefore, it is difficult to assess what the actual effect would be of providing considerably more (and enriched) space, and possibly access to an outdoor area. Similarly, studies exist of the importance of access to water, but these have not been designed in a way that allows for imitating how mink will use the water in the wild. Even though access to water can be valuable for mink, it is still uncertain whether access to water in itself is a particular form of enrichment that cannot be replaced by other types of enrichment (and perhaps is a behavioural need), or whether other enrichment stimulating hunting behaviour, for example, is just as effective. The Council members therefore recommend that, if mink production is to be resumed, research should focus on rethinking the housing system rather than merely adjusting the existing system.

Furthermore, if mink production is resumed, the members of the Council agree that future mink production should take more account of the biology of the animals as predators with a solitary nature. Mink production should therefore draw on research-based knowledge about the behavioural needs of mink, follow mink's natural behavioural repertoire and focus on not just avoiding behavioural problems, but also ensuring positive aspects of animal welfare.

The Danish Animal Ethics Council finds it difficult, based on current knowledge, to suggest in more detail what a new housing system should look like. However, the Council encourages relevant stakeholders to look to zoos for inspiration, for example with regard to enrichment. Based on existing knowledge, the Council has the following specific recommendations which should be incorporated in a new system for keeping mink for fur production:

- Breeding:
 - Attention should be on ensuring that, in the event of any further growth in mink or litter size, problems do not arise with the development of body structures and with the health of the offspring, as indicated by knowledge from other animal species.
 - Focus should be on selecting curious, not fearful, animals, as these are assumed to thrive better under farming conditions.
- Management:
 - There should be more focus on care routines and the importance of these for animal welfare, for example feeding at times that follow the natural circadian rhythm of mink.
 - The restrictive feeding of breeding animals prior to mating is not acceptable and should be avoided.
 - Handling that may be perceived as negative by the animals should be minimised or avoided altogether.
- Group housing:
 - Group housing during seasons and in age groups, where mink would naturally be solitary, should be avoided.
- Area and enrichment:
 - The members of the Council agree that mink should not be kept in small cages. The area in which mink are kept should be large enough to ensure freedom of movement and expression of as much as possible of the mink's natural behaviour. Furthermore, it should support the use of enrichment.
 - If several mink are kept together at certain times, the area should be large enough and adequately enriched to ensure that each animal can form a territory of its own, so as to reduce the risk of territorial fighting.
 - Environmental enrichment which activates the mink should be used more widely, as confirmed by research into different types of enrichment, and, preferably, this should be enrichment that stimulates movement and natural behaviour such as hunting and foraging.
 - Mink production should be based on the knowledge that mink are semi-aquatic mammals and that they will use water if they have access to it. Similarly, the industry should integrate possibilities of access to an outdoor area to provide for more complex housing. The Council recommends that more research be carried out with regard to the specific use of such facilities. The Council notes that the research design for research about water must reflect mink's natural use of water. It should also examine whether access to water is a separate behavioural need, or whether it can be equated with (and thus be replaced by) other types of enrichment.

The members of the Danish Animal Ethics Council have not discussed whether the development of a new housing system that adequately takes account of the welfare of mink is likely to be compatible with practicable and economically viable mink production. Some members of the Council believe that the possibility to establish a type of mink production that is more up-to-date should remain open in case some mink farmers want to resume production with new types of housing systems. However, these members also stress that this *must* involve a genuinely new type of housing system and not merely a minor adjustment to

the existing system. Among these members, some believe that any reestablishment of mink production should await the development of a new housing system, and that the current system should therefore no longer be used. Others believe that the current system may be used for a shorter period of time while the new system is being developed, and that new legislative requirements for mink production in general should await clarification of the rules at EU level. However, these members stress that this option entails that pressure be put on the development of a new system. The remaining Council members would, at this stage, rather see the introduction of a permanent ban on mink production, arguing that it is unlikely that mink could be farmed for fur in a way that is in line with appropriate welfare standards. This view is amplified by concerns that mink production will otherwise be resumed under the previous conditions for a number of years, while other systems are being developed, as well as concerns for the animals that will be involved in testing systems that may not be good enough after all.

Other considerations

The Danish Animal Ethics Council notes that the current shutdown of mink production not only gives rise to considerations as to whether mink should be kept for fur production in Denmark at all in the future, and considerations about rethinking how to keep mink if production is resumed. The situation also presents some specific challenges for those who may want to resume mink production. For example, this applies to obtaining breeding animals, to rebuilding the 'infrastructure' in the industry, and to dealing with disease risks in both mink and humans. Furthermore, there are a number of additional considerations, including political considerations, regarding possible requirements for housing systems and transitional schemes for production. However, discussing these aspects and assessing the effect of the factors mentioned above on the possibilities to resume production fall outside the competence of the Council.

Finally, if mink production is not resumed in Denmark, the Council is aware that mink production in other countries, including outside Europe, which may have less strict animal welfare requirements, could increase to compensate for the market share no longer being produced in Denmark. The Council notes that this potential dilemma applies to all types of livestock farming for which Denmark tightens legislation or prohibits certain aspects. The members of the Council agree with the considerations in the 2003 statement that such a development would be regrettable, but that it is not in itself an argument for maintaining production. The Council has discussed the possible consequences for mink welfare, based on information including WelFur and the current discussions in the EU on a possible revision of the legislation on keeping fur animals or a ban. The members of the Council agree that both a ban and stricter rules on keeping mink for fur production could potentially serve to inspire other countries to also focus on animal welfare in their fur productions.

Conclusion

The Danish Animal Ethics Council has discussed, from an animal ethics and animal welfare perspective, what mink production should look like in the future, if it is to be resumed in Denmark. The Council has focused on three key questions: Whether the purpose of mink production is acceptable; whether mink production in its current form (up to 2020) can be considered acceptable; and, if not, on what animal welfare conditions production should be

carried out if resumed. The Council has made the following considerations and recommendations.

Is the purpose of mink production acceptable?

The Danish Animal Ethics Council believes that rejecting mink production on the basis of the purpose is rooted in a more fundamental discussion about for what purposes it is acceptable to use animals. The Council thus finds it important that the discussion of purpose not only considers mink, but also considers human keeping and uses of animals in general. However, such a fundamental discussion of human uses of animals in general goes beyond the scope of this statement.

Is mink production in its current form acceptable from an animal welfare perspective?

The Danish Animal Ethics Council believes that allowing animals good possibilities to express their natural behaviour is a crucial precondition for animal welfare. The Council therefore believes that, due to their inherent animal welfare limitations, the very restrictive types of animal husbandry cannot be considered up-to-date and appropriate in terms of animal welfare, considering the current knowledge about the behavioural needs of animals. Even though the Council assesses that, in some areas, the welfare of mink may be acceptable, the Council believes overall that keeping mink in the existing cages with such limited freedom of movement and few possibilities for enrichment is not acceptable.

On what conditions should production be carried out if resumed?

The members of the Council agree that an alternative to the existing cage system needs to be developed if mink production is to be resumed in Denmark. The Council recommends that if mink production is to be resumed, future research should focus on rethinking the housing system rather than merely adjusting the existing system, and any future mink production should take more account of the biology of the animals as predators with a solitary nature and the behavioural needs reflecting this. Based on existing knowledge, the Council presents a number of specific recommendations regarding breeding, management and housing that should be incorporated in a new system for keeping mink for fur production.

The members of the Danish Animal Ethics Council have not discussed whether a new housing system that adequately takes account of the welfare of mink is likely to be compatible with practicable and economically viable mink production. Some members of the Council believe that the possibility to establish a genuinely new and more up-to-date type of mink production should remain open. Among these members, some believe that any reestablishment of mink production in Denmark should await the development of a new housing system, while others believe that the current system may be used for a shorter period of time while the new system is being developed; that new legislative requirements should await clarification of the rules at EU level; and that this option entails that pressure be put on the development of a new system. The remaining Council members would rather see the introduction of a permanent ban on mink production now, arguing that it is unlikely that mink could be farmed for fur in a way that is in line with appropriate welfare standards.

Preparation of this statement by the Danish Animal Ethics Council

The Danish Animal Ethics Council discussed the topic in the period December 2020 to October 2021.

The Danish Animal Ethics Council consisted of the following members when this statement was prepared:

- Bengt Holst (Chairman)
- Jes Aagaard
- Paolo Drostby (did not participate in making recommendations)
- Pernille Hansen
- Per Jensen
- Pernille Fraas Johnsen
- Sebastian Klein
- Yke W. Kloppenburg-Oosterwoud
- Peter Møllerup
- Lene Munksgaard
- Michael Nielsen
- Thomas Søbirk Petersen

In preparing this statement, the Danish Animal Ethics Council met with Steen Henrik Møller, Aarhus University, Jens Malmkvist, Aarhus University, and Tage Pedersen, mink farmer and chairman of Kopenhagen Fur/Danish Fur Farmers, Sander Jacobsen, executive vice president at Kopenhagen Fur, and Knud Vest, mink farmer and former chairman of Sjællands Pelsdyravlerforening (Zealand's Fur Breeders Association). Moreover, the Council received assistance regarding factual information from Pernille Schack, Kopenhagen Fur. The Council was also in contact with Louise Simonsen from the association Danske Mink (Danish Mink), and the Council gathered experience with keeping mink in a zoo from Lisbeth Skovmand Høgh, head of AQUA Aquarium & Wildlife Park. Finally, the Council included various literature, including a recent Swedish report reviewing research into animal welfare in keeping mink for fur production.

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