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参考 4 (仮訳)

第 4.4 章

ゾーニング及びコンパートメント

第 4.4.6 条

防護地域

清浄国又は清浄地域の動物個体群の動物衛生ステータスを、異なる動物衛生ステータスの近隣の国又は地域からの特定の感染症又は外寄生の病原体の侵入から保護する目的で、防護地域を設置することができる。

防護地域は、疾病のリスク増加に対応する一時的な措置として設置できるとしてもよいものとする。防護地域は、清浄地域の内部又は外部、若しくは清浄国の内部に設置できる。リスク評価の結果に基づき、一つ以上の防護地域を設置してもよいものとする。

動物管理のシステム、疾病の疫学、及び近隣の汚染国又は地域での発生の疫学状況に基づき、防護地域においてバイオセキュリティ及び衛生措置がとられるものとする。

~~第 1.4 章及び関連する疾病の個別章に従って、増加するサーベイランスは、関連するものとして、野生動物とベクターのサーベイランスを含め、防護地域内及び国又は地域の他の部分で実施されるものとする。~~

第 4.4.2 章の一般的な考察及び第 4.4.3 章の原則に加え、これらの措置には、防護地域内の動物が他の個体群から明瞭に区別できることを保証するために、強化された移動管理及びサーベイランス、特定の動物個体識別及び動物トレーサビリティが含まれるものとする。第 4.18 章に従って感受性動物のワクチン接種もまた適用してもよいものとする。

第 1.4 章及び関連する疾病の特定の章に従って、防護地域内及び国/地域内のそれ以外の場所で、要すれば野生動物とベクターのサーベイランスを含めた、増強したサーベイランスが実施されるものとする。

~~1 全頭又は危険な感受性動物に対するワクチン接種~~

~~2 移動動物の検査又はワクチン接種~~

~~3 試料の処理、輸送及び検査~~

~~4 動物製品、飼料又は飼葉の輸送用車両及び当該地域内、当該地域への又は当該地域からの移動のための現実的な輸送経路の消毒を含むバイオセキュリティの強化~~

~~5 感受性野生生物種及び関連ベクターに対する具体的なサーベイランス~~

6 ~~国民一般又は生産者、貿易業者、猟師、獣医師を対象とする啓蒙活動~~

~~防護地域のステータスに変化があったときはいつでも、当該ステータスは関連するリスク疾病の個別章にしたがって決定されるものとする。~~

陸生動物規約の関連する疾病の個別章において特定されない限り、もし症例の発生又はワクチン接種により設置された防護地域の動物衛生ステータスが変化した場合は、疾病の拡大を防ぐ手法を提供され、第 4.4.7 章の基準に従って次の封じ込め地域が設置されるのであれば、国/地域内のその他の区域のステータスは影響を受けない。

陸生動物規約の関連する疾病の個別章において特定されない限り、もしワクチン接種により設置された防護地域の動物衛生ステータスが変化したとしても、国/地域内のその他の区域の動物衛生ステータスには影響しない。

動物衛生ステータスの OIE の公式認定の疾病に関して、

- 防護地域は、この条項及び関連する疾病の個別章に記載されている要件が適用され、証拠書類を OIE に提出し、受理された時点で、有効に設置されたとみなされる。
- 一時的な防護地域の設置は、OIE による承認日から 24 ヶ月未満に限定されるものとする。
- メンバー国が永続的な防護地域の設置を望む場合、第 1.6 章及び関連する疾病の個別章に従い、OIE の公式認定プロセスを経るものとする。

第 4.4.7 条

封じ込め地域

- 1) ある疾病の清浄国又は地域で発生があった場合には、当該国/地域内のその他の区域における影響を最小限にするために、全ての発生がその地域内に含まれるように封じ込め地域を設置することができる。
- 2) 封じ込め地域とは、国際貿易において物品が封じ込め地域の内部由来の物か、外部由来の物かを示せるような管理がなされた汚染地域である。
- 3) 封じ込め地域の設置は、早期対応、緊急時対応計画における予防及び以下の各号を含む早期対応に基づくものとする。
 - 特定疾病の疑いの宣言に伴う動物その他の物品の適切な移動制限
 - 発生が疫学的に関連しており、全ての発生が封じ込め地域の境界内に封じ込められていることを立証するための、感染確定後の疫学調査（トレースバック、トレースフォワード）
 - スタンピングアウト政策又は当該疾病の根絶を目的とするその他の有効な危機管理戦略

- 当該封じ込め地域に属していることを認識可能とするための、封じ込め地域内における感受性動物の識別
 - 当該国/地域のその他の区域で発生がないことを立証するための、第 1.4 章に従う受動的及び標的型のサーベイランスの増加
 - 当該封じ込め地域から当該国又は地域の他の区域への感染のまん延を防止するために、リスト疾病別個別章と矛盾しない、継続的サーベイランス及び封じ込め地域内及び封じ込め地域からの動物及び物品の移動制限を含むバイオセキュリティ又は衛生措置
- 4) 当該疾病の個別章に規定されない限り、以下のいずれかを立証された場合に封じ込め区域が有効に設置されたとみなされる。
- a) 最後に発見された症例の処分から少なくとも 2 潜伏期間新しい症例がないこと
- 又は
- b) 当該封じ込め地域それは、発生が継続するかもしれない汚染内部区域と、症例の発生が続く汚染外側の内側の地域を当該国/地域内のその他の区域から分離し、前述の管理措置がとられた後少なくとも 2 潜伏期間内に発生が起こっていない、防護周辺区域により構成されること
- 5) 封じ込め地域の外側の区域の清浄ステータスは、当該封じ込め地域の有効な設置がなされるまで停止される。当該封じ込め地域が設置されると、当該封じ込め地域の外の区域の清浄ステータスは回復する。
- 6) 封じ込め地域の清浄ステータスは、第 1.4.6 章または関連するリスト疾病別個別章に従って獲得されなければならない。
- 7) 封じ込め地域が設置されてから発生があった際に、それが 4 a) に記載される封じ込め地域におけるもの、又は 4 b) に記載される疾病の発生がなかった周辺区域におけるものであった場合、国/地域の他の区域は、汚染とみなされる。

DRAFT CHAPTER 7.Z.

ANIMAL WELFARE AND LAYING HEN PRODUCTION SYSTEMS

Article 7.Z.1.

Definitions

For the purposes of this chapter:

Laying hens: means sexually mature female birds of the species *Gallus gallus domesticus* kept for the commercial production of eggs for human consumption. Breeding hens are not included.

End-of-lay hens: means laying hens at the end of their productive lives.

Layer pullets: means female birds of the species *Gallus gallus domesticus* raised for commercial layer production purposes from hatch until the onset of sexual maturity.

Article 7.Z.2.

Scope

This chapter provides recommendations for the *animal welfare* aspects of commercial laying hen production systems. It covers the production period from the arrival of *day-old birds* onto the pullet-rearing farm through to the removal of end-of-lay hens from the laying production facilities. **Layer pullet and Laying** hens kept in village or backyard flocks and used to produce eggs for personal consumption are not included.

Commercial laying hen production systems involve the confinement of layer pullets and laying hens, the application of *biosecurity* and trade in eggs or pullets.

These recommendations address the welfare aspects of layer pullets or laying hens kept in cage or non-cage systems, whether indoors or outdoors.

Commercial layer pullet or laying hen production systems include:

1. Completely housed systems

Layer pullets or laying hens are completely confined in a poultry house, with or without mechanical environmental control.

2. Partially housed systems

Layer pullets or laying hens are kept in a poultry house with access to a designated outdoor area.

3. Completely outdoor systems

Layer pullets or laying hens are not confined inside a poultry house during the day but are confined in a designated outdoor area.

This chapter should be read in conjunction with Chapters 6.5., 7.1., 7.2., 7.3., 7.4., 7.5. and 7.6.

Annex 9 (contd)

Article 7.2.3.

Outcome-based criteria (or measurables) for the welfare of layer pullets and laying hens

The welfare of layer pullets and laying hens should be assessed using outcome-based criteria or measurables, preferably animal-based measurables, as described in Article 7.1.4. Outcome-based criteria or measurables are particularly useful for evaluating compliance and improving *animal welfare*. Animal-based outcomes are usually the most sensitive measurables (e.g. mortality rate). However, resource and management-based outcomes can also have important applications (e.g. for example, interpretation of mortality rate data may be informed by decisions made to euthanise). There is no one single measurable that addresses all aspects of *animal welfare*. The use of measurables and the appropriate thresholds should be adapted to the different situations in which layer pullets and laying hens are kept, also taking into account the genetics used, resources provided, and the design and management of the system. Animal-based criteria or measurables can be considered as tools to monitor and refine these factors.

Criteria (or measurables) that can be used at farm level include conditions such as skeletal and foot problems, disease and *infection* or *infestation* that can be assessed during routine or targeted *monitoring*, or at depopulation. It is recommended that target values or thresholds for *animal welfare* measurables be determined by taking into account current scientific knowledge and appropriate national, sectorial or regional data and recommendations for layer pullets or laying hens. Determining the age and stage of production at which problems are detected may help to determine the cause.

The following animal-based and outcome-based measurables, in alphabetical order in English, may be useful indicators of layer pullet or laying hen welfare:

1. Beak condition

Evaluation of beak condition provides useful information about the extent to which layer pullets and laying hens are able to engage in normal behaviour, such as foraging, feeding, drinking and preening [Dennis and Cheng, 2012; Vezzoli *et al.*, 2015]. Tools for assessing beak condition have been developed and implemented in *animal welfare* assessment programmes [e.g., Kajlich *et al.*, 2016].

2. Behaviour

The presence or absence of certain behaviours may indicate either good *animal welfare* or an *animal welfare* problem, such as fear, pain or sickness. Some behaviours may not be uniquely indicative of one type of problem; they may be exhibited for a variety of reasons. *Gallus gallus domesticus* has evolved behaviours that it is motivated to perform, and a good understanding of *layer pullet and laying hens* normal behaviour [Nicol, 2015], including its social interactions [Estevez *et al.*, 2007; Rodríguez-Aurrekoetxea A. and Estevez I., 2014], is required for appropriate management and decision-making. Opportunities to display these behaviours are influenced by the physical and social environment [Widowski *et al.*, 2016; Lay *et al.*, 2011; O'Connor *et al.*, 2011].

a) Dust bathing

Dust bathing is a motivated behaviour providing body maintenance benefits. During dust bathing, layer pullets and laying hens work loose substrate material, such as litter, through their feathers. This behaviour helps remove stale lipids [van Lier and Bokma, 1987], which contributes to the maintenance of plumage condition. Good plumage condition helps to regulate body temperature and protect against skin injury. Reduced dust bathing behaviour in the *flock* may indicate problems with substrate or range quality, such as the substrate or ground being wet or not friable [Olson and Keeling, 2005; Van Lier and Bokma, 1987]. The performance of complete sequences of dust bathing may be associated with positive affect [Widowski and Duncan, 2000].

b) Fear behaviour

Fearful layer pullets and laying hens show high reactivity to various stimuli [Jones, 1987; Zeltner and Hirt, 2008] and this may result in traumatic injuries or suffocation if the layer pullets or laying hens pile on top of one another. Fearful layer pullets and laying hens *may* be less productive [Barnett *et al.*, 1992] and more prone to injurious feather pecking behaviour [de Haas *et al.*, 2014]. Methods have been developed for evaluating fearfulness [Forkman *et al.*, 2007], for example by observing layer pullet and laying hen behaviour in response to novel objects or when people, including *animal handlers*, walk through the pullet and hen areas of the poultry house [Jones, 1996; Waiblinger *et al.*, 2006].

c) Feeding and drinking behaviour

Changes in feeding or drinking behaviour may indicate management problems, including inadequate spaces for, or inappropriate placement of, feeders or drinkers, dietary imbalances, poor *feed* or water quality, or *feed* contamination [Garner *et al.*, 2012; Thogerson *et al.*, 2009a; Thogerson *et al.*, 2009b]. *Feed* and water intake is often reduced when pullets or hens are ill. *Feed* or water intake may also change as a result of heat stress [Lara *et al.* & Rostagno, 2013; Lin H. *et al.*, 2006] or cold stress [Alves *et al.*, 2012].

d) Foraging behaviour

Foraging is a motivated behaviour [de Jong *et al.*, 2007; Nicol *et al.*, 2011]. Foraging is the act of searching for *feed*, typically by pecking or scratching the substrate. Reduced foraging activity may suggest problems with substrate quality or the presence of conditions that decrease foraging opportunity [Appleby *et al.*, 2004; Lay *et al.*, 2011; Weeks and Nicol, 2006]. When in the presence of an adequate substrate, laying hens spend a large amount of time foraging even when *feed* is readily accessible [Weeks and Nicol, 2006].

e) Injurious feather pecking and cannibalism

Injurious feather pecking can result in significant feather loss and may lead to cannibalism. Cannibalism is the tearing of the flesh of another layer pullet or laying hen, and may result in severe injury, secondary *infection* or death. These behaviours can have multifactorial causes and be difficult to control [Nicol, 2018; Hartcher, 2016; Estevez, 2015; Nicol *et al.*, 2013; Rodenburg, 2013; Lambton, 2013; Newberry, 2004].

f) Locomotory and comfort behaviours

Layer pullets and laying hens may display a variety of locomotory and comfort behaviours, including walking, running, leaping, turning, stretching legs and wings, wing flapping, feather ruffling, tail wagging, and preening [Bracke and Hopster, 2006; Harthcher and Jones, 2017; Dawkins and Hardie, 1989; Shipov *et al.*, 2010; Norgaard, 1990]. Some of these behaviours have been shown to be important for skeletal, body and plumage development and maintenance. For example, walking and wing movements contribute to improved leg and wing bone strength [Knowles and Broom, 1990], and preening helps remove stale lipids from the skin [Vezzoli *et al.*, 2015] and keeps the feathers flexible and intact [Shawkey *et al.*, 2003].

g) Nesting

Nesting is a motivated behaviour that includes nest site selection, nest formation and egg laying [Cooper and Albentosa, 2003; Weeks and Nicol, 2006; Cronin *et al.*, 2012; Yue and Duncan, 2003]. Uneven nest box utilisation, delayed oviposition, increased pacing and egg laying outside the nest may be indicative of problems with environmental or social factors such as access to, or the suitability of nesting sites or disturbance by other layer pullets and laying hens [Cronin *et al.*, 2012; Cooper and Appleby, 1996; Gunnarsson *et al.*, 1999; Yue and Duncan, 2003; Widowski *et al.*, 2013].

h) Perching

Perching is a motivated behaviour. Layer pullets and laying hens may seek elevation during the day; however, the motivation to seek elevation is particularly strong at night when pullets and hens select a site for resting or sleeping [EFSA, 2015]. Reduced perching behaviour in the *flock* may indicate problems with environmental factors, such as inadequate perch or poor space design, injuries or pullet rearing experience [Janczak and Riber, 2015; Gunnarsson *et al.*, 1999].

i) Resting and sleeping

Sleep is an adaptive state that allows animals to recover from daily stress, conserve energy and consolidate memory [Siegel, 2009]. Layer pullets and laying hens display synchronised resting and sleeping behaviours, which can be disrupted by light intensity, photoperiod, environmental or social factors [Malleau *et al.*, 2007; Alvino *et al.*, 2009].

Annex 9 (contd)

j) Social behaviour

Layer pullets and laying hens are social and engage in synchronised behaviour [Olsson *et al.*, 2002; Olsson and Keeling, 2005]. Social behaviour may differ according to the characteristics of the social environment [Estevez *et al.*, 2002; 2007]. Problems in social behaviour can be assessed using scoring systems for measuring the degree of damage caused by aggression and competition for resources [Estevez *et al.*, 2002; Blatchford *et al.*, 2016].

k) Spatial distribution

Uneven spatial distribution of layer pullets and laying hens may indicate fear reactions, thermal discomfort or, uneven availability or use of resources such as light, *feed* or water, shelter, nesting areas or comfortable resting locations [Rodríguez-Aurrekoetxea and Estevez, 2016; Bright and Johnson, 2011].

l) Thermoregulatory behaviour

Prolonged or excessive panting and wing spreading are observed during heat stress [Mack, 2013; Lara and Rostagno, 2013]. Indicators of cold stress include feather ruffling, rigid posture, trembling, huddling and distress vocalisations.

m) Vocalisation

Vocalisation may indicate emotional states, both positive and negative. A good understanding of *flock* vocalisations and their causes is useful for good *flock* management [Zimmerman *et al.*, 2000; Bright, 2008; Koshiba *et al.*, 2013].

3. Body condition

Poor body condition may indicate *animal welfare* problems for individual layer pullets and laying hens. At *flock* level, uneven body condition may be an indicator of poor *animal welfare*. Body condition can be evaluated using on-farm sampling methods for body weight or body condition scores [Gregory and Robins, 1998; Craig and Muir, 1996; Elson and Croxall, 2006; Keeling *et al.*, 2003]. The choice of sampling methods should take into account the fact that feather cover can mask actual body condition.

4. Eye conditions

Conjunctivitis may indicate disease or the presence of irritants such as dust and ammonia. High ammonia levels may also cause corneal burns and eventual blindness. Abnormal eye development may be associated with very low light intensity (<5 lux) [Jenkins *et al.*, 1979; Lewis and Gous, 2009; Prescott *et al.*, 2003].

5. Foot problems

Hyperkeratosis, bumblefoot, contact dermatitis, excessive claw growth, broken claws and toe injuries are painful conditions associated with, amongst other things, inappropriate flooring, poorly designed perches, poorly maintained substrate [EFSA, 2005; Lay *et al.*, 2011; Abrahamsson and Tauson, 1995; Tauson and Abrahamson, 1996; Abrahamsson and Tauson, 1997] and inadequate maintenance of the production system.

If severe, the foot and hock problems may contribute to locomotion problems and lead to secondary *infections*. Scoring systems for foot problems have been developed [Blatchford *et al.*, 2016].

6. Incidence of diseases, including infections, infestations and metabolic disorders

Ill-health, regardless of the cause, is an *animal welfare* concern and may be exacerbated by poor environmental or husbandry management.

Annex 9 (contd)

7. Injury rate and severity

Injuries are associated with pain and risk of *infection*. They may be a consequence of the actions of other layer pullets and laying hens (e.g., scratches, feather loss or wounding), management (e.g., nutritional deficits leading to skeletal problems), environmental conditions (e.g., poor flooring leading to foot injury), genetics used or human intervention (e.g., during handling and catching). It is important to assess both the rate and severity of injuries.

8. Mortality, culling and morbidity rates

Daily, weekly and cumulative mortality, culling and morbidity rates should be within expected ranges. Any unforeseen increase in these rates may reflect an *animal welfare* problem. Recording these rates and evaluating their causes of morbidity and mortality can be useful aids in diagnosing and remediating *animal welfare* problems.

9. Performance

Daily, weekly and cumulative performance should be within expected ranges. Any unforeseen reduction in these rates may reflect an *animal welfare* problem. Types of measures that can be used include:

- a) layer pullet growth rate, which measures average daily mass gain per pullet and flock uniformity;
- b) layer pullet flock uniformity, which measures the range in weight of the flock;
- cb) layer pullet feed conversion, which measures the quantity of *feed* consumed by a *flock* relative to the total live mass produced, expressed as the mass of *feed* consumed per unit of body mass;
- ed) laying hen feed conversion, which measures quantity of *feed* consumed by a *flock* relative to the unit of egg production;
- ee) egg production, which measures the number, size and weight of eggs per hen housed;
- ef) egg quality and downgrades, which can be measured by, for example, grade percentage, shell strength, Haugh units, abnormalities and mis-laid or floor eggs.

10. Plumage condition

Evaluation of plumage condition provides useful information about aspects of *animal welfare* in terms of feather pecking and cannibalism, ability to thermoregulate, illness, and protection from injury [Rodriguez-Aurrekoetxea and Estevez, 2016; Drake *et al.*, 2010]. Dirty plumage may be associated with illness, environmental conditions or the layer pullet and laying hen housing system. Plumage cover and cleanliness scoring systems have been developed for these purposes [Blokhuys, 2007; Blatchford *et al.*, 2016].

11. Water and feed consumption

Monitoring and evaluating daily water and *feed* consumption is a useful tool which may indicate thermal stress, disease, *infection* or *infestation* and other conditions impacting *animal welfare*, taking into consideration ambient temperature, relative humidity and other related factors. Changes in intake, crowding at feeders and drinkers and wet substrate may be associated with problems with the quality or supply of water, or *feed*.

Article 7.Z.4.

Recommendations for layer pullets and laying hens

Ensuring good welfare of layer pullets and laying hens is contingent upon several management factors, such as system design, environmental management practices, and animal management practices including responsible husbandry and provision of appropriate care, and the genetics used. Serious animal welfare problems may arise in any system if there are problems with one or more of these factors are lacking.

Articles 7.Z.5. to 7.Z.29. provide recommendations for layer pullets and laying hens.

Annex 9 (contd)

Each recommendation includes a list of relevant outcome-based criteria or measurables derived from Article 7.Z.3. and when appropriate other criteria or measurables. The suitability of some of these criteria or measurables should be determined in accordance with the system in which the layer pullets and laying hens are housed.

Article 7.Z.5.

Location, design, construction and equipment of establishments

The location of layer pullet and laying hen *establishments* should be safe from the effects of fires and floods and other natural disasters to the extent practicable. In addition, *establishments* should be located or designed to avoid or minimise disease risks and exposure of layer pullets and laying hens to chemical and physical contaminants, noise and adverse climatic conditions.

Good welfare outcomes for layer pullets and laying hens can be achieved in a range of housing systems. Houses, outdoor areas and accessible equipment should be designed after considering the opportunities for layer pullets and laying hens to perform motivated behaviours, as well as health, environmental factors, and animal management capability. They should also be maintained to avoid injury or discomfort. Layer pullet and laying hen houses should be constructed with materials, electrical and fuel installations that minimise the risk of fire and other hazards and are easy to clean and maintain. Producers should have a maintenance programme in place, including record-keeping for all equipment and contingency plans to address failures that could jeopardise the welfare of layer pullets and laying hens.

Outcome-based measurables **include**: body condition, dust bathing, fear behaviour, feeding and drinking behaviour, foot problems, foraging behaviour, incidence of diseases, *infections* and *infestations* and metabolic disorders, injury rates and severity, locomotory and comfort behaviours, mortality, culling and morbidity rates, nesting, perching, performance, plumage condition, resting and sleeping, social behaviour and spatial distribution, thermoregulatory behaviour and vocalisations.

Article 7.Z.6.

Matching the layer pullets and laying hens with the housing and production system

Animal welfare and health considerations should balance any decisions on performance when choosing the genetics to be used for a particular location, housing and production system. The **layer** pullet rearing system should pre-adapt **these** birds for the intended **laying hen** production system [Aerni *et al.*, 2005].

Outcome-based measurables **include**: dust bathing, feeding and drinking behaviours, foraging behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, injurious feather pecking and cannibalism, injury rate and severity, locomotory and comfort behaviours, mortality, culling and morbidity rates, nesting, perching, performance, plumage condition, resting and sleeping, social behaviour, and spatial distribution.

Article 7.Z.7.

Space allowance

Layer pullets and laying hens should be housed with a space allowance that allows them to have adequate access to resources and to adopt normal postures. Providing sufficient space for the expression of locomotory and comfort behaviours that contribute to good musculoskeletal health and plumage condition is desirable. Problems with space allowance may increase stress and the occurrence of injuries.

The following factors, in alphabetical order in English, should be considered when determining space allowance:

- age and weight of layer pullets and laying hens,
- ambient conditions,
- *biosecurity* strategy,

Annex 9 (contd)

- equipment selection,
- feed and watering systems,
- flooring substrate,
- genetics,
- housing design,
- management capabilities,
- production system,
- usable space,
- ventilation.

Outcome-based measurables **include**: dust bathing, feeding and drinking behaviour, foraging behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, injurious feather pecking and cannibalism, injury rate and severity, locomotory and comfort behaviours, mortality rate, culling and morbidity rates, nesting, perching, performance, plumage condition, resting and sleeping, social behaviour, and spatial distribution.

Article 7.Z.8.

Nutrition

Layer pullets and laying hens should be fed a diet appropriate to their age, production stage and genetics. The form of the *feed* should be acceptable to the layer pullets and laying hens and contain adequate nutrients to meet requirements for good *animal welfare* and health. *Feed* and water should be free from contaminants, debris and **pathogenic** microorganisms or other potential *hazards*.

The feeding and watering systems should be inspected regularly and cleaned as needed, to prevent the growth of hazardous microorganisms.

Layer pullets and laying hens should be provided with adequate access to *feed* on a daily basis. Water should be continuously available except under veterinary advice. Special provisions should be made to enable newly hatched layer pullets to access appropriate *feed* and water.

Outcome-based measurables **include**: body condition, foraging behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, mortality, culling and morbidity rates, performance, plumage condition, vocalisations and water and *feed* consumption.

Article 7.Z.9.

Flooring

The slope, design and construction of the floors should provide adequate support for the **locomotion of** layer pullets and laying hens, prevent injuries and entrapments, promote good health and allow the performance of behaviours, such as comfort and locomotory behaviours. Changes of flooring types from **layer** pullet to **laying** hen housing should be avoided. Manure contamination from other layer pullets and laying hens within the house should be minimised through appropriate floor design and other elements of system design. The flooring should be easy to clean and disinfect.

When substrate is provided, it should allow the performance of behaviours, such as comfort and locomotory behaviours and be managed to remain dry and friable, and adequately treated or replaced when required to prevent disease and minimise any detrimental effects on *animal welfare*.

Annex 9 (contd)

Outcome-based measurable **include**: dust bathing, foot problems, foraging behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, injurious feather pecking, injury rate and severity, locomotory and comfort behaviours, performance, plumage condition and resting and sleeping.

Article 7.Z.10.

Dust bathing areas

Access to friable, dry substrate to encourage dust bathing is desirable. When provided, dust bathing areas should be designed and positioned to encourage dust bathing, allow synchronised behaviour, prevent undue competition and not cause damage or injuries. Dust bathing areas should be easy to inspect and maintain [Weeks and Nicol, 2006].

Outcome-based measurables **include**: dust bathing, incidence of diseases, *infections*, *infestations* and metabolic disorders, injurious feather pecking and cannibalism, injury rate and severity, plumage condition and, spatial distribution.

Article 7.Z.11.

Foraging areas

Access to substrate that encourages foraging behaviour **activity** is desirable. When provided, foraging areas should be designed and positioned to encourage synchronised behaviour, prevent undue competition and not cause damage or injuries. Foraging areas should be easy to inspect and maintain.

Outcome-based measurables **include**: foraging behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, injurious feather pecking and cannibalism, injury rate and severity and spatial distribution.

Article 7.Z.12.

Nesting areas

Access to nesting areas is desirable. When provided nesting areas should be built of suitable materials, and designed and positioned to encourage nesting, prevent undue competition and not cause damage or injuries. Nesting areas should be easy to inspect, clean and maintain.

Outcome-based measurables **include**: incidence of diseases, *infections*, *infestations* and metabolic disorders, injurious feather pecking and cannibalism, injury rate and severity, nesting, performance (mis-laid or floor eggs), and spatial distribution.

Article 7.Z.13.

Perches

Access to perches is desirable. When provided, perches should be built of suitable materials, designed, elevated and positioned to encourage perching by all layer pullets and laying hens, prevent undue competition, minimise keel bone deformation, foot problems or other injuries, and to ensure stability during perching. In the absence of designated perches, other structures such as platforms, grids or slats that are perceived by the layer pullets and laying hens as elevated and that do not cause damage or injuries, may be a suitable alternative. When provided, perches or their alternatives should be made available from an early age, be easy to clean and maintain, and be positioned to minimise faecal fouling [Hester, 2014; EFSA, 2015].

Outcome-based measurables **include**: foot problems, injurious feather pecking and cannibalism, incidence of diseases, *infections*, *infestations* and metabolic disorders, injury rate and severity, perching, plumage condition, resting and sleeping and spatial distribution.

Article 7.Z.14.

Outdoor areas

Layer pullets and laying hens may be given access to outdoor areas when they have sufficient feather cover and can range safely. Where layer pullets and laying hens are partially housed, there should be sufficient appropriately designed openings to allow them to leave and re-enter the poultry house freely.

Management of outdoor areas is important. Land and pasture management measures should be taken to reduce the risk of layer pullets and laying hens becoming infected by pathogenic agents or infested by parasites or being injured. This may include limiting the stocking density or using several pieces of land consecutively in rotation.

Outdoor areas should be located on well-drained ground and managed to minimise **stagnant standing** water and mud. The outdoor area should be able to contain the layer pullets and laying hens and prevent them from escaping. Outdoor areas should be designed, built and maintained to allow layer pullets and laying hens to feel safe outdoors and to encourage them to utilise the range optimally, while mitigating predation, disease risks, and adverse climatic conditions [Gilani *et al.*, 2014; Hegelund *et al.*, 2005; Nagle and Glatz, 2012]. Layer pullets and laying hens should be habituated early to the outdoor area [Rodriguez–Aurrekoetxea and Estevez, 2016]. Outdoor areas should be free from harmful plants and contaminants. **Good rearing conditions can prepare layer pullets and laying hens for outdoor access [Bari *et al.*, 2020].**

Outcome-based measurables **include**: fear behaviour, foot problems, foraging behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, injury rate and severity, locomotory and comfort behaviours, mortality, culling and morbidity rates, performance, plumage condition, social behaviour, spatial distribution, thermoregulatory behaviour and vocalisation.

Article 7.Z.15.

Thermal environment

Thermal conditions for layer pullets and laying hens should be maintained within a range that is appropriate for their stage of life and the genetics used; extreme heat, humidity and cold should be avoided. A heat index can assist in identifying the thermal comfort zones for layer pullets and laying hens at varying temperatures, air velocities and relative humidity levels [Xin and Harmon, 1998], and can be found in management guidelines provided by laying hen genetics companies.

Although layer pullets and laying hens can adapt to a range of thermal environments, particularly if appropriate breeds and housing are used for the anticipated conditions, sudden fluctuations in temperature can cause heat or cold stress.

When environmental conditions move outside of these zones, strategies should be used to mitigate the adverse effects on the layer pullets and laying hens. These may include adjusting air speed, provision of heat or evaporative cooling [Yahav, 2009].

The thermal environment should be monitored regularly so that problems with the system ~~can~~ be detected and corrected before they cause an *animal welfare* problem.

Outcome-based measurable **include**: mortality, culling and morbidity rates, performance, spatial distribution, temperature and **relative** humidity, thermoregulatory behaviours and water and *feed* consumption.

Article 7.Z.16.

Air quality

Ventilation, housing, space allowance and manure management can affect air quality. Actions are required to maintain air quality at levels required for good *animal welfare*, including the removal or mitigation of noxious gases such as carbon dioxide and ammonia, dust and excess moisture in the environment.

Ammonia concentrations should not routinely exceed 25 ppm at layer pullet and laying hen level [David *et al.*, 2015; Miles *et al.*, 2006; Olanrewaiu, 2007].

Annex 9 (contd)

Dust levels should be kept to a minimum [David *et al.*, 2015].

Outcome-based measurables **include**: ammonia level, carbon dioxide level, dust level, eye conditions, incidence of diseases, *infections*, *infestations* and metabolic disorders, morbidity, culling and mortality rates, plumage condition, performance, temperature, and **relative** humidity and thermoregulatory behaviours.

Article 7.Z.17.

Lighting

There should be an adequate period of continuous light. The light intensity during the light period should be sufficient and homogeneously distributed to promote normal development, to allow layer pullets and laying hens to find *feed* and water, to stimulate activity, to stimulate onset of lay, to minimise the likelihood of injurious feather pecking and cannibalism, and to allow adequate inspection [Prescott *et al.*, 2003; Prescott and Wathes, 1999; Green *et al.*, 2000].

There should also be an adequate period of darkness during each 24-hour cycle to allow layer pullets and laying hens to rest and sleep, to reduce stress and promote circadian rhythms [Malleau *et al.*, 2007].

Changes in lighting should occur gradually or in a step-wise fashion, as needed, except if moulting is practised, during which rapid adjustments to lighting should be considered [Tanaka and Hurnik, 1990; Kristenson, 2008].

Outcome-based measurables **include**: eye conditions, injurious feather pecking and cannibalism, injury rate and severity, locomotory and comfort behaviours, nesting, perching, performance, plumage condition, resting and sleeping and spatial distribution.

Article 7.Z.18.

Noise

Although layer pullets and laying hens can adapt to different levels and types of noise, exposure of layer pullets and laying hens to unfamiliar noises, particularly those that are sudden or loud, should be minimised to prevent stress and fear reactions, such as piling up [Bright and Johnson, 2001]. Ventilation fans, machinery and other indoor or outdoor equipment should be constructed, placed, operated and maintained in such a way as to cause the least possible amount of noise [Chloupek *et al.*, 2009].

Location of *establishments* should, where possible, consider existing local sources of noise. Strategies should be implemented to acclimatise the layer pullets and laying hens to the conditions [Candland *et al.*, 1963; Morris, 2009].

Outcome-based measurables **include**: fear behaviours, injury rate and severity, morbidity, culling and mortality rates, performance, resting and sleeping, and vocalisation.

Article 7.Z.19.

Prevention and control of injurious feather pecking and cannibalism

Injurious feather pecking and cannibalism are challenges in layer pullet and laying hen production systems.

Management methods that may reduce the risk of occurrence include:

- adapting the diet and form of *feed* during rearing and lay [Lambton *et al.*, 2010],
- choosing genetics associated with a low propensity for injurious feather pecking [Craig and Muir, 1996; Kjaer and Hocking, 2004],
- increasing age at onset of lay [Pöttsch, 2001],
- increasing space allowance during rearing [Jung and Knierim, 2018],
- managing light during rearing and lay [Nicol *et al.*, 2013; van Niekerk *et al.*, 2013],
- minimising fear-related stimuli [Uitdehaag K. A. *et al.*, 2009],

Annex 9 (contd)

- providing elevated perches during rearing and lay [Green *et al.*, 2000],
- providing nesting areas during lay [Shi *et al.*, 2019a; Shi *et al.*, 2019b],
- providing foraging or other manipulable materials during rearing and lay [Huber-Eicher and Wechsler, 1998; de Jong *et al.*, 2010; Daigle *et al.*, 2014; Dixon *et al.*, 2010; Nicol, 2018],
- reducing group size during rearing and lay [Bilcik and Keeling, 1999].

Management methods should be implemented, where applicable, and in the event of injury affected layer pullets and laying hens should be promptly removed and treated or euthanised.

If these management methods are unsuccessful, partial beak removal [Gentle *et al.*, 1997] may be considered as a final course of action.

Outcome-based measurables include: foraging behaviour, injurious feather pecking and cannibalism, injury rate and severity, mortality, culling and morbidity rates, plumage condition, and vocalisation.

Article 7.Z.20.

Moulting

Induced moulting may lead to *animal welfare* problems if not well managed [Nicol *et al.*, 2017; Sariozkan *et al.*, 2016; Holt, 2003; Ricke, 2003; Webster, 2003]. When induced moulting is practised, methods that do not involve withdrawal of *feed* and are consistent with Article 7.Z.8. should be used. Laying hens should have access to lights and water at all times [Anderson, 2015] and adequate periods of light. Only laying hens in good body condition and health should be moulted. During the moulting period, loss of body mass should not compromise the welfare of laying hens, including their welfare during the subsequent laying period. Total mortality and culling rates during the moulting period should not exceed normal variations in *flock* mortality and culling rates.

Outcome-based measurables include: body condition, feeding and drinking, foraging behaviour [Biggs *et al.*, 2004; Saiozkan *et al.*, 2016; Petek and Alpay, 2008], injurious feather pecking and cannibalism, injury rate and severity, mortality, culling and morbidity rates, performance, plumage condition and social behaviour.

Article 7.Z.21.

Painful procedures

Painful procedures should not be practised unless necessary and should be performed in such a way as to minimise any pain, distress and suffering. If used, partial beak removal should be carried out at the earliest age possible and care should be taken to remove the minimum amount of beak necessary using a method that minimises pain and controls bleeding. If management methods to control injurious feather pecking and cannibalism are not successful, therapeutic partial beak removal may be considered as a final course of action [Gentle *et al.*, 1991; Marchand-Forde *et al.*, 2008; Marchand-Forde *et al.*, 2010; McKeegan and Philbey, 2012; Freire *et al.*, 2011; Glatz *et al.*, 1998]. Partial beak removal at a mature age may cause chronic pain. Dubbing, toe trimming and other mutilations should not be performed in layer pullets and laying hens.

Potential options for improving *animal welfare* in relation to these procedures include: ceasing the procedure, reducing or eliminating the need for the painful procedures through management strategies, using genetics that do not require the painful procedures, or replacing the current procedures with less painful or invasive alternatives.

Outcome-based measurables include: beak condition, body condition, feeding and drinking behaviour, foraging behaviour, injurious feather pecking and cannibalism, locomotory and comfort behaviours, mortality, culling and morbidity rates, performance, plumage condition and vocalisations.

Article 7.Z.22.

Animal health management, preventive medicine and veterinary treatment

Animal handlers responsible for the care of layer pullets and laying hens should have knowledge of normal layer pullet and laying hen behaviour, and be able to detect signs of ill-health or distress, such as a change in *feed* or water intake, reduced production, changes in behaviour and abnormalities in plumage condition, faeces or other physical features.

Annex 9 (contd)

If *animal handlers* are unable to identify the cause of disease, ill-health or distress, or are unable to correct these, or if they suspect the presence of a *notifiable disease*, they should seek advice from a *veterinarian* or other qualified advisers. Veterinary treatments should be prescribed by a *veterinarian*.

There should be an effective programme for the prevention of diseases that is consistent with the programmes established by *Veterinary Services* as appropriate, and which includes record-keeping.

Vaccinations and treatments should be administered by personnel skilled in the procedures and with consideration for the welfare of the layer pullets and laying hens.

Sick or injured layer pullets and laying hens should be placed in a hospital area for observation and treatment, or euthanised in accordance with Chapter 7.6. as soon as possible.

Outcome-based measurables **include**: body condition, incidence of diseases, *infections*, *infestations* and metabolic disorders, injury rate and severity, mortality, culling and morbidity rates and performance.

Article 7.Z.23.

Biosecurity plans

Biosecurity plans should be designed, implemented, and reviewed regularly, commensurate with the best possible layer pullet and laying hen health status. The *biosecurity plan* should be sufficiently robust to be effective in addressing the current disease *risks* that are specific to each epidemiological group of layer pullets and laying hens and in accordance with relevant recommendations in the *Terrestrial Code*.

These programmes should address the control of the major routes for *infection* and *infestation* such as:

- aerosols,
- direct transmission from other *poultry*, domestic *animals* and *wildlife* and humans,
- *feed*,
- fomites, such as equipment, facilities and *vehicles*,
- *vectors* (e.g., arthropods and rodents),
- water supply.

Partially restocking (back filling), in a response to catastrophe or incomplete *flock* placement, should only be practised with due consideration to *biosecurity* and in a manner that prevents co-mingling of *flocks*.

Outcome-based measurables **include**: mortality, culling and morbidity rates, incidence of diseases, *infections*, *infestations* and metabolic disorders and performance.

Article 7.Z.24.

Euthanasia of individual layer pullets or laying hens

Individual layer pullets or laying hens may be euthanised. Techniques used should be performed, in accordance with Chapter 7.6.

Reasons for euthanasia include:

- bone fractures or other injuries,
- diagnostic purposes,
- disaster management,
- emaciation,
- rapid deterioration of a medical condition for which treatment has been unsuccessful,

- severe pain that cannot be alleviated.

The decision to euthanise a layer pullet or a laying hen and the procedure itself should be undertaken by a competent person. The *establishment* should have documented procedures and appropriate equipment.

Outcome-based measurables ~~include~~: injury rate and severity.

Article 7.Z.25.

Depopulation of layer pullet and laying hen facilities

This article refers to the removal of *flocks* of layer pullets and laying hens from facilities for whatever reason and should be read in conjunction with Article 7.Z.24.

The period of *feed* withdrawal prior to depopulation of layer pullets and laying hens should be minimised.

Water should be available up to the time of depopulation.

Layer pullets and laying hens that are not fit for *loading* or transport should be euthanised. Laying hens with poor plumage condition are at risk of thermal stress and injury during transport [Broom, 1990; Fleming *et al.*, 2006; Gregory and Wilkins 1989; Newberry *et al.*, 1999; Webster, 2004; Whitehead and Fleming, 2000]. On-farm *killing* should be performed in accordance with Chapter 7.6.

Catching should be carried out by competent *animal handlers* in accordance with Article 7.Z.28. and every attempt should be made to minimise stress, fear reactions and injuries. If a layer pullet or laying hen is injured during catching, it should be euthanised.

Layer pullets and laying hens should be handled and placed into the transport *container* in accordance with Chapter 7.3.

Catching should preferably be carried out under dim or blue light to calm the layer pullets and laying hens.

Catching should be scheduled to minimise the transport time as well as climatic stress during catching, transport and holding.

The stocking density in transport *containers* should be in accordance with Chapters 7.2., 7.3. and 7.4.

Outcome-based measurables ~~include~~: fear behaviour, injury rate and severity, mortality, culling and morbidity rates, spatial distribution, and vocalisation.

Article 7.Z.26.

Contingency plans

Layer pullet and laying hen producers should have contingency plans to minimise and mitigate the consequences of natural disasters, disease *outbreaks* and the failure of mechanical equipment. Planning should include a fire safety plan, evacuation procedures and, where relevant, include evacuation procedures and the provision, maintenance and testing of backup generators and fail-safe alarm devices to detect malfunctions, access to maintenance providers, alternative heating or cooling arrangements, ability to store water on farm, access to water cartage services, adequate on-farm storage of *feed*, alternative *feed* supply and a plan for managing ventilation emergencies.

The contingency plans should be consistent with national programmes established or recommended by *Veterinary Services*. Emergency *killing* procedures should be a part of the plan and be in accordance with the methods recommended in Chapter 7.6.

Outcome-based measurables ~~include~~: mortality, culling and morbidity rates.

Annex 9 (contd)

Article 7.Z.27.

Competencies of personnel

Animal handlers should have the ability, knowledge and competencies necessary to maintain the welfare and health of the layer pullets and laying hens.

All people responsible for layer pullets and laying hens should have received appropriate training and be able to demonstrate that they are competent to carry out their responsibilities, which should include the assessment of layer pullet and laying hen behaviour, handling techniques, *euthanasia* and *killing* procedures, implementation of *biosecurity*, and the detection of general signs of diseases and indicators of poor *animal welfare* and procedures for their alleviation.

Outcome-based measurables **include**: body condition, fear behaviour, incidence of diseases, *infections*, *infestations* and metabolic disorders, locomotory and comfort behaviours, performance, mortality, culling and morbidity rates, spatial distribution and vocalisation.

Article 7.Z.28.

Inspection and handling

Layer pullets and laying hens, and the facilities and equipment within their poultry house or in outdoor facilities should be inspected at least daily. Inspection should have the following objectives:

- to collect and remove dead layer pullets and laying hens and dispose of them in accordance with Chapter 4.13.;
- to identify sick or injured layer pullets and laying hens and treat or euthanise them in accordance with Article 7.Z.24.;
- to detect and correct any *animal welfare* or health problems in the *flock*; and
- to detect and correct malfunctioning equipment and other-problems with the facility.

Inspections should be done in such a way that layer pullets and laying hens are not unnecessarily disturbed, for example *animal handlers* should move quietly and slowly through the *flock*.

When layer pullets and laying hens are handled, particularly when placed into or removed from the poultry house or outdoor facilities, they should not be injured, and should be held in a manner that minimises fear and stress [Gregory & Wilkins, 1989; Gross & Siegel, 2007; Kannan & Mench, 1996]. The distance over which layer pullets and laying hens are carried should be minimised. Laying hens are prone to bone fractures when not handled properly.

Outcome-based measurables **include**: fear behaviour, injury rate and severity, mortality, culling and morbidity rates, performance, spatial distribution and vocalisation.

Article 7.Z.29.

Protection from predators

Layer pullets and laying hens should be protected from predators in indoor and outdoor areas. All production systems should be designed and maintained to prevent access by predators and *wild* birds.

Outcome-based measurables **include**: fear behaviour, injury rate and severity, locomotory and comfort behaviours, mortality, culling and morbidity rates, performance, spatial distribution and vocalisation.

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※本資料は参考仮訳ですので、最終的な確認は原文をご参照ください。

参考 5 (仮訳)

第 7. Z 章

アニマルウェルフェアと採卵鶏生産システム

第 7. Z. 1 条

定義

本章の目的上、

採卵鶏：人の消費用の卵の商用生産を目的として飼養されている、性的に成熟した雌の *Gallus gallus domesticus* 種の鳥をいう。種鶏は含まれない。

採卵終期の雌鶏：生産期の終期の採卵鶏をいう。

採卵若雌鶏：商用採卵鶏生産を目的として、孵化から性的成熟の開始まで飼養されている、雌の *Gallus gallus domesticus* 種の鳥をいう。

第 7. Z. 2 条

適用範囲

本章は、商用採卵鶏生産システムのウェルフェアの勧告を示す。初生雛が育成農場に到着してから、採卵終期の雌鶏を採卵鶏生産施設から移動するまでの生産期間を対象とする。村落又は裏庭で飼育され個人消費の卵生産に供されている採卵若雌鶏及び採卵鶏は含まれない。

商用採卵鶏生産システムには、採卵若雌鶏及び採卵鶏の収容、バイオセキュリティの適用及び卵又は若雌鶏の取引を含む。

これらの勧告は、屋内又は屋外であって、ケージ又はケージ以外のシステムで飼養されている採卵若雌鶏又は採卵鶏のウェルフェアに関わる面を対象とする。

商用採卵若雌鶏又は採卵鶏の生産システムには以下のものがある。

1. 完全舎飼システム

採卵若雌鶏又は採卵鶏は、機械的な環境管理がある又はない形で、完全に鶏舎に収容される。

2. 部分舎飼システム

採卵若雌鶏又は採卵鶏は、指定された屋外の区域に接続する鶏舎で飼養される。

3. 完全屋外システム

採卵若雌鶏又は採卵鶏は、日中は鶏舎に収容されないが、指定された屋外の地域に収容される。

本章は、第6.5章、第7.1章、第7.2章、第7.3章、第7.4章、第7.5章及び第7.6章と併せて読むものとする。

第7.2.3条

採卵若雌鶏及び採卵鶏のウェルフェアの結果に基づく基準又は測定指標

採卵若雌鶏及び採卵鶏のウェルフェアは、結果に基づく基準又は測定指標、なるべく動物の状態に基づく指標（第7.1.4条に記載）を用いて評価するものとする。結果に基づく基準又は測定指標は、特にアニマルウェルフェアの適合性の評価及び向上に有用である。動物の状態に基づく結果は通常最も敏感な測定指標である（~~死亡率等~~）。しかし、リソース及び管理に基づく成果も重要な適用性がある（~~例えば死亡率のデータの解釈は安楽死の決定によって知らされる~~）。アニマルウェルフェアのすべての面に対処する単一の測定指標はない。測定指標及びその適切な閾値の使用は、採卵雌若鶏又は採卵鶏が飼養されるさまざまな状態に合わせて、利用されている遺伝的性質、提供されたリソース及びシステムの設計及び管理も考慮した上で、適合されるものとする。動物の状態に基づく基準又は測定指標はこれらの要素のモニターと改善の道具として考慮されうる。

農場環境で利用できる基準又は測定指標には、日常的もしくはターゲットとされたサンプリングの間又は間引きの時に評価することができる、骨格及び趾の問題、疾病及び感染又は寄生などの状態などがある。アニマルウェルフェアの測定指標の目標値又は閾値は、直近の科学的知見や国、部門又は地域の採卵若雌鶏又は採卵鶏の適切なデータ及び勧告を考慮して決定することが推奨される。問題が発見された日齢及び生産の段階を判定することは、原因を判定するのに役立つことがある。

以下の動物の状態に基づく及び結果に基づく測定指標（英語のアルファベット順）は、若雌鶏又は雌鶏のウェルフェアの有用な指標になりうる。

1. くちばしの状態

くちばしの状態の評価は、採卵若雌鶏及び採卵鶏が正常な行動（ついでみ行動、採餌、飲水、羽繕い等）をとれる範囲に関する有用な情報を提供する [Dennis and Cheng, 2012; Vezzoli *et al.*, 2015]。くちばしの状態を評価するツールはアニマルウェルフェア評価プログラムで開発され、実施されている [e. g. Kajlich *et al.*, 2016]。

2. 行動

特定の行動の有無は、良いアニマルウェルフェア又はアニマルウェルフェア上の問題（恐怖、苦痛又は病気等）のいずれかを示している場合がある。いくつかの行動は、問題の一つのタイプを一意的に示さないこともあり、さまざまな原因により現れていることもある。*Gallus gallus domesticus*種の鳥は、行うことを動機づけられる行動を徐々に発展させており、鶏同士の社会的な接触 [Estevez et al., 2007; Rodriguez-Aurrekoetxea, A. and Estevez, I., 2014] を含む **採卵若雌鶏及び採卵鶏**の通常の行動をよく理解すること [Nicol, 2015] は、適切な管理及び決定を行うために必要である。これらの行動の発現の機会は身体的及び社会環境によって影響される [Widowski et al., 2016; Lay et al., 2011; Connor et al., 2011] 。

a) 砂浴び

砂浴びは、身体維持の利益をもたらす動機づけられた行動である。採卵若雌鶏及び採卵鶏は、砂浴び中に、敷料等のほぐれた床層の材料を羽の間に通す。砂浴びは、余分な脂質 [Van Lier and Bokma, 1987] を取り除くことを助け、羽の状態を保つのに役立つ。羽の良好な状態は、体温を調整し、皮膚の損傷を防ぐのにも役立つ。当該群れの砂浴び行動の減少が、床層又は地面が濡れている、若しくは砕けにくくなっている等、床層又は飼育場所の質の問題を示している場合がある [Olson and Keeling, 2005; Van Lier and Bokma, 1987] 。完全な一連の砂浴びが行われることは、よい感情と関係していることもある [Widowski and Duncan, 2000] 。

b) 恐怖行動

おびえた採卵若雌鶏及び採卵鶏は、さまざまな刺激に高い反応性を示し [Jones R. B., 1987; Zeltner and Hirt, 2008]、これにより、採卵若雌鶏及び採卵鶏がお互いに積み重なってしまうと外傷又は窒息につながる場合もある。おびえた採卵若雌鶏及び採卵鶏は生産性が低いことがある [Barnett J. et al., 1992] 。また、羽つつき行動で傷つける傾向が高い [de Haas et al., 2014] 。例えば、新たな物への反応又は人（家畜飼養管理者を含む）が鶏舎の若雌鶏及び雌鶏のいる場所を通して歩く時の採卵若雌鶏及び採卵鶏の行動を観察することにより恐怖を評価する方法が開発されている [Jones, 1996; Waiblinger et al. 2006] 。

c) 採餌及び飲水行動

採餌又は飲水行動の変化が、不適切な給餌若しくは給水空間又は場所、栄養の偏り、飼料や水の質の悪化、飼料汚染等の管理上の問題を指し示すことがある [Garne et al., 2012; Thogerson et al., 2009a; Thogerson et al., 2009b] 。飼料及び水の摂取量は、鳥が病気の時にしばしば減少する。飼料及び水の摂取量も、暑熱ストレス [Lara L. J. & Rostagno, 2013; Lin H. et al., 2006] や寒冷ストレス [Alves et al., 2012] の結果として変化することがある。

d) ついばみ行動

ついばみは動機づけられた行動である [de Jong *et al.*, 2007, Nicol *et al.*, 2011]。ついばみは、飼料を探す行動であり、典型的なものは、床層を突っつき又は剥がすことである。ついばみ活動の減少がある場合には、床層の品質問題又はついばみの機会を減少させる状態の存在が示唆され得る [Appleby *et al.*, 2004; Lay *et al.*, 2011; Weeks and Nicol, 2006]。適切な床層が提供された場合、飼料が容易に入手できる場合であっても、採卵鶏はほとんどの時間をついばみに費やす [Weeks and Nicol, 2006]。

e) 有害な羽つつき及び共食い

有害な羽つつきは、重大な羽の損失につながることもあり、共食いに至ることがある。共食いは、他の採卵若雌鶏又は採卵鶏の生身を引き裂くことであり、深刻な怪我、二次感染又は死につながることもある。これらの行動は、多様な要因を原因としていることがあり、管理するのが難しい [Hartcher, 2016; Estevez, 2015; Nicol *et al.*, 2013; Rodenburg, 2013; Lambton, 2013; Newberry, 2004]。

f) 運動及び快適な行動

採卵若雌鶏及び採卵鶏は様々な運動及び快適な行動（歩く、走る、跳ねる、回転する、肢や翼を広げる、羽ばたく、羽を逆立てる、尾を振る、羽繕いを含む）を示すことがある [Bracke and Hopster, 2006; Harthcher and Jones, 2017; Dawkins and Hardie, 1989; Shipov *et al.*, 2010; Norgaard, 1990]。これらの行動のいくつかは、骨格、体及び羽の発育と維持に重要であることが示されている。例えば、歩くことと翼の動きは肢と翼の骨の強化に貢献し [Knowles and Broom, 1990]、羽繕いは余分な脂質を皮膚から除くのを助け [Vezzoli *et al.*, 2015]、羽をしなやかで、傷がないように保つ [Shawkey *et al.*, 2003]。

g) 営巣

営巣は、動機づけられた行動であり、巣の場所の選択、巣の形成及び産卵を含む [Cooper and Albentosa, 2003; Weeks and Nicol, 2006; Cronin *et al.*, 2012; Yue and Duncan, 2003]。不規則な巣箱の使用、産卵の遅れ、ペースの増加及び巣外での産卵は、環境又は社会の要因（営巣の区域へのアクセス又は適性、他の採卵若雌鶏及び採卵鶏による妨害）の問題を示している場合がある [Cronin *et al.*, 2012; Cooper and Appleby, 1996; Gunnarsson *et al.*, 1999; Yue and Duncan, 2003; Widowski *et al.*, 2013]。

h) 止まり

（木に）止まることは、動機づけられた行動である。採卵若雌鶏及び採卵鶏は、昼間、小高いところを探すことがある。しかし、小高いところを探す動機付けは、特に、若雌鶏及び雌鶏が休息又は睡眠のための場所を選ぶ夜に強い [EFSA, 2015]。群れの止まる行動の減少は、環境的な要因（不適切な止まり木又は劣った空間設計）、損傷又は若雌鶏育成の経験の問題を示している場合がある [Janczak and Riber, 2015; Gunnarsson *et al.*, 1999]。

i) 休息及び睡眠

睡眠は動物が日々のストレスからの回復し、エネルギーを温存し、記憶を強化するための適応状態である [Siegel, 2009]。若雌鶏及び採卵鶏は高度にシンクロ（同調）した休息と睡眠行動を示し、それは光強度、光周期、環境又は社会的要因によって中断されうる [Malleau *et al.*, 2007; Alvino *et al.*, 2009]。

j) 社会的行動

採卵若雌鶏及び採卵鶏は、社会的であり、シンクロ（同調）した行動に参加する [Olsson *et al.*, 2002; Olsson and Keeling, 2005]。社会的行動は社会的な環境の特性に応じて異なることがある [Estevez *et al.*, 2002; 2007]。社会的行動の問題は、攻撃や資源の競争による被害の程度を測定する採点システムを用いることによって評価することができる [Estevez, 2002; Blatchford *et al.*, 2016]。。

k) 空間分布

採卵若雌鶏及び採卵鶏の不均衡な空間的分布が、恐怖反応、温度に対する不快又は照明、飼料又は水、避難場所、営巣の区域、又は快適な休息場所の供給や使用の不均衡を示している場合がある [Rodríguez-Aurrekoetxea and Estevez, 2016; Bright and Johnson, 2011]。

l) 体温調節行動

長引く又は過剰な浅速呼吸及び翼を広げる行動は、暑熱ストレスの間に観察される [Mack, 2013; Lara and Rostagno, 2013]。寒冷ストレスを示す指標には、羽を逆立てる、硬直した姿勢、震える、寄り合う、苦痛の鳴き声がある。

m) 鳴き声

鳴き声は、好悪両方の感情の状態を示す場合がある。群れの鳴き声とその原因の良好な理解は、良好な群れの管理に役立つ [Zimmerman *et al.*, 2000; Bright, 2008; Koshiba *et al.*, 2013]。

3. 体型（ボディコンディション）

劣った（不十分な）ボディコンディションは、個々の採卵若雌鶏及び採卵鶏のアニマルウェルフェアの問題を示す場合がある。群れのレベルでは、不均衡なボディコンディションは、劣ったアニマルウェルフェアを示す場合がある。ボディコンディションは、体重又は体型の点数（ボディコンディションスコア）のための農場でのサンプリング方法を用いることによって評価できる [Gregory and Robins, 1998; Craig and Muir, 1996, Elson and Croxall, 2006; Keeling *et al.*, 2003]。サンプリングの方法の選択は、実際のボディコンディションは羽毛によって覆い隠しうる事実を考慮すべきである。

4. 目の状態

結膜炎が、病気や粉塵、アンモニア等の刺激物の存在を示す場合がある。高濃度のアンモニアが、角膜の炎症、最終的には失明につながる場合がある。目の発育異常が、非常に低い照度（5ルクス未満）と関連している場合がある [Jenkins *et al.*, 1979; Lewis and Gous, 2009; Prescott *et al.*, 2003]。

5. 趾の問題

角化症、趾りゅう症、接触性皮膚炎、過剰な爪の発育、損傷した爪、つま先のけがは、とりわけ、不適切な床、不十分なデザインの止まり木、不十分な管理の床層 [EFSA, 2005; Lay *et al.*, 2001; Abrahamsson and Tauson, 1995; Tauson and Abrahamson, 1996; Abrahamsson and Tauson, 1997] 及び生産システムの不適切な維持に関連する痛みを伴う状態である。

重篤な場合には、趾及び膝の問題が跛行の原因となり、二次感染を引き起こすことがある。趾の問題に有効な採点システムが開発されている [Blatchford *et al.*, 2016]。

6. 疾病、感染、外部寄生虫感染及び代謝異常を含む疾病の発生

健康障害は、原因にかかわらず、アニマルウェルフェア上の懸念であり、不十分な環境又は飼養管理によってさらに悪化することがある。

7. 損傷率及び深刻度

損傷は痛みと感染の危険性に関連している。損傷には、他の採卵若雌鶏及び採卵鶏の行動（例えば、引っかけ、羽の喪失又は傷）、管理（例えば、骨格の問題につながる栄養不良）、環境条件（例えば、趾の損傷につながる劣った床）利用されている遺伝的性質、もしくは人の介在（例えば、取扱い及び捕鳥の間）により結果としてなる場合がある。損傷率と深刻度の両方を評価することが重要である。

8. 死亡率、淘汰率及び罹病率

一日当たり、一週当たり及び累積の死亡率、淘汰率及び罹病率は、予期される範囲内であるものとする。これらの割合に不測の増加がある場合には、それがアニマルウェルフェア上の問題を反映していることがある。罹病率と死亡率のこれら率の記録及びその原因の評価は、アニマルウェルフェアの問題の原因を究明し、修正するのに有用になりうる。

9. 生産成績

一日当たり、一週当たり及び累積の生産成績は、予期される範囲内であるものとする。これらの割合の不測の減少は、アニマルウェルフェアの問題を反映していることがある。使用できる測定指標の種類には以下のものが含まれる。

a) 採卵若雌鶏の成長率は、群れの若雌鶏及び群れの均一の一日当たりの平均増大量を測定する。

b) 採卵若雌鶏の群れの均一性は、群れの重量の範囲で測定する。

c) 採卵若雌鶏の飼料要求率は、一群が消費する飼料の量を生産された全生体重量と比較して測定し、体重の一単位当たり消費する飼料重量として表される。

d) 採卵雌鶏の飼料要求率は、一群が消費する飼料の量を卵生産の単位と比較して測定する。

e) 卵生産は、舎飼されている雌鶏当たりの卵の数、サイズ及び重量で測定される

f) 卵の質や格落ちは、例えば、格付の割合、卵殻の強度、ハウユニット（卵黄の盛り上がり）、異常及び巢外や床の卵で測定できる。

10. 羽の状態

羽の状態を評価することは、羽つつき及び共食い、体温を調節する能力、病気及び損傷からの保護に関して、アニマルウェルフェア上有益な情報を提供する。

[Rodriguez-Aurrekoetxea and Estevez, 2016; Drake *et al.*, 2010] 汚れた羽は、病気、環境の状態もしくは採卵若雌鶏及び採卵鶏の舎飼いシステムに関連することがある。羽の覆いや清浄度の採点システムが、これらの目的のため開発されている [Blokhuys, 2007]。

11. 水及び飼料の摂取

周辺温度、相対湿度その他関連要因を考慮した上で、毎日の水及び飼料の摂取量を監視及び評価することは、温度ストレス、疾病、感染又は外寄生及びその他アニマルウェルフェアに影響を与える状態を示す場合があり、有益なツールである。摂食量の変化、給餌器や給水器の混雑、濡れた床層は水もしくは飼料の質や供給の問題と関係していることがある。

第7. Z. 4条

採卵若雌鶏及び採卵鶏に係る勧告

若雌鶏及び雌鶏の良いウェルフェアを確実にするかは、システムの設計、環境的管理技術及び動物の管理技術（責任ある取扱いや適切な世話の提供、利用されている遺伝的形質を含む）等のいくつかの管理要素次第である。これらのうち1つ以上の要因に問題があるが矢切に場合、どのようなシステムであっても深刻なアニマルウェルフェア上の問題が起こりうる。

第7. Z. 5条から第7. Z. 29条は、採卵若雌鶏及び採卵鶏に係る勧告が示されている。

それぞれの勧告には、第7. Z. 3条に由来する一連の関連する結果に基づく基準又は測定指標が含まれる。これらの基準や測定指標の適切さは採卵若雌鶏及び採卵鶏の飼養されているシステムに従って決められる。

第7. Z. 5条

施設の場所、設計、構造及び設備

採卵若雌鶏及び採卵鶏の施設の場所は、実行可能な範囲で、火事及び洪水その他自然災害の影響から安全であるものとする。さらに、施設は疾病のリスク、採卵若雌鶏及び採卵鶏の化学的及び物理的汚染物質の暴露、騒音及び不利な気候条件を避ける又は最小限にするように位置する又は設計されるものとする。

採卵若雌鶏及び採卵鶏の良好なウェルフェアの成果は、さまざまな舎飼システムによって達成されうる。鶏舎、屋外地域及び鳥がアクセスする設備は、良いアニマルウェルフェアを促進するために若雌鶏及び雌鶏に動機付けされた行動を行う機会、健康及び環境要因、動物管理の能力を考慮した上で設計され、鳥の損傷又は不快を避けるように維持されるものとする。採卵若雌鶏及び採卵鶏の鶏舎は、火事及びその他の災害のリスクが最小限となる材料、電気設備及び燃料設備で建設され、清浄及び維持が容易であるものとする。生産者は、すべての設備の記録の保存、採卵若雌鶏及び採卵鶏のウェルフェアを危険に曝すおそれのある故障に対処する緊急時計画を含む維持管理プログラムを整備するものとする。

結果に基づく測定指標：ボディコンディション、砂浴び、恐怖行動、採餌及び飲水行動、趾の問題、ついでみ行動、疾病、感染、外寄生及び代謝異常の発生、損傷率及び深刻度、運動及び快適な行動、死亡率、淘汰率及び罹病率、営巣、止まり木、生産成績、羽の状態、休息と睡眠、社会的行動及び空間分布、体温調節行動、鳴き声

第7. Z. 6条

採卵若雌鶏及び採卵鶏と舎飼及び生産システムの調和

特定の場所、舎飼及び生産システムに適した利用する遺伝的形質を選択する場合に

は、アニマルウェルフェア及び健康への配慮が生産成績の決定と釣り合うものとする。採卵若雌鶏の育成システムでは、意図された採卵鶏の生産システムのためにこれらの鳥が予め適応されるものとする。

結果に基づく測定指標：砂浴び、採餌及び飲水行動、ついばみ活動、疾病、感染、外寄生及び代謝異常の発生、有害な羽つつき及び共食い、損傷率及び深刻度、運動及び快適な行動、死亡率、淘汰率及び罹病率、営巣、止まり、生産成績、羽の状態、休息と睡眠、社会的行動、空間分布

第7.2.7条

空間的ゆとり

採卵若雌鶏及び採卵鶏が、資源への適切なアクセスを有し、正常な姿勢をとることができるような空間的ゆとりで舎飼いされるものとする。良好な筋骨格の健康及び羽の状態に貢献する、運動及び快適な行動の発現のために十分な空間を提供することが望ましい。空間的ゆとりの問題は、ストレスや損傷の発生を増加することがある。

空間的ゆとりを決定する際には、以下の要素（英語のアルファベット順）が考慮されるものとする。

- －採卵若雌鶏及び採卵鶏の日齢及び体重
- －周辺環境
- －バイオセキュリティ方針
- －設備の選択
- －給餌及び給水システム
- －床層
- －遺伝的性質
- －舎飼いのデザイン
- －管理能力
- －生産システム
- －利用可能空間
- －換気

結果に基づく測定指標：砂浴び、採餌及び飲水行動、ついばみ行動、疾病、感染、外寄生及び代謝異常の発生、有害な羽つつき及び共食い、損傷率及び深刻度、運動及び快

適な行動、死亡率、淘汰率及び罹病率、営巣、止まり、生産成績、羽の状態、休息と睡眠、社会的行動、空間分布

第7. Z. 8条

栄養

採卵若雌鶏及び採卵鶏は、その日齢、生産段階及び遺伝的性質に適した飼料を与えられるものとする。飼料の形は採卵若雌鶏及び採卵鶏が受け入れられるものであり、良好なアニマルウェルフェア及び健康のための要件を満たす、適切な栄養を含むものとする。飼料及び水は、汚染物質、破片及び病原性微生物又はその他の潜在的な危害要因を含まないものとする。

給餌及び給水システムは、有害な微生物の増殖を予防するため、定期的に点検され、必要な場合に清掃されるものとする。

採卵若雌鶏及び採卵鶏は、飼料の適切なアクセスが毎日与えられるものとする。水は、獣医学的助言のもとでの場合を除き、継続的に入手可能であるものとする。新たにふ化した採卵若雌鶏に対しては、適切な飼料及び水が入手できるよう特別な提供が行われるものとする。

結果に基づく測定指標：ボディコンディション、ついばみ行動、疾病、感染、寄生及び代謝異常の発生、死亡率、淘汰率及び罹病率、生産成績、羽の状態、鳴き声、水及び飼料の摂取

第7. Z. 9条

床

床の傾斜、設計及び建設は、採卵若雌鶏及び採卵鶏の運動に適切な支えを提供し、損傷や挟み込みを予防し、健康を促進し、快適な行動や運動のような行動をとれるようにするものとする。採卵若雌鶏から採卵鶏舎への床の種類の変化は避けるものとする。鶏舎内の他の採卵若雌鶏及び採卵鶏による糞の汚染は、適切な床の設計及びシステム設計の他の要素により最小限にするものとする。床は掃除及び消毒が容易なものとする。

床層が提供される場合は、快適な行動や運動のような行動をとることを可能とし、乾いていて碎けるように管理され、疾病の予防及びウェルフェアに対するいかなる悪影響も最小限にするために必要な場合には、適切に処理され又は交換されるものとする。

結果に基づく測定指標：砂浴び、趾の問題、ついばみ行動、疾病、感染、外寄生及び代謝異常の発生、有害な羽つつき及び共食い、損傷率及び深刻度、運動及び快適な行動、生産成績、羽の状態、休息と睡眠

第7. Z. 10条

砂浴びの区域

砂浴びを促すための、砕けやすく、乾燥した床層へのアクセスは望ましい。砂浴びの区域が提供される場合は、砂浴びの区域は、砂浴びを促すように設計及び配置され、シンクロ（同調）した行動を可能とし、過度な競争を防ぎ、被害又は損傷を生じないものとする。砂浴びの区域は、検査及び維持管理が容易なものであるものとする [Weeks and Nicol, 2006] 。

結果に基づく測定指標：砂浴び、疾病、感染、外寄生及び代謝異常の発生、有害な羽つき及び共食い、損傷率及び深刻度、羽の状態、空間分布

第7. Z. 11条

ついでばみの区域

ついでばみ活動を促すための床層へのアクセスは望ましい。ついでばみの区域が提供される場合は、シンクロ（同調）した行動を促すように設計及び配置され、過度な競争を防ぎ、被害又は損傷を生じないものとする。ついでばみの区域は、検査及び維持管理が容易なものであるものとする。

結果に基づく測定指標：ついでばみ行動、疾病、感染、外寄生及び代謝異常の発生、有害な羽つつき及び共食い、損傷率及び深刻度、空間分布

第7. Z. 12条

営巣の区域

営巣の区域へのアクセスは望ましい。営巣の区域が提供される場合は、適切な材料で造られ、営巣を促すように設計及び配置され、過度な競争を防ぎ、被害又は損傷を生じないものとする。営巣の区域は、検査、清掃及び維持管理が容易なものであるものとする。

結果に基づく測定指標：疾病、感染、外寄生及び代謝異常の発生、有害な羽つつき及び共食い、損傷率及び深刻度、営巣、生産成績（巣外又は床の卵）、空間分布

第7.2.13条

止まり木

止まり木へのアクセスが望ましい。止まり木が提供される場合は、適切な材料で造られ、全ての採卵若雌鶏及び採卵鶏にとって止まりを促すように設計され、高さがあり及び配置され、過度な競争を防ぎ、竜骨の変形、趾の問題や他の損傷を最小限にし、止まっている間は鳥の安定を確保するものとする。設計された止まり木が無い場合、採卵若雌鶏及び採卵鶏によって高いと認識され、被害又は損傷を生じない他の構造（台、格子及びすのこ等）は適切な代替物となる場合がある。提供されている場合、止まり木又はその代替物は、早い週齢から利用可能なものとし、清掃及び維持管理が容易なものであるものとし、糞便による汚染を最小限にするものとする [Hester, 2014; EFSA, 2015]。

結果に基づく測定指標：肢の問題、有害な羽つつき及び共食い、疾病、感染、外寄生及び代謝異常の発生、損傷率及び深刻度、止まり、羽の状態、休息と睡眠、空間分布

第7.2.14条

屋外区域

採卵若雌鶏及び採卵鶏は、十分な羽毛に覆われ、安全に歩き回れる時は屋外区域への出入が可能となる。採卵若雌鶏及び採卵鶏が部分的に舎飼いされている場合、鶏舎からの自由な出入りを可能にする十分に適切に設計された出入り口が設けられるものとする。

屋外区域の管理が重要である。土地及び放牧地の管理措置は、採卵若雌鶏及び採卵鶏が病原体に感染する、寄生虫に寄生される、又は損傷するリスクを低減するためにとられるものとする。これには、飼育密度の制限又はいくつかの土地区画の順番で連続的な使用が含まれる場合がある。

屋外区域は、水はけの良い土地に設置され、**まどんだ溜まり**水及びぬかるみを最小限に抑えるように管理されるものとする。屋外区域は、採卵若雌鶏及び採卵鶏を収容し、逃走を防ぐものとする。屋外区域は、捕食及び疾病のリスク及び不利な気候条件を最小限に抑えつつ、採卵若雌鶏及び採卵鶏が屋外で安全と感ずることを可能にし、区域を最大限に活用することを奨励するように設計され、作られ、維持されるものとする [Gilani *et al.*, 2014; Hegelund *et al.*, 2005; Nagle and Glatz, 2012]。採卵若雌鶏及び採卵鶏は屋外区域に早く慣らされるものとする [Rodriguez-Aurrekoetxea and Estevez, 2016]。屋外区域には、有害植物及び汚染物質がないものとする。**良好な飼育条件は、屋外飼育のために採卵若雌鶏及び採卵鶏を準備することができ**る [Bari *et al.*, 2020]。

結果に基づく測定指標：恐怖行動、趾の問題、ついでみ行動、疾病、感染、外寄生及び代謝異常の発生、損傷率及び深刻度、運動及び快適な行動、死亡率、淘汰率及び罹病率、

損傷率及び深刻度、生産成績、羽の状態、社会的行動、空間分布、体温調節行動、鳴き声

第7. Z. 15条

温度環境

採卵若雌鶏及び採卵鶏の温度状況は、その発育段階及び利用されている遺伝的形質にとってふさわしい範囲に維持管理され、極端な高温、湿度及び寒冷は避けられるものとする。多様な温度、気流速度及び相対湿度のレベルの中で、熱指数が、採卵若雌鶏及び採卵鶏にとっての温度快適範囲を同定するのに役立つ場合があり [Xin and Harmon, 1998]、採卵鶏の遺伝会社からの管理ガイドラインで示されていることがある。

採卵若雌鶏及び採卵鶏は、特に想定される周辺状況に対して適切な品種及び鶏舎が用いられる場合には、広範な温度環境に順応できるが、天候の急変が、暑熱又は寒冷ストレスを引き起こすことがある。

環境状況がそのような範囲から外れた場合には、採卵若雌鶏及び採卵鶏に対する悪影響を緩和するための方策がとられるものとする。これには、風速の調整、熱の供給、又は気化熱式冷却が含まれる場合がある [Yahav, 2009]。

システムの問題が、アニマルウェルフェア上の問題を引き起こす前に発見され、修正されるために、温度環境を定期的に監視するものとする。

結果に基づく測定指標：死亡率、淘汰率及び罹病率、生産成績、空間分布、温度及び**相対**湿度、体温調節行動、水及び**飼料**の摂取

第7. Z. 16条

空気の性状

換気、鶏舎、空間的ゆとり及び糞の管理は空気の性状に影響することがある。環境中の二酸化炭素、アンモニア等の有害ガス、粉塵及び過剰な湿気を取り除いたり、緩和したりすることを含む、空気の性状を良好なアニマルウェルフェアに必要なレベルに維持するための取組が必要である。

アンモニア濃度は、採卵若雌鶏及び採卵鶏の高さで日常的に25 ppm を超えないものとする [David *et al.*, 2015; Milles *et al.*, 2006; Olanrewaiu, 2007]。

粉塵の水準は、最低限に維持されるものとする [David, 2015]。

結果に基づく測定指標：アンモニア濃度、二酸化炭素濃度、粉塵の程度、目の状態、疾病、感染、**外寄生**及び代謝異常の発生、死亡率、淘汰率及び罹病率、羽の状態、生産成績、温度及び**相対**湿度、体温調節行動

第 7.Z.17 条

照明

適切な継続した明期が設けられるものとする。明期の照度は、正常な発育を促し、採卵若雌鶏及び採卵鶏が飼料及び水を探すこと、活動を刺激すること、産卵開始を刺激すること、有害な羽つつき及び共食いの可能性を最小限に抑えること、適切な検査を可能にするのに十分なものとし、均等に分布されるものとする [Prescott *et al.*, 2003; Prescott and Wathes, 1999; Green *et al.*, 2000]。

各24時間サイクルの間に、採卵若雌鶏及び採卵鶏に休息や睡眠を可能にし、ストレスを低減し、及びサーカディアン（概日）リズムを促すために、適切な暗期もまた設けられるものとする [Malleau *et al.*, 2007]。

照明の変化は、迅速な照明の調整が考慮される換羽が行われている場合を除き、必要な場合は徐々に又は段階的に行うものとする [Tanaka and Hurnik, 1990; Kristenson, 2008]。

結果に基づく測定指標：目の状態、有害な羽つつき及び共食い、損傷率及び深刻度、運動及び快適な行動、営巣、止まり、生産成績、羽の状態、休息と睡眠、空間分布

第7. Z. 18条

騒音

採卵若雌鶏及び採卵鶏は、様々な程度及び種類の騒音に順応可能であるが、ストレス及び恐怖反応（お互いの上に積み重なる等）を予防するため、なじみのない騒音（特に突然又は大きな騒音）に採卵若雌鶏及び採卵鶏を曝すことを最小限に抑えるものとする [Bright and Johnson, 2001]。換気扇、機械及びその他の舎内又は舎外の設備は、それが発生させる騒音の量を可能な限り最小限に抑えるような方法で建設、配置、運用及び維持されるものとする [Chloupek *et al.*, 2009]。

施設の場所は、可能な場合には、地域に存在する騒音源を考慮するものとする。採卵若雌鶏及び採卵鶏を状況に慣らすための戦略がとられるものとする [Candland *et al.*, 1963; Morris, 2009]。

結果に基づく測定指標：恐怖行動、損傷率及び深刻度、死亡率、淘汰率及び罹病率、生産成績、休息と睡眠、鳴き声

第7. Z. 19条

有害な羽つつき及び共食いの予防及び管理

有害な羽つつき及び共食いは、採卵若雌鶏及び採卵鶏生産システムの課題である。

発生リスクを低減しうる管理方法には以下のものがある。

- －育成及び産卵期における食餌及び飼料の形態の適応 [Lambton *et al.*, 2010]
- －有害な羽つつきの傾向の低さと関連する遺伝的性質選択 [Craig and Muir, 1996; Kjaer and Hocking, 2004]
- －産卵開始時期の晩期化 [Green *et al.*, 2010]
- －育成期における空間的ゆとりの拡大 [Jung and Knierim, 2018]
- －育成及び産卵期における照明の管理 [Nicol *et al.*, 2013; van Niekerk *et al.*, 2013]
- －恐怖に関連した刺激の最小化 [Uitdehaag K. A. *et al.*, 2009]
- －育成及び産卵期における高い止まり木の提供 [Green *et al.*, 2000]
- －産卵時における営巣区域の提供 [Shi *et al.*, 2019a; Shi *et al.*, 2019b]
- －育成及び産卵期におけるついでみもしくは他の扱うことのできる材料の提供 [Huber-Eicher and Wechsler, 1998; de Jong, 2010; Daigle *et al.*, 2014; Dixon *et al.*, 2010; Nicol, 2018]
- －育成及び産卵期における群のサイズの減少 [Bilcik and Keeling, 1999]

管理方法は、該当する場合には行うものとし、損傷が起きた場合には影響を受けた採卵若雌鶏及び採卵鶏を速やかに除き、処置又は安楽死を行うものとする。

これらの管理方法が失敗した場合、くちばしの部分的除去は最終的な手段として考慮される場合がある。

結果に基づく測定指標: ついでみ行動、有害な羽つつき及び共食い、損傷率及び深刻度、死亡率、淘汰率及び罹病率、羽の状態、鳴き声

第7. Z. 20条

換羽

よく管理されない場合は、誘導換羽はアニマルウェルフェアの問題となりうる [Nicol *et al.*, 2017; Sariozkan *et al.*, 2016; Holt, 2003, Ricke, 2003, Webster, 2003]。誘導換羽が実施される場合は、断餌を伴わない、第7. Z. 8条に沿った方法が使われるものとする。採卵鶏は照明と水には常に、**光には適度な期間**アクセスできるようにするものとする [Anderson, 2015]。良好なボディコンディションで健康な採卵鶏のみを換羽するものとする。換羽期間中は、その後の採卵期間も含め、体重の減少が採卵鶏のウェルフェアを損なうべきではない。換羽中の死亡率及び淘汰率の合計が通

常の群死亡率及び淘汰率の変動を超えるべきではない。

結果に基づく測定指標：ボディコンディション、採餌及び飲水、ついばみ行動 [Biggs *et al.*, 2004; Saiozkan *et al.*, 2016; Petek and Alpay, 2008]、有害な羽つつき及び共食い、損傷率及び深刻度、死亡率、淘汰率及び罹病率、生産成績、羽の状態、社会的行動

第7. Z. 21条

痛みを伴う処置

痛みを伴う処置は、必要な場合を除いて行われるべきではなく、痛み、苦悩及び苦しみを最小限にする方法で使われるものとする。くちばしの部分的除去が行われる場合には、可能な限り若齢の時に実施し、痛みを最小限に抑え、出血を抑制する方法を用いて、必要最小限の量のくちばしを取り除くよう注意が払われるものとする。有害な羽つつきや共食いをコントロールする管理方法が成功しなかった場合、治療的なくちばしの部分的除去は最終的な手段として考慮される場合がある [Gentle *et al.*, 1991; Marchand-Forde *et al.*, 2008; Marchand-Forde *et al.*, 2010; McKeegan and Philbey, 2012; Freire *et al.*, 2011; Glatz *et al.*, 1998]。成熟した日齢でのくちばしの部分的除去は、慢性的な痛みを起こすことがある。断冠、つま先切り及びそのほかの切除は採卵若雌鶏及び採卵鶏に行わないものとする。

これらの処置に関するアニマルウェルフェアを向上するための潜在的なオプションには、処置をやめること、管理戦略によって痛みを伴う処置の必要性を低減又はなくすること、痛みを伴う処置の必要がない遺伝的形質を利用すること、又は現行の手順をより痛みの少ない又は非侵襲性の代替法にかえることが含まれる。

結果に基づく測定指標：くちばしの状態、ボディコンディション、採餌及び飲水行動、ついばみ行動、有害な羽つつき及び共食い、運動及び快適な行動、死亡率、淘汰率及び罹病率、生産成績、羽の状態、鳴き声

第7. Z. 22条

動物健康管理、予防的投薬及び獣医学的処理

採卵若雌鶏及び採卵鶏の世話に責任を有する家畜飼養管理者は、採卵若雌鶏及び採卵鶏の通常の行動について知識があり、飼料又は水の摂取量の変化、生産の減少、行動の変化、異常な羽の状態や糞便その他身体的特長等、体調不良又は苦悩の徴候を発見できるようにするものとする。

もし家畜飼養管理者が、疾病、体調不良又は苦悩の原因を特定できない若しくはこれらを改善できない場合又は報告すべき疾病の存在が疑われる場合には、獣医師又はその他の資格を有する助言者に助言を求めるものとする。獣医学的治療は、獣医師によって処方されるものとする。

獣医サービスが適宜定めたプログラムに準拠しており、記録の保存を含む、疾病の予防及び治療のための効果的なプログラムがあるものとする。

ワクチン接種及び治療は、手技に熟練した者によって、採卵若雌鶏及び採卵鶏のウェルフェアに配慮し、行われるものとする。

病気又は怪我をした採卵若雌鶏及び採卵鶏は、可能な限り速やかに、観察及び治療のために養護区域に移される、又は第 7. 6 章に従って安楽死されるものとする。

結果に基づく測定指標：ボディコンディション、疾病、感染、外寄生及び代謝異常の発生、損傷率及び深刻度、死亡率、淘汰率及び罹病率、生産成績

第 7. Z. 23 条

バイオセキュリティプラン

バイオセキュリティプランは、採卵若雌鶏及び採卵鶏の可能な限り最良の鳥の健康状態にふさわしく、設計され、実施され、定期的に見直されるものとする。バイオセキュリティプランは、採卵若雌鶏及び採卵鶏の各疫学的グループに特有の現在の疾病リスクへの対処に効果的であるために、陸生コードの関連する勧告に従い、十分に強固なものとする。

当該バイオセキュリティプランは、感染及び外寄生に係る以下の主な感染経路の管理に対処するものとする。

- －エアロゾル
- －他の家きん、家畜化した動物及び野生動物な並びに人からの直接伝播
- －飼料
- －器具、設備、自動車等の媒介物
- －ベクター（例えば、節足動物やげっ歯類）
- －水の供給

大災害又は不十分な群配置に応じた、部分的補充（バックフィリング）は、バイオセキュリティを十分に考慮し、群の混合を防止する方法でのみ行うものとする。

結果に基づく測定指標：死亡率、淘汰率及び罹病率、疾病、感染、外寄生及び代謝異常の発生、生産成績

第7.2.24条

個々の採卵若雌鶏又は採卵鶏の安楽死

個々の採卵若雌鶏又は採卵鶏は安楽死されることがある。用いられる技術は第7.6章に従い、行われるものとする。

安楽死の原因には以下のものが含まれることがある。

- －骨折又はその他の損傷
- －診断目的
- －災害管理
- －消瘦
- －治療が奏効せず、容態の急速な悪化した状態
- －緩和できない深刻な痛み

採卵若雌鶏及び採卵鶏動物の安楽死の決定及びその手順自体は、能力のある者が請け負うものとする。施設は文書化された手順及び適切な設備を整備するものとする。

結果に基づく測定指標：損傷率及び深刻度

第7.2.25条

若雌鶏及び採卵雌鶏施設における間引き

本条はいかなる理由であっても、施設から採卵若雌鶏及び採卵鶏を移動するときに言及されるものであり、第7.2.24条とともに読まれるものとする。

採卵若雌鶏及び採卵鶏の間引きの前の絶食の期間は最小限にするものとする。水は間引き時まで利用可能であるものとする。

積載又は輸送に適さない採卵若雌鶏及び採卵鶏は、安楽死させるものとする。羽の状態の悪い採卵鶏は、輸送中の温度ストレス及び損傷のリスクがある [Broom, 1990; Fleming *et al.*, 2006; Gregory and Wilkins 1989; Newberry *et al.*, 1999; Webster, 2004; Whitehead and Fleming, 2000]。農場での殺処分は第7.6章に従って行うものとする。

捕鳥は、第7.2.28条に従って能力のある家畜飼養管理者によって行われるものとし、ストレス、恐怖反応及び損傷を最小限に抑えるように努めるものとする。採卵若雌鶏又は採卵鶏が捕鳥の間に損傷した場合には、安楽死させるものとする。

採卵若雌鶏及び採卵鶏は、第7.3章に従い、取り扱われ、輸送コンテナに入れられるも

のとする。

捕鳥は、採卵若雌鶏及び採卵鶏を静めるため、薄暗い又は青い照明の下でなるべく行われるものとする。

捕鳥は、捕鳥、輸送及び保管の間の気候的なストレスとともに輸送時間も最小限に抑えるように予定が立てられるものとする。

輸送コンテナの中の動物の密度は、第 7. 2 章、第 7. 3 章及び第 7. 4 章に従うものとする。

結果に基づく測定指標：恐怖行動、損傷率及び深刻度、死亡率、淘汰率及び罹病率、空間分布、鳴き声

第 7. Z. 26 条

緊急時計画

採卵若雌鶏及び採卵鶏の生産者は、自然災害、疾病の発生及び機械設備の故障の影響を最小限に抑え、緩和するための緊急時計画を有するものとする。計画立案は防火計画、避難手順が含まれるものとし、関連する場合には、避難手順や不具合を発見するための予備用発電機及び安全警報装置の設置、維持管理及び点検、メンテナンス会社の利用、代替加温又は冷却の準備、農場内の貯水、給水車サービス、農場内の適切な飼料備蓄及び代替飼料供給、並びに空調緊急管理計画が含まれるものとする。

緊急時計画は、獣医サービスが策定した又は推奨した国家プログラムと整合しているものとする。緊急殺処分手順は第 7. 6 章に推奨される方法に従い計画の一部とする。

結果に基づく測定指標：死亡率、淘汰率及び罹病率

第 7. Z. 27 条

職員の能力

家畜飼養管理者は、採卵若雌鶏及び採卵鶏のウェルフェア及び健康を維持するために必要な能力、知識及び適性を有するものとする。

採卵若雌鶏及び採卵鶏に責任を有するすべての者は、適切な訓練を受けている又はその責任を遂行する能力を有することを立証できるものとし、それには採卵若雌鶏及び採卵鶏の行動の評価、取扱い技術、安楽死及び殺処分の手順、バイオセキュリティの実施、疾病の一般的徴候並びに粗悪なアニマルウェルフェアの指標の発見、及びそれらを緩和する手順が含まれる。

結果に基づく測定指標：ボディコンディション、恐怖行動、疾病、感染、外寄生及び代謝異常の発生、運動及び快適な行動、生産成績、死亡率、淘汰率及び罹病率、空間分布、鳴き声

第7. Z. 28条

検査及び取扱い

採卵若雌鶏及び採卵鶏、施設及び鶏舎内又は屋外の施設の設備は、少なくとも毎日検査されるものとする。検査には以下の目的がある。

- －死んだ若雌鶏及び雌鶏を取り除き、第4. 13条に従って廃棄するため
- －病気又は損傷した採卵若雌鶏及び採卵鶏を確認し、第7. Z. 24条に従って、治療又は安楽死させるため
- －群れの中のアニマルウェルフェアもしくは健康上の問題を発見し、改善するため
- －施設の設備や他の問題の不具合を発見し、改善するため

検査は、**家畜飼養管理者**が群れの中を静かにゆっくりと動くなど、採卵若雌鶏及び採卵鶏を不必要に混乱させることがないような方法で行われるものとする。

採卵若雌鶏及び採卵鶏を取り扱う場合（特に鶏舎又は屋外の施設に入れる又は取り出す場合）には、損傷を与えられず、恐怖やストレスを最小限にするような方法で保たれるものとする [Gregory and Wilkins, 1989; Gross and Siegel, 2007; Kannan and Mench, 1996]。若雌鶏及び雌鶏が運ばれる距離は最小となるようにする。適切に取り扱われない場合、採卵鶏は骨折する傾向にある。

結果に基づく測定指標：恐怖行動、損傷率及び深刻度、死亡率、淘汰率及び罹病率、生産成績、空間分布、鳴き声

第7. Z. 29条

捕食動物からの保護

採卵若雌鶏及び採卵鶏は、屋内と屋外では、捕食動物から保護されるものとする。全ての生産システムにおいて捕食動物と野鳥による接触を防止するようにデザインされ、維持管理されるものとする。

結果に基づく測定指標：恐怖行動、損傷率及び深刻度、運動及び快適な行動、死亡率、淘汰率及び罹病率、生産成績、空間分布、鳴き声

CHAPTER 8.8.

INFECTION WITH FOOT AND MOUTH DISEASE VIRUS

Article 8.8.1.

General provisions

- 1) Many different species belonging to diverse taxonomic orders are known to be susceptible to *infection* with foot and mouth disease virus (FMDV). Their epidemiological significance depends upon the degree of susceptibility, the husbandry system, the density and extent of populations and the contacts between them. Amongst *Camelidae*, only Bactrian camels (*Camelus bactrianus*) are sufficiently susceptible to have potential for epidemiological significance. Dromedaries (*Camelus dromedarius*) are not susceptible to *infection* with FMDV while South American camelids are not considered to be of epidemiological significance.
- 2) For the purposes of the *Terrestrial Code*, foot and mouth disease (FMD) is defined as an *infection* of animals of the suborder *ruminantia* and of the family *suidae* of the order *Artiodactyla*, and *Camelus bactrianus* with FMDV.
- 3) The following defines the occurrence of *infection* with FMDV:
 - a) FMDV has been isolated from a sample from an animal listed in point 2; or
 - b) ~~viral~~ antigen or ~~viral~~ ribonucleic acid specific to FMDV has been identified in a sample from an animal listed in point 2, showing clinical signs consistent with FMD, or epidemiologically linked to a suspected or confirmed *outbreak* of FMD, or giving cause for suspicion of previous association or contact with FMDV; or
 - c) antibodies to structural or non-structural proteins (NSP) of FMDV, that are not a consequence of *vaccination*, have been identified in a sample from an animal listed in point 2, showing clinical signs consistent with FMD, or epidemiologically linked to a suspected or confirmed *outbreak* of FMD, or giving cause for suspicion of previous association or contact with FMDV.
- 4) Transmission of FMDV in a vaccinated *population* is demonstrated by change in virological or serological evidence indicative of recent *infection*, even in the absence of clinical signs.
- 5) For the purposes of the *Terrestrial Code*, the *incubation period* of FMD shall be 14 days.
- 6) *Infection* with FMDV can give rise to *disease* of variable severity and to ~~FMDV~~ transmission of FMDV. FMDV may persist in the pharynx and associated lymph nodes of ruminants for a variable but limited period of time beyond 28 days after infection. Such animals have been termed carriers. ~~However, The only persistently infected species from which transmission of FMDV has been proven is the African buffalo (Syncerus caffer). However, transmission from this species to domestic livestock is rare.~~
- 7) This chapter deals not only with the occurrence of clinical signs caused by FMDV, but also with the presence of infection with FMDV and transmission of FMDV in the absence of clinical signs.
- 87) Standards for diagnostic tests and vaccines are described in the *Terrestrial Manual*.

Article 8.8.1bis.**Safe commodities**

When authorising import or transit of the following commodities, Veterinary Authorities should not require any type of FMD-related conditions, regardless of the FMD status of the exporting country or zone:

Annex 18 (contd)

- 1) UHT milk and derivatives thereof;
- 2) meat in hermetically sealed container with a F_0 value of 3 or above;
- 3) meat and bone meal and blood meal;
- 4) gelatine;
- 5) in vivo derived bovine embryos collected, processed and stored in accordance with Chapter 4.8.

Other commodities of susceptible species can be traded safely if in accordance with the relevant articles in this chapter.

Article 8.8.2.

FMD-free Country or zone free from FMD where vaccination is not practised

In defining a *zone* where *vaccination* is not practised the principles of Chapter 4.34. should be followed.

Susceptible animals in the ~~FMD-free~~ country or *zone free from FMD*, where *vaccination* is not practised should be protected by the application of *biosecurity measures* that prevents the entry of FMDV into the free country or *zone*.

Taking into consideration physical or geographical barriers with any neighbouring infected country or *zone*, these measures may include a *protection zone*.

To qualify for inclusion in the list of ~~FMD-free~~ countries or *zones free from FMD*, where *vaccination* is not practised, a Member Country should:

- 1) have a record of regular and prompt animal *disease* reporting;
- 2) send a declaration to the OIE stating that during the past 12 months, within the proposed ~~FMD~~ free country or *zone*:
 - a) there has been no case of FMD;
 - b) no *vaccination* against FMD has been carried out;
- 3) supply documented evidence that for the past 12 months:
 - a) *surveillance* in accordance with Articles 8.8.40. to 8.8.42. has been implemented to detect clinical signs of FMD and demonstrate no evidence of:
 - i) *infection* with FMDV in unvaccinated animals;
 - ii) ~~FMDV~~ transmission of FMDV in previously vaccinated animals when the ~~FMD~~ free country or *zone* where *vaccination* is practised is seeking to become one where *vaccination* is not practised;
 - b) regulatory measures for the prevention and early detection of FMD have been implemented;
- 4) describe in detail and provide ~~supply~~ documented evidence that for the past 12 months ~~the following have been properly implemented and supervised:~~
 - a) ~~in the case of a FMD-free zone,~~ the boundaries of the any proposed ~~FMD~~ free *zone* have been established and effectively supervised;
 - b) the boundaries and *biosecurity measures* of a any *protection zone*, ~~if applicable~~ have been established and effectively supervised;
 - c) the system for preventing the entry of FMDV into the proposed ~~FMD~~ free country or *zone* has been established and effectively supervised;

Annex 18 (contd)

- d) the control of the movement of susceptible animals, their *meat* ~~and~~ other products, ~~and fomites~~ into the proposed FMD free country or zone, in particular the measures described in Articles 8.8.8., ~~8.8.9. and to 8.8.12.~~ has been effectively implemented and supervised;
- e) ~~measures to prevent the introduction of no vaccinated animals has been introduced,~~ except in accordance with Articles 8.8.8. ~~and 8.8.9., 8.8.9bis., 8.8.11. and 8.8.11bis.~~ have been effectively implemented and supervised. Any vaccinated animals introduced for direct slaughter were subjected to ante- and post-mortem inspections in accordance with Chapter 6.2. with favourable results. For ruminants the head, including the pharynx, tongue and associated lymph nodes, was either destroyed or treated in accordance with Article 8.8.31.

The Member Country or the proposed free zone will be included in the list of ~~FMD free~~ countries or zones free from FMD, where *vaccination* is not practised only after the submitted evidence, based on the provisions of Article 1.6.6., has been accepted by the OIE.

Retention on the list requires that the information in points 2, 3 and 4 above be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3b) and 4 should be reported to the OIE in accordance with the requirements in Chapter 1.1.

A country or zone free from FMD may maintain its free status despite an incursion of potentially infected African buffaloes provided that the surveillance programme substantiates the absence of transmission of FMDV.

Provided the conditions of points ~~1 to 4~~ 3 ~~are~~ is fulfilled, the status of a country or zone will not be affected by applying official emergency *vaccination* to FMD susceptible animals in zoological collections in the face of a FMD threat identified by the *Veterinary Authorities*, provided that the following conditions are met:

- the zoological collection has the primary purpose of exhibiting animals or preserving rare species, has been identified, including the boundaries of the facility, and is included in the country's contingency plan for FMD;
- appropriate *biosecurity* measures are in place, including effective separation from other susceptible domestic populations or wildlife;
- the animals are identified as belonging to the collection and any movements can be traced;
- the vaccine used complies with the standards described in the *Terrestrial Manual*;
- *vaccination* is conducted under the supervision of the *Veterinary Authority*;
- the zoological collection is placed under *surveillance* for at least 12 months after *vaccination*.

In the event of the application for ~~the status of a new FMD-free zone where vaccination is not practised to be assigned to a new zone being~~ adjacent to another ~~FMD free zone of the same status where vaccination is not practised~~, it should be stated if the new zone is being merged with the adjacent zone to become one enlarged zone. If the two zones remain separate, details should be provided on the control measures to be applied for the maintenance of the status of the separate zones and particularly on the identification and the control of the movement of animals between the zones of the same status in accordance with Chapter 4.3.

In the case of an incursion of stray African buffalo, a protection zone according to Article 4.4.6. should be established to manage the threat and maintain the free status of the rest of the country.

If a protection zone used is established, to preserve the status of a free country or zone from a newly identified likelihood of introduction of FMDV it should comply with Article 4.4.6. If vaccination is implemented in the protection zone, this will not affect the freedom of the rest of the country or zone the animal health status of the rest of the country or zone is not affected.

Article 8.8.3.

FMD free Country or zone free from FMD where vaccination is practised

In defining a zone where *vaccination* is practised the principles of Chapter 4.3. should be followed.

Annex 18 (contd)

Susceptible animals in the ~~FMD-free~~ country or zone free from FMD where *vaccination* is practised should be protected by the application of *biosecurity* measures that prevent the entry of FMDV into the free country or zone. Taking into consideration physical or geographical barriers with any neighbouring infected country or zone, these measures may include a *protection zone*.

Based on the epidemiology of FMD in the country, it may be decided to vaccinate only a defined *subpopulation* comprised of certain species or other subsets of the total susceptible *population*.

To qualify for inclusion in the list of ~~FMD-free~~ countries or zones free from FMD where *vaccination* is practised, a Member Country should:

- 1) have a record of regular and prompt animal *disease* reporting;
- 2) send a declaration to the OIE stating that, based on the *surveillance* described in point 3, within the proposed ~~FMD~~ free country or zone:
 - a) ~~there has been no case of FMD during the past two years;~~
 - ba) there has been no evidence of FMDV transmission of FMDV during the past 12 months;
 - b) there has been no case with clinical sign of FMD during the past 12 months;
- 3) supply documented evidence that:
 - a) surveillance to detect clinical signs of FMD has been implemented in accordance with Articles 8.8.40. to 8.8.42. has been implemented to detect clinical signs of FMD for the past two years and demonstrates no evidence of that there has been no:
 - i) *infection* with FMDV in unvaccinated animals for the past two years 12 months;
 - ii) ~~FMDV~~ transmission of FMDV in vaccinated animals for the past 12 months;
 - b) regulatory measures for the prevention and early detection of FMD have been implemented for the past 12 months two years;
 - c) compulsory systematic *vaccination* in the target *population* has been carried out to achieve adequate *vaccination* coverage and population immunity for the past 12 months two years;
 - d) *vaccination* has been carried out following appropriate vaccine strain selection for the past 12 months two years;
- 4) describe in detail and ~~supply~~ provide documented evidence that for the past 12 months the following have been properly implemented and supervised:
 - a) ~~in case of FMD-free zone,~~ the boundaries of the proposed ~~FMD~~ free zone have been established and effectively supervised;
 - b) the boundaries and *biosecurity* measures of any protection zone, if applicable have been established and effectively supervised;
 - c) the system for preventing the entry of FMDV into the proposed ~~FMD~~ free country or zone, in particular the measures described in Articles 8.8.8., 8.8.9. and 8.8.12. has been established and effectively supervised;
 - d) the control of the movement of susceptible animals and their products into the proposed ~~FMD~~ free country or zone has been effectively implemented and supervised.

The Member Country or the proposed free zone will be included in the list of ~~FMD-free~~ countries or zones free from FMD where *vaccination* is practised only after the submitted evidence, based on the provisions of Article 1.6.6., has been accepted by the OIE.

Annex 18 (contd)

Retention on the list requires that the information in points 2, 3 and 4 above be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3b) and 4 should be reported to the OIE in accordance with the requirements in Chapter 1.1.

If a Member Country that meets the requirements of a FMD-free country or zone free from FMD where *vaccination* is practised wishes to change its status to FMD-free country or zone free from FMD where *vaccination* is not practised, it should notify the OIE in advance of the intended date of cessation of *vaccination* and apply for the new status within 24 months of the cessation. The status of this country or *zone* remains unchanged until compliance with Article 8.8.2. is approved by the OIE. If the dossier for the new status is not provided within 24 months then the status of the country or *zone* as being free with *vaccination* will be suspended. If the country does not comply with requirements of Article 8.8.2., evidence should be provided within three months that it complies with Article 8.8.3. Otherwise the status will be withdrawn.

If a Member Country that meets the requirements of a country or *zone* free from FMD where *vaccination* is not practised and is recognised by the OIE as such, wishes to change its status to country or *zone* free from FMD where *vaccination* is practised, it should provide the OIE with an application and a plan following the structure of the Questionnaire of Article 1.6.6., indicating the intended date of beginning of vaccination. The status as country or zone free from FMD where vaccination is not practised of this country or zone remains unchanged until the application and plan are approved by the OIE. As soon as recognised free with *vaccination* the country or *zone* will begin the *vaccination*. The Member Country should provide evidence within six months that it complies with Article 8.8.3. for this time period. Otherwise the status will be withdrawn.

If a country needs to define a protection zone in accordance with Article 4.34.6. in response to an increased risk, including by the application of vaccination, once a the protection zone has been approved by the OIE, the freedom of the rest of the country or zone remains unchanged.

In the event of the application for the status of a new FMD-free free zone where vaccination is practised to be assigned to a new zone being adjacent to another FMD free zone of the same status where vaccination is practised, it should be stated if the new *zone* is being merged with the adjacent *zone* to become one enlarged *zone*. If the two *zones* remain separate, details should be provided on the control measures to be applied for the maintenance of the status of the separate *zones* and particularly on the identification and the control of the movement of animals between the *zones* of the same status in accordance with Chapter 4.3.

Article 8.8.4.

FMD-free Compartment free from FMD where vaccination is not practised

A FMD-free compartment free from FMD where vaccination is not practised can be established in either a FMD-free any country or zone or in an infected country or zone. In defining such a *compartment* the principles of Chapters 4.34. and 4.45. should be followed. Susceptible animals in the FMD free compartment should be separated from any other susceptible animals by the effective application of an effective biosecurity plan management system.

A Member Country wishing to establish a FMD-free compartment free from FMD where vaccination is not practised should:

- 1) have a record of regular and prompt animal *disease* reporting and, if not FMD free, have an *official control programme* and a *surveillance* system for FMD in place in accordance with Articles 8.8.40. to 8.8.42. that allows knowledge of the prevalence, distribution and characteristics of FMD in the country or *zone*;
- 2) declare for the FMD free compartment that:
 - a) there has been no case of FMD during the past 12 months;
 - b) no evidence of *infection* with FMDV has been found detected during the past 12 months;
 - c) *vaccination* against FMD is prohibited;
 - d) no animal vaccinated against FMD within the past 12 months is in the *compartment*;
 - e) animals, semen, embryos and animal products may only enter the *compartment* in accordance with relevant articles in this chapter;

Annex 18 (contd)

- f) documented evidence shows that *surveillance* in accordance with Articles 8.8.40. to 8.8.42. is in operation;
 - g) an *animal identification* and *traceability* system in accordance with Chapters 4.1. and 4.2. is in place;
- 3) describe in detail:
- a) the animal *subpopulation* in the *compartment*;
 - b) the *biosecurity plan* to mitigate the risks identified by the *surveillance* carried out in accordance with point 1.

The *compartment* should be approved by the *Veterinary Authority*. The ~~first~~ approval should only be granted when no case or transmission of FMD has occurred within a 10 ~~ten~~-kilometre radius of the *compartment* during the ~~past~~ three months prior to the effective establishment of the *biosecurity plan*.

Article 8.8.4bis.**Compartment free from FMD where vaccination is practised**

A *compartment* free from FMD where *vaccination* is practised can be established in either a free country or *zone* where *vaccination* is practised or in an infected country or *zone*. In defining such a *compartment* the principles of Chapters 4.34. and 4.45. should be followed. Susceptible animals in the free *compartment* should be separated from any other susceptible animals by the application of an effective *biosecurity plan*.

A Member Country wishing to establish a *compartment* free from FMD where *vaccination* is practised should:

- 1) have a record of regular and prompt animal *disease* reporting and, if not free, have an *official control programme* and a *surveillance* system for FMD in place in accordance with Articles 8.8.40. to 8.8.42. that allows knowledge of the prevalence, distribution and characteristics of FMD in the country or *zone*;
- 2) declare for the free *compartment* where *vaccination* is practised that:
 - a) there has been no case of FMD during the past 12 months;
 - b) no ~~evidence of infection with transmission of~~ FMDV has been found during the past 12 months;
 - c) compulsory systematic *vaccination* is carried out using a vaccine that complies with the standards described in the *Terrestrial Manual*, including appropriate vaccine strain selection. The *vaccination* coverage and population immunity are closely monitored;
 - d) animals, semen, embryos and animal products may only enter the *compartment* in accordance with relevant articles in this chapter;
 - e) documented evidence shows that regular clinical, serological and virological *surveillance* in accordance with Articles 8.8.40. to 8.8.42. is in operation, so as to detect *infection* at an early stage with a high level of confidence;
 - f) an *animal identification* and *traceability* system in accordance with Chapters 4.1. and 4.2. is in place;
- 3) describe in detail:
 - a) the animal *subpopulation* in the *compartment*;
 - b) the *biosecurity plan* to mitigate the risks identified by the *surveillance* carried out according to point 1 and the *vaccination plan*;
 - c) implementation of points 2c), 2e) and 2f).

Annex 18 (contd)

The compartment should be approved by the Veterinary Authority. The approval should only be granted when no case or transmission of FMD has occurred within a 10-kilometre radius of the compartment during the three months prior to the effective establishment of the biosecurity plan.

Article 8.8.5.

FMD-infected Country or zone infected with FMDV

For the purposes of this chapter, a ~~FMD-infected~~ country or zone infected with FMDV is one that does not fulfil the requirements to qualify as either ~~FMD~~ free where vaccination is not practised or ~~FMD~~ free where vaccination is practised.

Article 8.8.6.

Establishment of a containment zone within a FMD-free country or zone free from FMD

In the event of limited outbreaks within a ~~FMD-free~~ country or zone previously free from FMD, including within a protection zone, with or without vaccination, a single containment zone, which includes all epidemiologically linked outbreaks, may be established for the purpose of minimising the impact on the entire country or zone in accordance with Article 4.4.7.

For this to be achieved and for the Member Country to take full advantage of this process, the Veterinary Authority should submit as soon as possible to the OIE, in addition to the requirements of Article 4.4.7. in support of the application, documented evidence that:

- 1) on suspicion, a strict standstill has been imposed on the suspected *establishments* and in the country or zone animal movement control has been imposed and effective controls on the movement of other *commodities* mentioned in this chapter are in place;
- 2) on confirmation, an additional standstill of susceptible animals has been imposed in the entire *containment zone* and the movement controls described in point 1 have been reinforced;
- 3) the definitive boundaries of the containment zone have been established after an epidemiological investigation (trace back, trace forward) has demonstrated that the outbreaks are epidemiologically related and limited in number and geographic distribution;
- 4) investigations into the likely source of the *outbreaks* have been carried out;
- 5) a stamping-out policy, with or without the use of emergency vaccination, has been applied;
- 6) no new cases have been found in the containment zone within a minimum of two incubation periods as defined in Article 8.8.1. after the application of a stamping-out policy to the last detected case;
- 7) the susceptible domestic and captive wild animal populations within the containment zone are clearly identified as belonging to the containment zone;
- 48) surveillance in accordance with Articles 8.8.40. to 8.8.42. is in place in the containment zone and in the rest of the country or zone;
- 59) measures that prevent the spread of FMDV to the rest of the country or zone, taking into consideration physical and geographical barriers, are in place.

The free status of the areas outside the containment zone is suspended while the containment zone is being established. The free status of the these areas outside the containment zone may be reinstated irrespective of the provisions of Article 8.8.7., once the containment zone has been approved by the OIE as complying with points 1 to 59 above. Commodities from susceptible animals for international trade should be identified as to their origin, either from inside or outside the containment zone.

Annex 18 (contd)

In the event of recurrence of *infection* with FMDV in unvaccinated animals or ~~FMDV~~ transmission of FMDV in vaccinated animals in the *containment zone*, established in accordance with point 4a) of Article 4.4.7., the approval of the *containment zone* is withdrawn and the FMD status of the whole country or *zone* is suspended until the relevant requirements of Article 8.8.7. are fulfilled.

In the event of occurrence of *infection* with FMDV in unvaccinated animals or transmission of FMDV in vaccinated animals in the outer zone of a *containment zone* established in accordance with point 4a) of Article 4.4.7., the approval of the *containment zone* is withdrawn and the status of the whole country or *zone* is suspended until the relevant requirements of Article 8.8.7. are fulfilled.

The recovery of the ~~FMD~~ free status of the *containment zone* should be achieved within 12 months of its approval and follow the provisions of Article 8.8.7.

Article 8.8.7.

Recovery of free status ~~(see Figures 1 and 2)~~

- 1) When a FMD case occurs in a ~~FMD-free~~ country or *zone* previously free from FMD where *vaccination* is not practised, one of the following waiting periods is required to regain this free status:
 - a) three months after the disposal of the last animal killed where a *stamping-out policy*, without emergency *vaccination*, and *surveillance* are applied in accordance with Articles 8.8.40. to 8.8.42.; or
 - b) three months after the disposal of the last animal killed or the *slaughter* of all vaccinated animals, whichever occurred last, where a *stamping-out policy*, emergency *vaccination* and *surveillance* in accordance with Articles 8.8.40. to 8.8.42. are applied; or
 - c) six months after the disposal of the last animal killed or the last *vaccination*, whichever occurred last, where a *stamping-out policy*, emergency *vaccination* not followed by the slaughtering of all vaccinated animals, and *surveillance* in accordance with Articles 8.8.40. to 8.8.42. are applied. However, this requires a serological survey based on the detection of antibodies to non-structural proteins of FMDV to demonstrate no evidence of *infection* transmission of FMDV in the remaining vaccinated population. This period can be reduced to a minimum of three months if a country can submit sufficient evidence demonstrating absence of *infection* in the non-vaccinated population, and absence of transmission in the emergency vaccinated population based on the provisions of point 7 of Article 8.8.40. effectiveness of vaccination is demonstrated by a serological survey and serological surveillance for antibodies to nonstructural proteins is carried out in all vaccinated herds by sampling all vaccinated ruminants and their unvaccinated offspring, and a representative number of FMD-susceptible animals of other species.

The country or *zone* will regain ~~the its free status of FMD-free country or zone where vaccination is not practised~~ only after the submitted evidence, based on the provisions of Article 1.6.6., has been accepted by the OIE.

The time periods in points 1a) to 1c) are not affected if official emergency *vaccination* of zoological collections has been carried out following the relevant provisions of Article 8.8.2.

Where a *stamping-out policy* is not practised, the above waiting periods do not apply, and Article 8.8.2. applies.

- 2) When a ~~FMD case of FMD~~ occurs in a ~~FMD-free~~ country or *zone* previously free from FMD where *vaccination* is not practised, the following waiting period is required to gain the status of ~~FMD-free~~ country or *zone* free from FMD where *vaccination* is practised: six months after the disposal of the last animal killed where a *stamping-out policy* has been applied and a continued *vaccination* policy has been adopted, provided that *surveillance* is applied in accordance with Articles 8.8.40. to 8.8.42., and a serological survey based on the detection of antibodies to nonstructural proteins of FMDV demonstrates no evidence of ~~FMDV~~ transmission of FMDV.

The country or *zone* can gain the status of ~~FMD free country or zone from FMD~~ where *vaccination* is practised only after the submitted evidence, based on the provisions of Article 1.6.6., has been accepted by the OIE.

Where a *stamping-out policy* is not practised, the above waiting periods do not apply, and Article 8.8.3. applies.

Annex 18 (contd)

- 3) When a case of infection with FMDV occurs in a FMD-free country or zone previously free from FMD where vaccination is practised, one of the following waiting periods is required to regain this free status:
- six months after the disposal of the last animal killed where a *stamping-out policy*, with emergency vaccination, and surveillance in accordance with Articles 8.8.40. to 8.8.42. are applied, provided that serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates no evidence of ~~virus~~ transmission of FMDV. This period can be reduced to a minimum of three months if a country can submit sufficient evidence demonstrating absence of infection in the non-vaccinated population and absence of transmission of FMDV in the vaccinated population based on the provisions of points 7 and 8 of Articles 8.8.40. as appropriate; or
 - 12 months after the detection of the last case where a *stamping-out policy* is not applied, but where emergency vaccination and surveillance in accordance with Articles 8.8.40. to 8.8.42. are applied, provided that serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates no evidence of ~~virus~~ transmission of FMDV.

The country or zone will regain its free status only after the submitted evidence, based on the provisions of Article 1.6.6., has been accepted by the OIE.

When ~~re~~ emergency vaccination is not applied, the above waiting periods do not apply, and Article 8.8.3. applies.

~~The country or zone will regain the status of FMD-free country or zone where vaccination is practised only after the submitted evidence, based on the provisions of Article 1.6.6., has been accepted by the OIE.~~

- When a ~~FMD~~ case of infection with FMDV occurs in a FMD-free compartment free from FMD, Article 8.8.4. or Article 8.8.4bis applies.
- Member Countries applying for the recovery of status should do so only when the respective requirements for the recovery of status are met. When a *containment zone* has been established, the restrictions within the *containment zone* should be lifted in accordance with the requirements of this article only when ~~the disease~~ FMD has been successfully eradicated within the *containment zone*.

For Member Countries not applying for recovery within 24 months after suspension, the provisions of Article 8.8.2., Article 8.8.3. or Article 8.8.4. apply.

Article 8.8.8.

Direct transfer of FMD susceptible animals from an infected zone for slaughter in a free zone (whether vaccination is practised or not)

In order not to jeopardise the status of a free zone, FMD susceptible animals should only leave the infected zone if transported directly ~~to~~ for slaughter in the nearest designated *slaughterhouse/abattoir* under the following conditions:

- no FMD susceptible animal has been introduced into the *establishment* of origin and no animal in the *establishment* of origin has shown clinical signs of FMD for at least 30 days prior to movement;
- the animals were kept in the *establishment* of origin for at least three months prior to movement;
- FMD has not occurred within a 10-kilometre radius of the *establishment* of origin for at least four weeks prior to movement;
- the animals ~~should be~~ are transported under the supervision of the *Veterinary Authority* in a *vehicle*, which was cleansed and disinfected before *loading*, directly from the *establishment* of origin to the *slaughterhouse/abattoir* without coming into contact with other susceptible animals;
- such a *slaughterhouse/abattoir* is not approved for the export of *fresh meat* during the time it is handling the *meat* of animals from the infected zone;

Annex 18 (contd)

- 6) *vehicles* and the *slaughterhouse/abattoir* ~~should be~~ are subjected to thorough cleansing and *disinfection* immediately after use.

The animals should have been subjected to ante- and post-mortem inspection within 24 hours before and after *slaughter* with no evidence of FMD, and the *meat* derived from them treated in accordance with point 2 of Article 8.8.22. or Article 8.8.23. Other products obtained from the animals and any products coming into contact with them should be treated in accordance with Articles 8.8.31. to 8.8.38. in order to destroy any FMDV potentially present.

Article 8.8.9.

Direct transfer of FMD susceptible animals from a containment zone for slaughter in a free zone (whether vaccination is practised or not)

In order not to jeopardise the status of a free zone, FMD susceptible animals should only leave the *containment zone* if transported directly ~~to~~ for *slaughter* in the nearest designated *slaughterhouse/abattoir* under the following conditions:

- 1) the *containment zone* has been officially established in accordance with the requirements in Article 8.8.6.;
- 2) the animals ~~should be~~ are transported under the supervision of the *Veterinary Authority* in a *vehicle*, which was cleansed and disinfected before *loading*, directly from the *establishment* of origin to the *slaughterhouse/abattoir* without coming into contact with other susceptible animals;
- 3) such an *slaughterhouse/abattoir* is not approved for the export of *fresh meat* during the time it is handling the *meat* of animals from the *containment zone*;
- 4) *vehicles* and the *slaughterhouse/abattoir* ~~should be~~ are subjected to thorough cleansing and *disinfection* immediately after use.

The animals should have been subjected to ante- and post-mortem inspection within 24 hours before and after *slaughter* with no evidence of FMD and the *meat* derived from them treated in accordance with point 2 of Article 8.8.22. or Article 8.8.23. Other products obtained from the animals and any products coming into contact with them should be treated in accordance with Articles 8.8.31. to 8.8.38. in order to destroy any FMDV potentially present.

Article 8.8.9bis.

Direct transfer of FMD vaccinated animals from a free zone free from FMD where vaccination is practised or not for slaughter in a free zone where vaccination is not practised

In order not to jeopardise the status of a free zone where vaccination is not practised, FMD vaccinated animals should only leave the free zone if transported directly for slaughter in the nearest designated slaughterhouse/abattoir under the following conditions:

- 1) no animal in the establishment of origin has shown clinical signs of FMD for at least 30 days prior to movement;
- 2) the animals were kept in the country or zone of origin for at least three months prior to movement;
- 3) the animals are transported under the supervision of the Veterinary Authority in a vehicle, directly from the establishment of origin to the slaughterhouse/abattoir;
- 4) if transiting an infected zone, the animals were not exposed to any source of FMDV during transportation to the place of shipment.

Article 8.8.10.

Recommendations for importation from FMD free countries, or zones or compartments free from FMD where vaccination is not practised or FMD free compartments free from FMD

For FMD susceptible animals

Annex 18 (contd)

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the animals:

- 1) showed no clinical sign of FMD on the day of shipment;
- 2) were kept since birth or for at least the past three months in a FMD-free country, or zone or compartment free from FMD where *vaccination* is not practised or a FMD-free compartment free from FMD;
- 3) if transiting an infected zone, were not exposed to any source of FMDV during transportation to the *place of shipment*;
- 4) if previously vaccinated, comply with point 4 of Article 8.8.11.

Article 8.8.11.

Recommendations for importation from ~~FMD-free countries, or zones~~ or compartments free from FMD where vaccination is practised

For domestic ruminants and pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the animals:

- 1) showed no clinical sign of FMD on the day of shipment;
- 2) were kept since birth or for at least the past three months in a FMD-free country, or zone or compartment free from FMD where *vaccination* is practised;
- 3) if not vaccinated were subjected to a virological and serological tests for FMD with negative results on samples collected not earlier than 14 days before the shipment;
- 4) if vaccinated were subjected to virological and NSP serological tests for FMD with negative results on samples collected not earlier than 14 days before the shipment;
- 5) if transiting an infected zone, were not exposed to any source of FMDV during transportation to the *place of shipment*.

Article 8.8.11bis.

Recommendations for the importation from a free country, zone or compartment free from FMD where vaccination is practised

For vaccinated animals destined for slaughter

Veterinary Authorities of importing countries should require the presentation of an *international veterinary certificate* attesting that:

- 1) no animal in the establishment of origin has shown clinical signs of FMD for at least 30 days prior to shipment;
- 2) the animals were kept in the country, zone or compartment of origin since birth or for at least three months prior to shipment;
- 3) the animals were transported under the supervision of the Veterinary Authority directly from the establishment of origin in sealed vehicles/vessels;
- 4) if transiting an infected zone, the animals were not exposed to any source of FMDV during transportation to the place of shipment.

Annex 18 (contd)

Article 8.8.12.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDV, where an official control programme exists

For domestic ruminants and pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the animals showed no clinical sign of FMD on the day of shipment;
- 2) pigs have not been fed swill not complying with Article 8.8.31bis.;
- 3) prior to isolation, the animals were kept in the *establishment* of origin:
 - a) for 30 days, or since birth if younger than 30 days, if a *stamping-out policy* is applied to control FMD in the *exporting country or zone*, or
 - b) for three months, or since birth if younger than three months if a *stamping-out policy* is not applied to control FMD in the *exporting country or zone*;
- 4) the establishment of origin is covered by the official control programme and FMD has not occurred within it ~~the establishment of origin~~ for the relevant period as defined in points 2a) and 2b) above;
- 5) the animals were isolated in an *establishment* for the 30 days prior to shipment, and all animals in isolation were subjected to diagnostic virological and serological tests for evidence of FMDV with negative results on samples collected at least 28 days after the start of isolation period, and that FMD did not occur within a 10-kilometre radius of the *establishment* during that period, or the *establishment* is a *quarantine station*;
- 6) the animals were not exposed to any source of FMDV during their transportation from the *establishment* to the *place of shipment*.

~~Article 8.8.13.~~

~~Recommendations for importation from FMD free countries, or zones free from FMD where vaccination is not practised or FMD free compartments free from FMD~~

For fresh semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the donor males:
 - a) showed no clinical sign of FMD on the day of collection of the semen;
 - b) were kept for at least three months prior to collection in a FMD free country, or zone free from FMD where vaccination is not practised or FMD free compartments free from FMD;
 - c) were kept in an artificial insemination centre where none of the animals had a history of infection with FMDV;
- 2) the semen was collected, processed and stored in accordance with Chapters 4.5. and 4.6.

Article 8.8.14.

Recommendations for importation from ~~FMD free countries, or zones~~ or compartments free from FMD where vaccination is not practised or ~~FMD free compartments free from FMD~~

For fresh and frozen semen of domestic ruminants and pigs

Annex 18 (contd)

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the donor males:
 - a) showed no clinical sign of FMD on the day of collection of the semen ~~and for the following 30 days;~~
 - b) were kept for at least three months prior to collection in a ~~FMD-free country~~, ~~or zone~~ or compartment free from FMD where *vaccination* is not practised ~~or FMD free compartments free from FMD;~~
 - c) were kept in an artificial insemination centre;
- 2) the semen was collected, processed and stored in accordance with Chapters 4.5. and 4.6.

Article 8.8.15.

Recommendations for importation from ~~FMD-free countries~~ ~~or~~ zones or compartments free from FMD where *vaccination* is practised

For frozen semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the donor males:
 - a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;
 - b) were kept for at least three months prior to collection in a ~~FMD-free country~~, ~~or zone~~ or compartment free from FMD where *vaccination* is practised;
 - c) either
 - i) have been vaccinated at least twice, with the last *vaccination* not ~~less~~ more than ~~one~~ six months ~~and not more than six months prior to collection~~, unless protective immunity has been demonstrated for more than six months, and not less than one month prior to collection;
 - or
 - ii) were subjected, not less than 21 days after collection of the semen, to tests for antibodies against FMDV, with negative results;
- 2) the semen:
 - a) was collected, processed and stored in accordance with Chapters 4.5. and 4.6.;
 - b) was stored in the country of origin for a period of at least one month following collection, and during this period no animal on the *establishment* where the donor ~~animals~~ males were kept showed any sign of FMD.

Article 8.8.16.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDV

For frozen semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the donor males:
 - a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;

Annex 18 (contd)

- b) were kept in an *artificial insemination centre* ~~where to which~~ no animal had been added in the 30 days before collection, and within a 10-kilometre radius of which, that FMD has not occurred within a 10 kilometre radius of the artificial insemination centre for in the 30 days before and after collection;
 - c) either
 - i) have been vaccinated at least twice, with the last *vaccination* not ~~less~~ more than ~~one~~ six months ~~and not more than six months prior to collection~~, unless protective immunity has been demonstrated for more than six months, and not less than one month prior to collection;
 - or
 - ii) were subjected, not less than 21 days after collection of the semen, to tests for antibodies against FMDV, with negative results;
- 2) the semen:
- a) was collected, processed and stored in accordance with Chapters 4.5. and 4.6.;
 - b) was subjected, with negative results, to a test for evidence of FMDV if the donor male has been vaccinated within the 12 months prior to collection;
 - c) was stored in the country of origin for a period of at least one month following collection, and that during this period no animal on the *establishment* where the donor males were kept showed any sign of FMD.

Article 8.8.17.Recommendations for the importation of in vivo derived embryos of bovine cattle

~~Irrespective of the FMD status of the exporting country, zone or compartment, Veterinary Authorities should authorise without restriction on account of FMD the import or transit through their territory of in vivo derived embryos of bovine cattle subject to the presentation of an international veterinary certificate attesting that the embryos were collected, processed and stored in accordance with the relevant provisions of Chapters 4.7. and 4.9., as relevant.~~

Article 8.8.18.

Recommendations for importation from FMD free countries ~~or, zones~~ or compartments free from FMD where vaccination is not practised ~~or FMD free compartments free from FMD~~

For in vitro produced embryos of bovine cattle

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the donor females:
 - a) showed no clinical sign of FMD at the time of collection of the oocytes;
 - b) were kept for at least three months prior to collection in a FMD free country, or zone or compartment free from FMD where *vaccination* is not practised ~~or FMD free compartments free from FMD~~;
- 2) fertilisation was achieved with semen meeting the conditions referred to in Articles 8.8.13., 8.8.14., 8.8.15. or 8.8.16., as relevant;
- 3) the oocytes were collected, and the embryos were processed and stored in accordance with Chapters 4.8. and 4.9., as relevant.

Annex 18 (contd)

Article 8.8.19.

Recommendations for importation from ~~FMD-free countries-or,~~ zones or compartments free from FMD where vaccination is practised

For in vitro produced embryos of bovines cattle

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the donor females:
 - a) showed no clinical sign of FMD at the time of collection of the oocytes;
 - b) were kept for at least three months prior to collection in a ~~FMD-free country,~~ or zone or compartment free from FMD where vaccination is practised;
 - c) either
 - i) have been vaccinated at least twice, with the last vaccination not ~~less more~~ than ~~one~~ six months ~~and not more than six months prior to collection,~~ unless protective immunity has been demonstrated for more than six months, and not less than one month prior to collection;
 - or
 - ii) were subjected, not less than 21 days after collection, to tests for antibodies against FMDV, with negative results;
- 2) fertilisation was achieved with semen meeting the conditions referred to in Articles 8.8.13., 8.8.14., 8.8.15. or 8.8.16., as relevant;
- 3) the oocytes were collected, and the embryos were processed and stored in accordance with Chapters 4.8. and 4.9., as relevant.

Article 8.8.20.

Recommendations for importation from ~~FMD-free countries-or,~~ zones or compartments free from FMD where vaccination is not practised ~~or FMD-free compartments free from FMD~~

For fresh meat or meat products of FMD susceptible animals

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat* comes from animals which:

- 1) have been kept in a ~~FMD-free country or zone~~ or compartment free from FMD where vaccination is not practised ~~or FMD-free compartment free from FMD,~~ or which have been imported in accordance with Article 8.8.10., Article 8.8.11. or Article 8.8.12.;
- 2) have been slaughtered in an approved *slaughterhouse/abattoir* and have been subjected to ante- and post-mortem inspections with favourable results.

Article 8.8.21.

Recommendations for importation from ~~FMD-free countries-or,~~ zones or compartments free from FMD where vaccination is practised

For fresh meat and meat products of ruminants and pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat* comes from animals which:

Annex 18 (contd)

- 1) have been kept in the ~~FMD-free~~ country or zone or compartment ~~free from FMD~~ where *vaccination* is practised, or which have been imported in accordance with Article 8.8.10., Article 8.8.11. or Article 8.8.12.;
- 2) have been slaughtered in an approved *slaughterhouse/abattoir* and have been subjected to ante- and post-mortem inspections ~~for FMD~~ with favourable results;
- 3) for ruminants the head, including the pharynx, tongue and associated lymph nodes, has been excluded from the shipment.

Article 8.8.22.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDV, where an official control programme existsFor fresh meat of bovines cattle and water buffaloes (*Bubalus bubalis*) (excluding feet, head and viscera)

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat*:

- 1) comes from animals which:
 - a) have remained, for at least three months prior to *slaughter*, in a *zone* of the *exporting country* where bovines cattle and water buffaloes are regularly vaccinated against FMD and where an *official control programme* is in operation;
 - b) have been vaccinated at least twice with the last *vaccination* not more than six months, unless protective immunity has been demonstrated for more than six months, and not less than one month prior to *slaughter*;
 - c) were kept for the past 30 days in:
 - ≡ a quarantine station; or in
 - ≡ an establishment, within a ~~ten 10~~ kilometre radius of which and that FMD has not occurred within a 10 kilometre radius of the establishment during that period, or the establishment is a *quarantine station*;
 - d) have been transported, in a *vehicle* which was cleansed and disinfected before the bovines cattle and water buffaloes were loaded, directly from the *establishment* of origin or *quarantine station* to the approved *slaughterhouse/abattoir* without coming into contact with other FMD susceptible animals which do not fulfil the required conditions for export;
 - e) have been slaughtered in an approved *slaughterhouse/abattoir*:
 - i) which is officially designated for export;
 - ii) in which no FMD has been detected during the period between the last *disinfection* carried out before *slaughter* and the shipment for export has been dispatched;
 - f) were subjected to ante- and post-mortem inspections in accordance with Chapter 6.2., with favourable results ~~have been subjected, with favourable results, to ante-mortem inspection within 24 hours of slaughter and to post-mortem inspections within 24 hours before and after slaughter with no evidence of FMD;~~
- 2) comes from deboned carcasses:
 - a) from which the major lymphatic nodes have been removed;

Annex 18 (contd)

- b) which, prior to deboning, have been submitted to maturation at a temperature greater than + 2°C for a minimum period of 24 hours following *slaughter* and in which the pH value was less than 6.0 when tested in the middle of both the longissimus dorsi muscle.

Article 8.8.22bis.**Recommendations for importation from countries or zones infected with FMDV, where an official control programme exists**

For fresh meat of domestic pigs

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the *meat* comes from animals complying with **points 1 to 6 of** Article 8.8.12.;
- 2) the animals were transported, in a *vehicle* which was cleaned and disinfected before the pigs were loaded, directly from the *establishment* of origin or *quarantine station* to the approved *slaughterhouse/abattoir* without coming into contact with other FMD susceptible animals that do not fulfil the conditions required for export, either during transport or at the *slaughterhouse/abattoir*;
- 3) the animals were slaughtered in an approved *slaughterhouse/abattoir*:
 - a) which is officially designated for export;
 - b) in which no FMD has been detected during the period between the last *disinfection* carried out before *slaughter* and the shipment for export has been dispatched;
- 4) the animals were subjected to ante- and post-mortem inspections in accordance with Chapter 6.2., with favourable results;
- 5) the carcasses were not released earlier than 24 hours after *slaughter* and not before *Veterinary Authorities* have confirmed that FMD has not occurred in the *establishment* of origin.

Article 8.8.23.**Recommendations for importation from ~~FMD infected~~ countries or zones infected with FMDV**

For meat products of FMD susceptible animals

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the entire consignment of *meat products* come from animals which have been slaughtered in an approved *slaughterhouse/abattoir* and have been subjected to ante- and post-mortem inspections ~~for FMD~~ with favourable results;
- 2) the *meat products* have been processed to ensure the destruction of FMDV in accordance with one of the procedures in Article 8.8.31.;
- 3) the necessary precautions were taken after processing to avoid contact of the *meat products* with any potential source of FMDV.

Article 8.8.24.**Recommendations for importation from ~~FMD free countries or~~ zones or compartments free from FMD ~~where whether vaccination either is practised or is not practised or FMD free compartments free from FMD~~**

For milk and milk products **(other than those defined in Article 8.8.1bis.)** intended for human consumption and for products of animal origin (from FMD susceptible animals) intended for use in animal feeding or for agricultural or industrial use

Annex 18 (contd)

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that these products come from animals which have been kept in a FMD-free country, zone or compartment free from FMD, or which have been imported in accordance with Article 8.8.10., Article 8.8.11. or Article 8.8.12.

Article 8.8.25.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDV, where an official control programme exists

For milk and milk products (other than those defined in Article 8.8.1bis.)

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) these products:
 - a) originate from *establishments* which were not infected or suspected of being infected with FMD at the time of *milk* collection;
 - b) have been processed to ensure the destruction of FMDV in accordance with one of the procedures in Article 8.8.35. and in Article 8.8.36.;
- 2) the necessary precautions were taken after processing to avoid contact of the products with any potential source of FMDV.

Article 8.8.26.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDV

For blood meal and meat meals from FMD-susceptible animals

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) the manufacturing method for these products included heating to a minimum core temperature of 70°C for at least 30 minutes.;
- 2) the necessary precautions were taken after processing to avoid contact of the products with any potential source of FMDV.

Article 8.8.27.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDV

For wool, hair, bristles, raw hides and skins from FMD-susceptible animals

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that:

- 1) these products have been processed to ensure the destruction of FMDV in accordance with one of the procedures in Articles 8.8.32., 8.8.33. and 8.8.34.;
- 2) the necessary precautions were taken after collection or processing to avoid contact of the products with any potential source of FMDV.

Veterinary Authorities should authorise, without restriction, the import or transit through their territory of semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather such as wet blue and crust leather), provided that these products have been submitted to the usual chemical and mechanical processes in use in the tanning industry.

Article 8.8.28.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDVFor straw and forage

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that these commodities:

- 1) are free of grossly identified contamination with material of animal origin;
- 2) have been subjected to one of the following treatments, which, in the case of material sent in bales, has been shown to penetrate to the centre of the bale:
 - a) either to the action of steam in a closed chamber such that the centre of the bales has reached a minimum temperature of 80°C for at least ~~ten~~ 10 minutes,
 - b) or to the action of formalin fumes (formaldehyde gas) produced by its commercial solution at 35-40% in a chamber kept closed for at least eight hours and at a minimum temperature of 19°C;

OR

- 3) have been kept in bond for at least four months before being released for export.

Article 8.8.29.

Recommendations for importation from ~~FMD-free~~ countries, ~~zones~~ or compartments free from FMD, where whether vaccination either is practised or is not practisedFor skins and trophies derived from FMD susceptible wildlife

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that these products are derived from animals that have been killed in ~~such~~ a country or zone free from FMD or which have been imported from a country, zone or compartment free from FMD.

Article 8.8.30.

Recommendations for importation from ~~FMD-infected~~ countries or zones infected with FMDVFor skins and trophies derived from FMD susceptible wildlife

Veterinary Authorities should require the presentation of an *international veterinary certificate* attesting that these products have been processed to ensure the destruction of FMDV in accordance with the procedures in Article 8.8.37.

Article 8.8.31.

Procedures for the inactivation of FMDV in meat and meat products

For the inactivation of FMDV present in *meat* and *meat products*, one of the following procedures should be used:

1. Canning

Meat and *meat products* are subjected to heat treatment in a hermetically sealed container to reach an internal core temperature of at least 70°C for a minimum of 30 minutes or to any equivalent treatment which has been demonstrated to inactivate FMDV.

Annex 18 (contd)2. Thorough cooking

Meat, previously deboned and defatted, and *meat products* are subjected to a heat treatment that results in a core temperature of at least 70°C for a minimum of 30 minutes.

After cooking, they should be packed and handled in such a way they are not exposed to a source of FMDV.

3. Drying after salting

When *rigor mortis* is complete, the *meat* is deboned, treated with salt (NaCl) and 'completely dried'. It should not deteriorate at ambient temperature.

'Completely dried' is defined as a moisture protein ratio that is not greater than 2.25:1 or a water activity (*A_w*) that is not greater than 0.85.

Article 8.8.31bis.**Procedures for the inactivation of FMDV in swill**

For the inactivation of FMDV in swill, one of the following procedures should be used:

- 1) the swill is maintained at a temperature of at least 90°C for at least 60 minutes, with continuous stirring; or
- 2) the swill is maintained at a temperature of at least 121°C for at least ten minutes at an absolute pressure of 3 bar; or
- 3) the swill is subjected to an equivalent treatment that has been demonstrated to inactivate FMDV.

Article 8.8.32.

Procedures for the inactivation of FMDV in wool and hair

For the inactivation of FMDV present in wool and hair for industrial use, one of the following procedures should be used:

- 1) for wool, industrial washing, which consists of the immersion of the wool in a series of baths of water, soap and sodium hydroxide (~~soda~~ NaOH) or potassium hydroxide (~~potash~~ KOH);
- 2) chemical depilation by means of slaked lime or sodium sulphide;
- 3) fumigation with formaldehyde in a hermetically sealed chamber for at least 24 hours;
- 4) for wool, industrial scouring which consists of the immersion of wool in a water-soluble detergent held at 60-70°C;
- 5) for wool, storage of wool at 4°C for four months, 18°C for four weeks or 37°C for eight days.

Article 8.8.33.

Procedures for the inactivation of FMDV in bristles

For the inactivation of FMDV present in bristles for industrial use, one of the following procedures should be used:

- 1) boiling for at least one hour; or
- 2) immersion for at least 24 hours in a 1% aqueous solution of formaldehyde.

Annex 18 (contd)

Article 8.8.34.

Procedures for the inactivation of FMDV in raw hides and skins

For the inactivation of FMDV present in raw hides and skins for industrial use, the following procedure should be used: treatment for at least 28 days with salt (NaCl) containing 2% sodium carbonate (Na_2CO_3).

Article 8.8.35.

Procedures for the inactivation of FMDV in milk and cream for human consumption

For the inactivation of FMDV present in *milk* and cream for human consumption, one of the following procedures should be used:

- 1) a process applying a minimum temperature of 132°C for at least one second (ultra-high temperature [UHT]); or
- 21) if the *milk* has a pH less than 7.0, a process applying a minimum temperature of 72°C for at least 15 seconds (high temperature - short time pasteurisation [HTST]); or
- 32) if the *milk* has a pH of 7.0 or greater, the HTST process applied twice.

Article 8.8.36.

Procedures for the inactivation of FMDV in milk for animal consumption

For the inactivation of FMDV present in *milk* for animal consumption, one of the following procedures should be used:

- 1) the HTST process applied twice; or
- 2) HTST combined with another physical treatment, e.g., maintaining a pH 6 for at least one hour or additional heating to at least 72°C combined with desiccation; or
- 3) UHT combined with another physical treatment referred to in point 2 above.

Article 8.8.37.

Procedures for the inactivation of FMDV in skins and trophies from susceptible wildlife ~~susceptible to the disease~~

For the inactivation of FMDV present in skins and trophies from susceptible wildlife ~~wild animals susceptible to FMD~~, one of the following procedures should be used prior to complete taxidermal treatment

- 1) boiling in water for an appropriate time so as to ensure that any matter other than bone, horns, hooves, claws, antlers or teeth is removed; or
- 2) gamma irradiation at a dose of at least 20 kiloGray at room temperature (20°C or higher); or
- 3) soaking, with agitation, in a 4% (weight/volume) solution of sodium carbonate (Na_2CO_3) maintained at pH 11.5 or greater for at least 48 hours; or
- 4) soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained at pH less than 3.0 for at least 48 hours; wetting and dressing agents may be added; or
- 5) in the case of raw hides, treating for at least 28 days with salt (NaCl) containing 2% sodium carbonate (Na_2CO_3).

Annex 18 (contd)

Article 8.8.38.

Procedures for the inactivation of FMDV in casings of ruminants and pigs

For the inactivation of FMDV present in casings of ruminants and pigs, the following procedures should be used: treating for at least 30 days either with dry salt (NaCl) or with saturated brine (NaCl, $a_w < 0.80$), or with phosphate supplemented salt containing 86.5% NaCl, 10.7% Na_2HPO_4 and 2.8% Na_3PO_4 (weight/weight/weight), either dry or as a saturated brine ($a_w < 0.80$), and kept at a temperature of greater than 12°C during this entire period.

Article 8.8.39.

OIE endorsed official control programme for FMD

The overall objective of an OIE endorsed *official control programme* for FMD is for countries to progressively improve the situation and eventually attain ~~FMD~~ free status. The *official control programme* should be applicable to the entire country even if certain measures are directed towards defined *subpopulations* only.

Member Countries may, on a voluntary basis, apply for endorsement of their *official control programme* for FMD when they have implemented measures in accordance with this article.

For a Member Country's *official control programme* for FMD to be endorsed by the OIE, the Member Country should:

- 1) have a record of regular and prompt animal *disease* reporting in accordance with the requirements in Chapter 1.1.;
- 2) submit documented evidence of the capacity of the *Veterinary Services* to control FMD; one way of providing this evidence is through the OIE PVS Pathway;
- 3) submit a detailed plan of the programme to control and eventually eradicate FMD in the country or *zone* including:
 - a) the timeline;
 - b) the performance indicators for assessing the efficacy of the control measures to be implemented;
 - c) documentation indicating that the *official control programme* for FMD is applicable to the entire country;
- 4) submit a dossier on the epidemiology of FMD in the country describing the following:
 - a) the general epidemiology in the country highlighting the current knowledge and gaps and the progress that has been made in controlling FMD;
 - b) the measures implemented to prevent introduction of *infection*, the rapid detection of, and response to, all FMD *outbreaks* in order to reduce the incidence of FMD *outbreaks* and to eliminate ~~FMDV~~ transmission of FMDV in at least one *zone* in the country;
 - c) the main livestock production systems and movement patterns of FMD susceptible animals and their products within and into the country;
- 5) submit evidence that ~~FMD surveillance is in place:~~
 - a) FMD surveillance is in place, taking into account provisions in accordance with Chapter 1.4. and the provisions on *surveillance* of this chapter;
 - b) ~~it has~~ have diagnostic capability and procedures, including regular submission of samples to a *laboratory* that carries out diagnosis and further characterisation of strains;
- 6) where *vaccination* is practised as a part of the *official control programme* for FMD, provide:
 - a) evidence (such as copies of legislation) that *vaccination* of selected *populations* is compulsory;

- b) detailed information on *vaccination* campaigns, in particular on:
 - i) target populations for *vaccination*;
 - ii) monitoring of *vaccination* coverage, including serological monitoring of population immunity;
 - iii) technical specification of the vaccines used, including matching with the circulating FMDV strains, and description of the licensing procedures in place;
 - iv) the proposed timeline for the transition to the use of vaccines fully compliant with the standards and methods described in the *Terrestrial Manual*;
- 7) provide an emergency preparedness and response plan to be implemented in case of *outbreaks*.

The Member Country's *official control programme* for FMD will be included in the list of programmes endorsed by the OIE only after the submitted evidence, based on the provisions of Article 1.6.11., has been accepted by the OIE. Retention on the list requires an annual update on the progress of the *official control programme* and information on significant changes concerning the points above. Changes in the epidemiological situation and other significant events should be reported to the OIE in accordance with the requirements in Chapter 1.1.

The OIE may withdraw the endorsement of the *official control programme* if there is evidence of:

- non-compliance with the timelines or performance indicators of the programme; or
- significant problems with the performance of the *Veterinary Services*; or
- an increase in the incidence or an extension of the distribution of FMD that cannot be addressed by the programme.

Article 8.8.40.

General principles of surveillance

Articles 8.8.40. to 8.8.42. define the principles and provide a guide for the *surveillance* of FMD in accordance with Chapter 1.4. applicable to Member Countries seeking establishment, maintenance or recovery of freedom from FMD at the country, *zone* or *compartment* level or seeking endorsement by the OIE of their *official control programme* for FMD, in accordance with Article 8.8.39. *Surveillance* aimed at identifying *disease* and ~~FMDV~~ *infection with*, or transmission of FMDV should cover domestic and, where appropriate, *wildlife* species as indicated in point 2 of Article 8.8.1.

1. Early detection

A *surveillance* system in accordance with Chapter 1.4. should be the responsibility of the *Veterinary Authority* and should provide an early warning system to report suspected *cases* throughout the entire production, marketing and processing chain. A procedure should be in place for the rapid collection and transport of samples to a *laboratory* for FMD diagnosis. This requires that sampling kits and other equipment be available to those responsible for *surveillance*. Personnel responsible for *surveillance* should be able to seek assistance from a team with expertise in FMD diagnosis and control.

2. Demonstration of freedom

The impact and epidemiology of FMD widely differ in different regions of the world and therefore it is inappropriate to provide specific recommendations for all situations. *Surveillance* strategies employed for demonstrating freedom from FMD in the country, *zone* or *compartment* at an acceptable level of confidence should be adapted to the local situation. For example, the approach to demonstrating freedom from FMD following an *outbreak* caused by a pig-adapted strain of FMDV should differ significantly from an approach designed to demonstrate freedom from FMD in a country or *zone* where African buffaloes (*Syncerus caffer*) provide a potential reservoir of *infection*.

Annex 18 (contd)

Surveillance for FMD should be in the form of a continuing programme. Programmes to demonstrate no evidence of *infection with FMDV* and transmission *of FMDV* should be carefully designed and implemented to avoid producing results that are insufficient to be accepted by the OIE or trading partners, or being excessively costly and logistically complicated.

The strategy and design of the *surveillance* programme will depend on the historical epidemiological circumstances including whether ~~or not~~ *vaccination* has been ~~used~~ *practised or not*.

A Member Country wishing to substantiate FMD freedom where *vaccination* is not practised should demonstrate no evidence of *infection with FMDV*.

A Member Country wishing to substantiate FMD freedom where *vaccination* is practised should demonstrate that FMDV has not been transmitted in any susceptible *populations*. Within vaccinated *populations*, serological surveys to demonstrate no evidence of ~~FMDV~~ transmission *of FMDV* should target animals that are less likely to show vaccine-derived antibodies to nonstructural proteins, such as young animals vaccinated a limited number of times, or unvaccinated animals. In any unvaccinated *subpopulation*, *surveillance* should demonstrate no evidence of *infection with FMDV*.

Surveillance strategies employed for establishing and maintaining a *compartment* should identify the prevalence, distribution and characteristics of FMD outside the *compartment*.

3. OIE endorsed official control programme

Surveillance strategies employed in support of an OIE endorsed *official control programme* should demonstrate evidence of the effectiveness of any *vaccination* used and of the ability to rapidly detect all FMD outbreaks.

Therefore considerable latitude is available to Member Countries to design and implement *surveillance* to establish that the whole territory or part of it is free from ~~FMDV infection with~~ and transmission *of FMDV* and to understand the epidemiology of FMD as part of the *official control programme*.

The Member Country should submit a dossier to the OIE in support of its application that not only explains the epidemiology of FMD in the region concerned but also demonstrates how all the risk factors, including the role of *wildlife*, if appropriate, are identified and managed. This should include provision of scientifically based supporting data.

4. Surveillance strategies

The strategy employed to establish the prevalence of *infection with FMDV* or to substantiate freedom from ~~FMDV infection with~~ or transmission *of FMDV* may be based on randomised or targeted clinical investigation or sampling at an acceptable level of statistical confidence, as described in Articles 1.4.4. and 1.4.5. If an increased likelihood of *infection* in particular localities or species can be identified, targeted sampling may be appropriate. Clinical inspection may be targeted at particular species likely to exhibit clear clinical signs (e.g., *bovines* ~~cattle~~ and pigs). The Member Country should justify the *surveillance* strategy chosen and the frequency of sampling as adequate to detect the presence of ~~FMDV infection with~~ or transmission *of FMDV* in accordance with Chapter 1.4. and the epidemiological situation.

The design of the sampling strategy should incorporate an epidemiologically appropriate design prevalence. The sample size selected for testing should be adequate to detect *infection* or transmission if it were to occur at a predetermined minimum rate. The sample size and expected *disease* prevalence determine the level of confidence in the results of the survey. The Member Country should justify the choice of design prevalence and confidence level based on the objectives of *surveillance* and the prevailing or historical epidemiological situation, in accordance with Chapter 1.4.

5. Follow-up of suspected cases and interpretation of results

An effective *surveillance* system will identify suspected cases that require immediate follow-up and investigation to confirm or exclude that the cause of the condition is FMDV. Samples should be taken and submitted for diagnostic testing, unless the suspected case can be confirmed or ruled out by epidemiological and clinical investigation. Details of the occurrence of suspected cases and how they were investigated and dealt with should be documented. This should include the results of diagnostic testing and the control measures to which the animals concerned were subjected during the investigation.

Annex 18 (contd)

The sensitivity and specificity of the diagnostic tests employed, including the performance of confirmatory tests, are key factors in the design, sample size determination and interpretation of the results obtained. The sensitivity and specificity of the tests used should be validated for the *vaccination* or *infection* history and production class of animals in the target population.

The *surveillance* design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There should be an effective procedure for following-up positives to determine with a high level of confidence, whether or not they are indicative of *infection* or transmission. This should involve supplementary tests and follow-up investigation to collect diagnostic material from the original *epidemiological unit* and *herds* which may be epidemiologically linked to it.

Laboratory results should be examined in the context of the epidemiological situation. Corollary information needed to complement the serological survey and assess the possibility of viral transmission includes but is not limited to:

- characterisation of the existing production systems;
- results of clinical *surveillance* of the suspects and their cohorts;
- description of number of, and protocol for, *vaccinations* performed in the area under assessment;
- *biosecurity* and history of the *establishments* with reactors;
- identification and traceability of animals and control of their movements;
- other parameters of regional significance in historic ~~FMDV~~ transmission of FMDV.

6. Demonstration of population immunity

Following routine *vaccination*, evidence should be provided to demonstrate the effectiveness of the *vaccination* programme such as adequate *vaccination* coverage and population immunity. This can help to reduce reliance on post-*vaccination* surveys for residual *infection* and transmission.

In designing serological surveys to estimate population immunity, blood sample collection should be stratified by age to take account of the number of *vaccinations* the animals have received. The interval between last *vaccination* and sampling depends upon the intended purpose. Sampling at one or two months after *vaccination* provides information on the efficiency of the *vaccination* programme, while sampling before or at the time of revaccination provides information on the duration of immunity. When multivalent vaccines are used, tests should be carried out to determine the antibody level at least for each serotype, if not for each antigen blended into the vaccine. The test cut-off for an acceptable level of antibody should be selected with reference to protective levels demonstrated by vaccine-challenge test results for the antigen concerned. Where the threat from circulating virus has been characterised as resulting from a field virus with significantly different antigenic properties from the vaccine virus, this should be taken into account when interpreting the protective effect of population immunity. Figures for population immunity should be quoted with reference to the total of susceptible animals in a given *subpopulation* and in relation to the subset of vaccinated animals.

7. Additional measures for early recovery of free status without vaccination or early recovery of free status with vaccination in the area(s) where emergency vaccination has been applied but not followed by the slaughtering of all vaccinated animals

In addition to the general conditions described in this chapter, a Member Country seeking either recovery of status of a country or zone previously free from FMD where vaccination is not practiced, including a containment zone, or recovery of status of a country or zone previously free from FMD where vaccination is practiced, earlier than the six months as specified respectively under point 1c) of Article 8.8.7. or under point 3a) of Article 8.8.7. should justify the circumstances and measures that demonstrate sufficient confidence to substantiate a claim for freedom. This may be achieved when answering the relevant questionnaire in Chapter 1.11. by demonstrating compliance with either a) or b) and c) below, in the area(s) where emergency vaccination has been applied. It is advisable that countries should consider the different options for the recovery of a free status when control measures are first implemented at the onset of the outbreak in order to plan for the applicable requirements to be met.

- a) The following serological surveys have been conducted in the area where emergency vaccination has been applied and have demonstrated the absence of infection in unvaccinated animals and the absence of transmission in emergency vaccinated animals:

Annex 18 (contd)

- i) for vaccinated ruminants, serological surveys using nonstructural protein tests to detect antibodies in all vaccinated ruminants and their non-vaccinated offspring in all *epidemiological units* (census serosurveillance);
 - ii) for vaccinated pigs and their non-vaccinated offspring, serological surveys using nonstructural protein tests to detect antibodies in all vaccinated *epidemiological units* with maximum 5% within *herd* design prevalence (95% confidence level);
 - iii) for non-vaccinated susceptible species that do not show reliable clinical signs, serological surveys with maximum design prevalence of 1% at *herd* level and 5% within *herds* (95% confidence level).
- b) The following *surveillance* components have been implemented in the area where emergency *vaccination* has been applied and have demonstrated the absence of *infection* in unvaccinated *animals* and the absence of transmission in vaccinated *animals*:
- i) risk-based serological *surveillance* in vaccinated *herds* with stratification according to relevant factors such as proximity to known infected *herds*, region/*establishment* with numerous movement of animals, epidemiological links to infected *herds*, species, production management systems and *herd* size;
 - ii) random serological *surveillance* in vaccinated *herds* with maximum design prevalence of 1% at *herd* level and 5% within *herds* (95% confidence level) in each emergency *vaccination* area;
 - iii) intensified clinical and *slaughterhouse/abattoir surveillance*;
 - iv) for non-vaccinated susceptible species that do not show reliable clinical signs, serological surveys with maximum design prevalence of 1% at *herd* level and 5% within *herds* (95% confidence level);
 - v) virological *surveillance* to investigate the status of vaccinated *herds* may also be conducted to contribute to additional confidence in demonstrating freedom.
- c) Vaccine efficacy and *vaccination* effectiveness of the emergency *vaccination* deployed have been demonstrated by documenting the following:
- i) Vaccine efficacy
 - = vaccine potency of at least 6PD50 or equivalent probability of protection and evidence of a good match between the vaccine strain and the field virus;
 - = evidence that the vaccine used can protect against the field strain that has caused the *outbreak*, demonstrated through the results of a heterologous challenge test or indirect serological assay (i.e., sera from vaccinated *animals* tested against the field virus). This should also establish the cut-off titre for protection to be used in the test for population immunity studies.
 - ii) Vaccination effectiveness
 - = objective and strategy of the emergency *vaccination* deployed;
 - = evidence of the timeliness of the emergency *vaccination* (start and completion dates);
 - = evidence of *vaccination* delivery including preservation of vaccine (e.g., cold chain) and at least 95% *vaccination* coverage achieved in the targeted and eligible *population*;
 - = evidence of high population immunity at *herd* and individual level through serological *surveillance*.
8. Additional measures for early recovery of free status with *vaccination* in the area outside of the area(s) where emergency *vaccination* has been applied.

Annex 18 (contd)

In addition to the general conditions described in this chapter, a Member Country seeking recovery of status of a country or zone previously free from FMD where vaccination is practiced in the area outside of the area(s) where emergency vaccination has been applied, earlier than six months as specified under point 3a) of Article 8.8.7, should justify the circumstances and measures that demonstrate sufficient confidence to substantiate a claim for freedom. This may be achieved either by meeting the requirements listed in a) below or by demonstrating compliance with the requirements listed in b) and c) below, when answering the questionnaire in Article 1.11.2, or Article 1.11.4.

With regard to the surveillance requirements listed in b), it should be noted that clinical signs may not be apparent in the routinely vaccinated population. The expression of clinical signs would depend on the relationship between the virus strain used in the routine vaccination to the virus that caused the outbreak. For example, following an incursion of a new serotype it would be expected that the routinely vaccinated animals would show clinical signs if infected. In contrast, following an incursion of a serotype or strain covered by the vaccine it would be expected that most of the routinely vaccinated animals would be protected and therefore less likely to be infected and to show clinical signs if infected. Other factors such as vaccination coverage and timing of vaccination could influence the likelihood of infection and expression of clinical signs.

It is advisable that countries should consider the different options for the recovery of a free status when control measures are first implemented at the onset of the outbreak in order to plan for the applicable requirements to be met.

a) Establishment of a containment zone

A containment zone that includes all emergency vaccination area(s) has been established based on the provisions of Article 8.8.6, to provide assurance that FMD has not occurred in the area outside the emergency vaccination area(s).

b) The following surveillance components have been implemented in the area outside of the area(s) where emergency vaccination has been applied and have demonstrated the absence of infection in unvaccinated animals and the absence of transmission in vaccinated animals:

- i) risk-based serological surveillance in vaccinated herds with stratification according to relevant factors such as proximity to the emergency vaccination area, region/establishment with numerous movement of animals, epidemiological links to infected herds, species and age, production management systems, herd size;
- ii) random serological surveillance in vaccinated herds with maximum design prevalence of 1% at herd level and 5% within herds (95% confidence level);
- iii) intensified clinical and slaughterhouse/abattoir surveillance;
- iv) serological survey in non-vaccinated susceptible species that do not show reliable clinical signs with risk-based stratification according to factors such as proximity to the emergency vaccination area, region/establishment with numerous movement of animals, epidemiological links to infected herds, species, production management systems, herd size;
- v) virological surveillance to investigate the status of vaccinated herds may also be conducted to contribute to additional confidence in demonstrating freedom.

The efficacy of the routine vaccine against the virus that caused the outbreak(s) has been documented.

The entire investigative process should be documented within the surveillance programme.

All the epidemiological information should be substantiated, and the results should be collated in the final report.

Annex 18 (contd)

Article 8.8.41.

Methods of surveillance1. Clinical surveillance

Farmers and workers who have day-to-day contact with livestock, as well as *veterinary para-professionals*, *veterinarians* and diagnosticians, should report promptly any suspicion of FMD. The *Veterinary Services Authority* should implement programmes to raise awareness among them.

Clinical *surveillance* requires the physical examination of susceptible *animals*. Although significant emphasis is placed on the diagnostic value of mass serological screening, *surveillance* based on clinical inspection may provide a high level of confidence of detection of *disease* if a sufficient number of clinically susceptible *animals* is examined at an appropriate frequency and investigations are recorded and quantified.

Clinical examination and diagnostic testing should be applied to clarify the status of suspected cases. Diagnostic testing may confirm clinical suspicion, while clinical *surveillance* may contribute to confirmation of positive laboratory test results. Clinical *surveillance* may be insufficient in *wildlife* and domestic species that usually do not show clinical signs or husbandry systems that do not permit sufficient observations. In such situations, serological *surveillance* should be used. Hunting, capture and non-invasive sampling and observation methods can be used to obtain information and diagnostic samples from *wildlife* species.

2. Virological surveillance

Establishment of the molecular, antigenic and other biological characteristics of the causative virus, as well as its source, is mostly dependent upon clinical *surveillance* to provide samples. FMDV isolates should be sent regularly to an OIE Reference Laboratory.

Virological *surveillance* aims to:

- a) confirm clinically suspected cases;
- b) follow up positive serological results;
- c) characterise isolates for epidemiological studies and vaccine matching;
- d) monitor *populations* at risk for the presence and transmission of the virus.

3. Serological surveillance

Serological *surveillance* aims to detect antibodies resulting from *infection* or *vaccination* using nonstructural protein tests or structural protein tests.

Serological *surveillance* may be used to:

- a) estimate the prevalence or substantiate freedom from ~~FMDV infection~~ with, or transmission of, FMDV;
- b) monitor population immunity.

Serum collected for other purposes can be used for FMD *surveillance*, provided the principles of survey design described in this chapter are met.

The results of random or targeted serological surveys are important in providing reliable evidence of the FMD situation in a country, *zone* or *compartment*. It is therefore essential that the survey be thoroughly documented.

Article 8.8.42.

The use and interpretation of serological tests (see Figure 3)

The selection and interpretation of serological tests should be considered in the context of the epidemiological situation. Test protocols, reagents, performance characteristics and validation of all tests used should be known. Where combinations of tests are used, the overall test system performance characteristics should also be known.

Animals infected with FMDV produce antibodies to both the structural proteins and the nonstructural proteins of the virus. Vaccinated *animals* produce antibodies mainly or entirely to the structural proteins of the virus depending upon vaccine purity. The structural protein tests are serotype specific and for optimal sensitivity one should select an antigen or virus closely related to the field strain expected. In unvaccinated *populations*, structural protein tests may be used to screen sera for evidence of FMDV infection with, or transmission of, FMDV or to detect the introduction of vaccinated *animals*. In vaccinated *populations*, structural protein tests may be used to monitor the serological response to the *vaccination*.

Nonstructural protein tests may be used to screen sera for evidence of *infection* or transmission of all serotypes of FMDV regardless of the *vaccination* status of the *animals* provided the vaccines comply with the standards of the *Terrestrial Manual* with respect to purity. However, although *animals* vaccinated and subsequently infected with FMDV develop antibodies to nonstructural proteins, the levels may be lower than those found in infected *animals* that have not been vaccinated. To ensure that all *animals* that had contact with FMDV have seroconverted, it is recommended that for each *vaccination* area samples for nonstructural protein antibody testing are taken not earlier than 30 days after the last case and in any case not earlier than 30 days after the last *vaccination*.

Positive FMDV antibody test results can have four possible causes:

- *infection* with FMDV;
- *vaccination* against FMD;
- maternal antibodies (maternal antibodies in bovines cattle are usually found only up to six months of age but in some individuals and in some other species, maternal antibodies can be detected for longer periods);
- non-specific reactivity of the serum in the tests used.

1. Procedure in case of positive test results

The proportion and strength of seropositive reactors should be taken into account when deciding if they are *laboratory* confirmed reactors or further investigation and testing are required.

When false positive results are suspected, seropositive reactors should be retested in the *laboratory* using repeat and confirmatory tests. Tests used for confirmation should be of high diagnostic specificity to minimise false positive test results. The diagnostic sensitivity of the confirmatory test should approach that of the screening test.

All *herds* with at least one ~~laboratory confirmed~~ reactor that has been confirmed in a laboratory should be investigated. The investigation should examine all evidence, which may include the results of ~~virological tests~~ and of any further serological tests ~~that might used~~ to confirm or refute the hypothesis that the positive results to the serological tests employed in the initial survey were due to FMDV transmission of FMDV, as well as of virological tests. This investigation should document the status for each positive *herd*. Epidemiological investigation should be continued concurrently.

Clustering of seropositive results within *herds* or within a region should be investigated as it may reflect any of a series of events, including the demographics of the *population* sampled, vaccinal exposure or the presence of *infection* or transmission. As clustering may signal *infection* or transmission, the investigation of all instances should be incorporated in the survey design.

Paired serology can be used to identify FMDV transmission of FMDV by demonstrating an increase in the number of seropositive *animals* or an increase in antibody titre at the second sampling.

Annex 18 (contd)

The investigation should include the reactor *animals*, susceptible *animals* of the same *epidemiological unit* and susceptible *animals* that have been in contact or otherwise epidemiologically associated with the reactor *animals*. The *animals* sampled should ~~be identified as such and~~ remain in the *establishment* pending test results, should be ~~clearly identified~~, accessible and should not be vaccinated during the investigations, so that they can be retested after an appropriate period of time. Following clinical examination, a second sample should be taken, after an appropriate time has lapsed, from the *animals* tested in the initial survey with emphasis on *animals* in direct contact with the reactors. If the *animals* are not individually identified, a new serological survey should be carried out in the *establishments* after an appropriate time, repeating the application of the primary survey design. If FMDV is not circulating, the magnitude and prevalence of antibody reactivity observed should not differ in a statistically significant manner from that of the primary sample.

In some circumstances, unvaccinated sentinel *animals* may also be used. These can be young *animals* from unvaccinated dams or *animals* in which maternally conferred immunity has lapsed and preferably of the same species as in the positive sampling units. If other susceptible, unvaccinated *animals* are present, they could act as sentinels to provide additional serological evidence. The sentinels should be kept in close contact with the *animals* of the *epidemiological unit* under investigation for at least two *incubation periods*, and if there is no transmission of FMDV, they should will remain serologically negative ~~if FMDV is not circulating~~.

2. Follow-up of field and laboratory findings

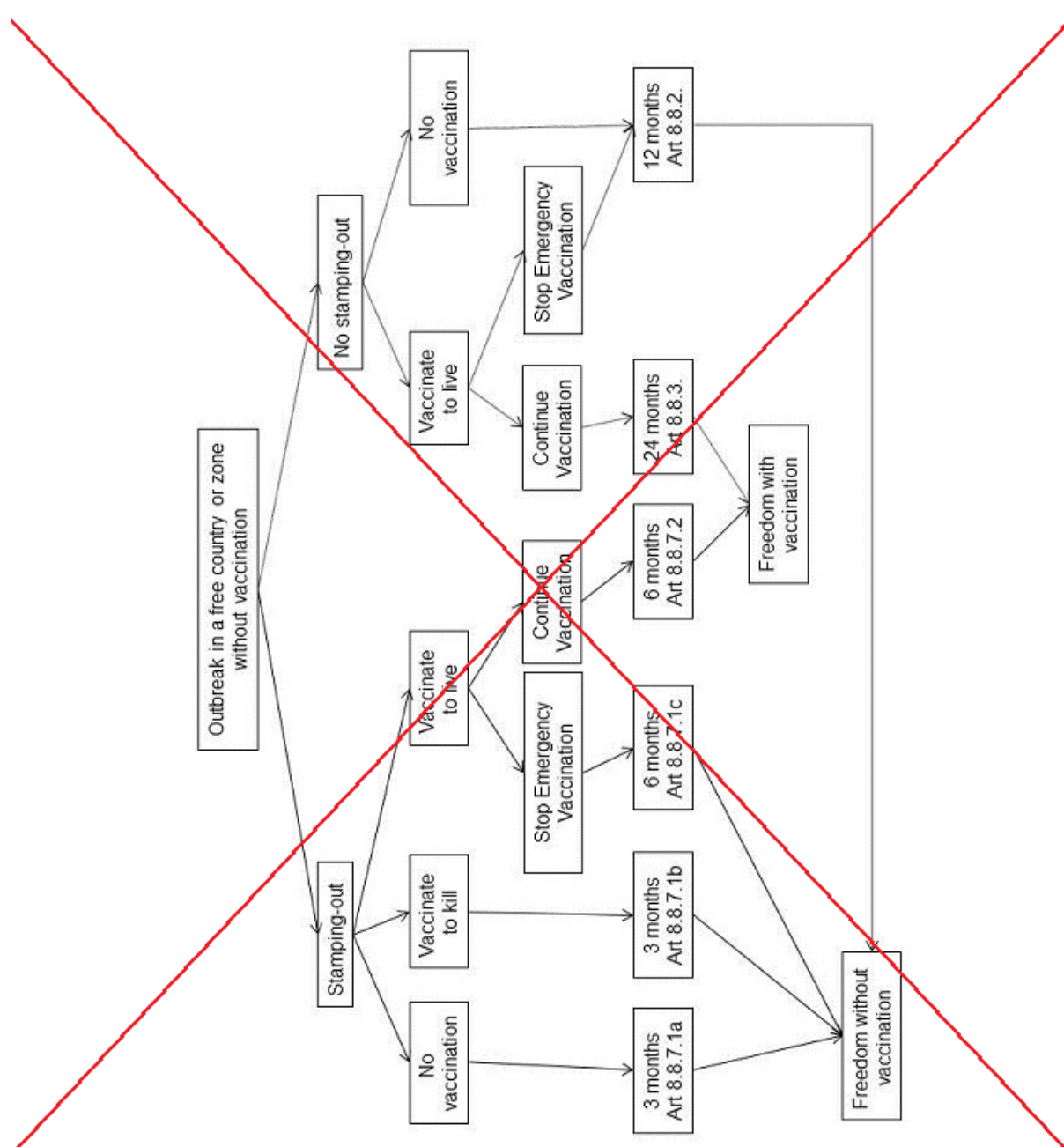
If transmission is demonstrated, an *outbreak* is declared.

~~It is difficult to determine~~ the significance of small numbers of seropositive *animals* in the absence of current FMDV transmission ~~is difficult to determine~~. Such findings may be an indication of past *infection* followed by recovery or by the development of a carrier state, in ruminants, or due to non-specific serological reactions. Antibodies to nonstructural proteins may be induced by repeated *vaccination* with vaccines that do not comply with the requirements for purity. However, the use of such vaccines is not permissible in countries or *zones* applying for an official status. In the absence of evidence of ~~FMDV infection with~~ and transmission ~~of FMDV~~, such findings do not warrant the declaration of a new *outbreak* and the follow-up investigations may be considered complete.

However, if the number of seropositive *animals* is greater than the number of false positive results expected from the specificity of the diagnostic tests used, susceptible *animals* that have been in contact or otherwise epidemiologically associated with the reactor *animals* should be investigated further.

Abbreviations and acronyms:	
ELISA	Enzyme-linked immunosorbent assay
VNT	Virus neutralisation test
NSP	Nonstructural protein(s) of foot and mouth disease virus (FMDV)
3ABC	NSP antibody test
SP	Structural protein of foot and mouth disease virus

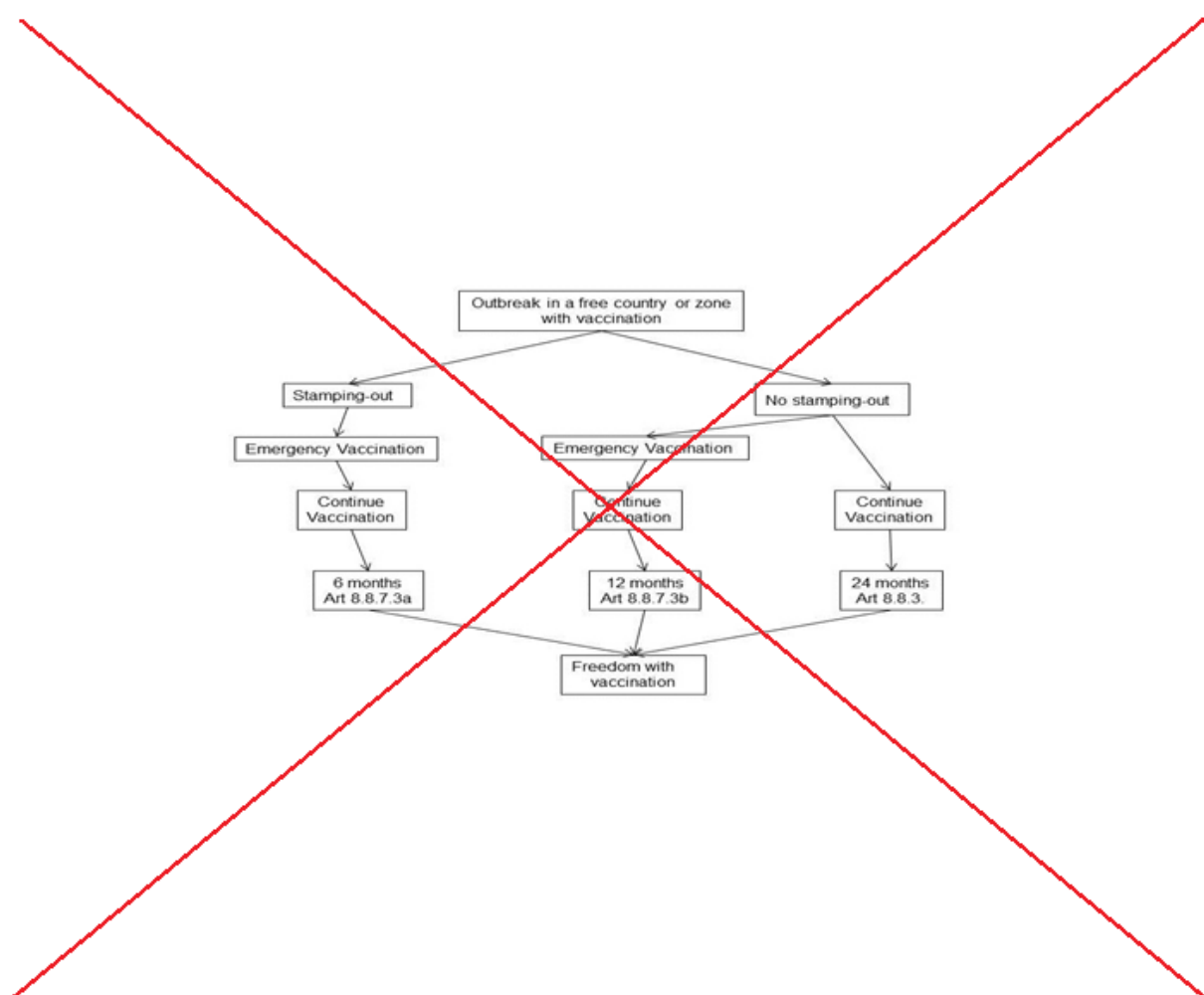
Fig. 1. Schematic representation of the minimum waiting periods and pathways for recovery of FMD free status after an outbreak of FMD in a previously free country or zone where vaccination is not practised



Waiting periods are minima depending upon outcome of surveillance specified in respective articles. If there are multiple waiting periods because of different control measures, the longest applies.

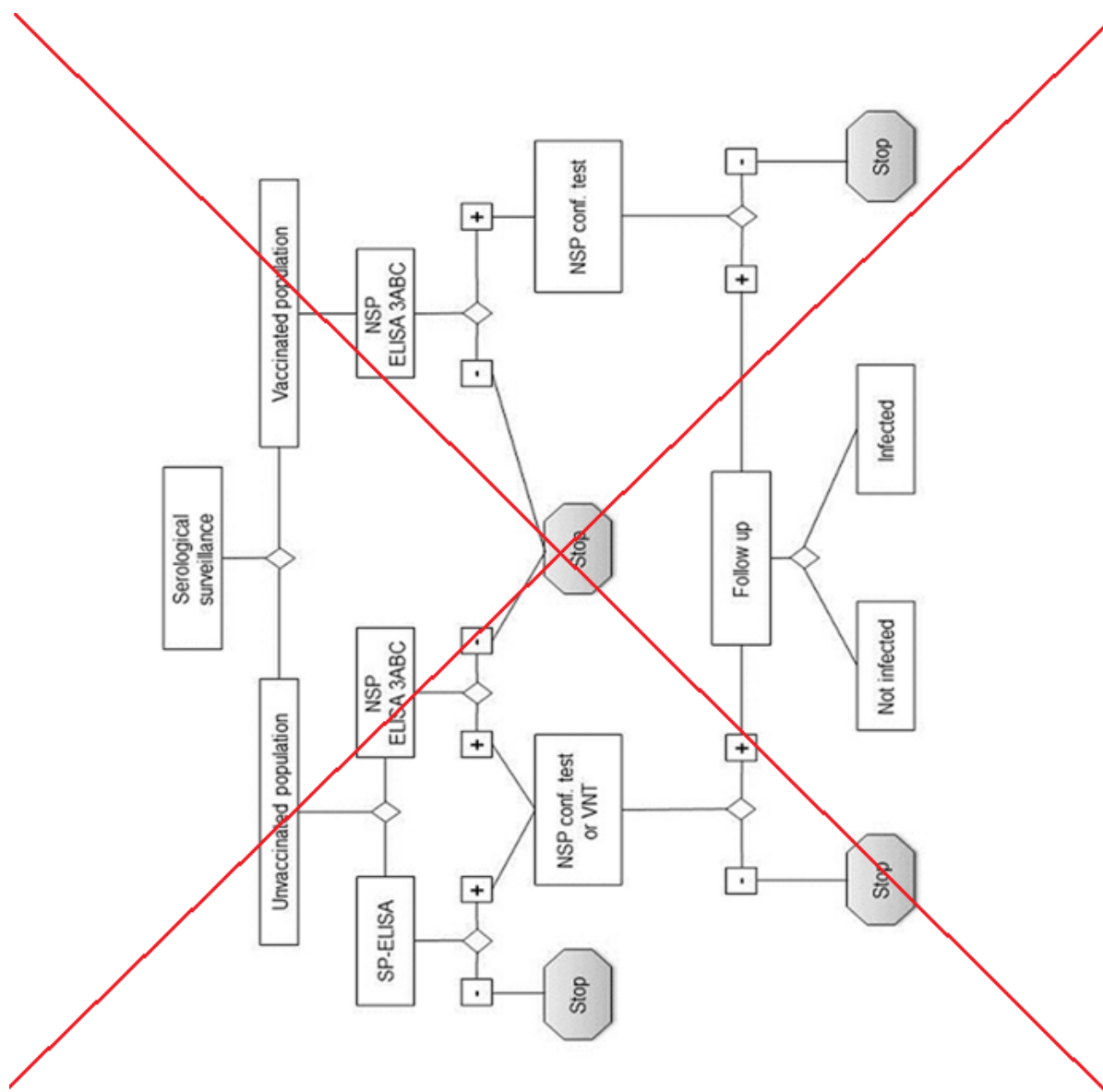
Annex 18 (contd)

Fig. 2. Schematic representation of the minimum waiting periods and pathways for recovery of FMD free status after an outbreak of FMD in a previously free country or zone where vaccination is practised



Waiting periods are minima depending upon outcome of surveillance specified in respective articles. If there are multiple waiting periods because of different control measures, the longest applies.

Fig. 3. Schematic representation of laboratory tests for determining evidence of infection with FMDV by means of serological surveys



※本資料は参考仮訳ですので、最終的な確認は原文をご参照ください。

参考6(仮訳)

第 8.8 章

口蹄疫

第 8.8.1 条

総則

- 1) 分類学上のさまざまな目に属する多くの動物種が、口蹄疫ウイルス (FMDV) の感染に感受性があることが知られている。それらの疫学的重要性は、感受性の程度、飼養管理システム、個体群の密度及び大きさ並びにそれらとの接触性によって決まってくる。ラクダ科の中では、フタコブラクダ (*Camelus bactrianus*) のみが、疫学的重要性を持つ十分な感受性を有している。ヒトコブラクダ (*Camelus dromerarius*) は、FMDV に感受性がない一方で、南アメリカのラクダ科動物は、疫学的に重要であるとは考えられない。
- 2) 陸生コードにおいては、口蹄疫 (FMD) は、反芻亜目及び偶蹄目イノシシ科の動物並びにフタコブラクダの FMDV 感染と定義される。
- 3) FMDV 感染の発生とは、以下の各号のいずれかであると定義される。
 - a) FMDV が、第 2 項に掲げる動物の試料から分離されること。
 - b) FMDV に特異的な~~ウイルス~~抗原又は~~ウイルス~~リボ核酸が、FMD と整合する臨床症状を呈している、又は FMD の疑似若しくは確定発生と疫学的に関連している、又は以前に FMDV と関連していた若しくは接触した疑いのある、第 2 項に掲げる動物の試料中に同定されること。
 - c) ワクチン接種によるものではない FMDV 構造又は非構造タンパク質 (NSP) に対する抗体が、FMD と整合する臨床症状を呈している、又は FMD の疑似若しくは確定発生と疫学的に関連している、又は以前に FMDV と関連していた若しくは接触した疑いのある、第 2 項に掲げる動物の試料中に同定されること。
- 4) ワクチン接種個体群内の FMDV の伝搬は、たとえ臨床症状を呈していない場合であっても、新しい感染を示唆するウイルス学的又は血清学的証拠の変化によって立証される。
- 5) 陸生コードにおいては、FMD の潜伏期間は 14 日であるものとする。
- 6) FMDV が感染することによって、重症度不定の疾病及び FMDV の伝搬が生じることになる。**感染後**、FMDV が、28 日を超える不定だが限定的な期間、反芻動物の咽頭及び関連リンパ節中に持続する場合がある。そのような動物は、キャリアと呼ばれ

ている。~~ただし、~~FMDV の伝搬が証明された唯一の持続感染動物種は、アフリカ水牛 (*Syncerus caffer*) である。しかしながら、これらの種から家畜への伝染はまれである。

~~7) 本章は、FMDV による臨床症状の発生のみならず、臨床症状を呈さない FMDV 感染及び伝搬の存在も対象とする。~~

87) 診断検査及びワクチンの基準は、陸生マニュアルに規定される。

第 8.8.1bis 条

安全物品

以下の物品の輸入又は通過を認可する際に、輸出国又は地域の FMD ステータスに関わらず、獣医当局は FMD に関連するいかなる条件も課さないこととする。

1) UHT 乳及びその派生物

2) F 値 3 以上で処理された密閉容器内の肉

3) 肉、骨粉及び血粉

4) ゼラチン

5) 第 4.8 章に準じて収集、処理、保管された生体内由来の牛胚

感受性動物の他の物品は、本章関連条に従う場合には、安全に貿易されることができる。

第 8.8.2 条

ワクチン非接種 FMD 清浄国又は地域

ワクチン非接種地域の境界を定める場合には、第 4. ~~34~~ 章の原則に従うものとする。

ワクチン非接種 FMD 清浄国又は地域の感受性動物は、当該清浄国又は地域への FMDV の侵入を予防するバイオセキュリティの適用によって保護されるものとする。

隣接する汚染国又は地域との物理的又は地理的障壁を考慮して、当該措置には、防護地域を含むことができる。

ワクチン非接種 FMD 清浄国又は地域リストに入る資格を得るためには、加盟国は以下を満たすものとする。

- 1) 定期的及び即時の動物疾病報告の記録を有すること。
- 2) ~~FMD~~ 清浄国又は地域として申請された当該国又は地域が、過去 12 か月間、以下の各号を満たしている旨述べた宣言が OIE に送付されていること。

- a) FMD の症例がないこと。
 - b) FMD に対するワクチン接種が実施されていないこと。
- 3) 過去 12 か月間、以下の各号を満たしている旨の証拠文書を提出すること。
- a) 第 8.8.40 条から第 8.8.42 条に従うサーベイランスが、FMD の臨床症状の発見及び以下の各号の証拠がない旨立証するために実施されていること。
 - i) ワクチン非接種動物における FMDV 感染
 - ii) ワクチン接種 FMD 清浄国又は地域が、ワクチン非接種 FMD 清浄国又は地域になることを求めている場合には、以前にワクチン接種を受けた動物における FMDV の伝搬
 - b) FMD を予防及び早期発見するための規制措置が実施されていること。
- 4) 以下の各号についての項目が適切に実行され、指揮されたことを詳細に記述された文書による過去 12 ヶ月間にわたる証拠を提出すること。
- a) FMD 清浄地域の場合には、当該あらゆる申請済みの FMD 清浄地域において境界線が確立され、効果的に監視されていること
 - b) それが当てはまる場合には、あらゆる防護地域の境界線及びバイオセキュリティ措置が確立され、効果的に監視されていること
 - c) FMD 清浄国又は地域として申請された当該国又は地域への FMDV の侵入を予防するためのシステムが確立され、効果的に監視されていること
 - d) 感受性動物、その肉及び、その他の産物及び媒介物の当該 FMD 清浄申請国又は地域への移動の管理、とりわけ、第 8.8.8 条、第 8.8.9 条及びから第 8.8.12 条に規定される措置が効果的に実施され、監視されていること
 - e) ワクチンが接種された動物が導入されることを防ぐ措置が効果的に実施され、管理されていることでないこと（第 8.8.8 条及び、第 8.8.9 条、第 8.8.9bis 条、第 8.8.11 条及び第 8.8.11bis 条に従う場合を除く）。と場直行ために導入されるあらゆるワクチン接種動物はと第 6.2 章に従いと畜前及びと畜後検査を受け、良好な結果を得ていること。反芻動物については、扁桃、舌、関連リンパ節を含む頭部が廃棄されているか、8.8.31 条に従って処理されていること。

当該加盟国又は清浄地域として申請された当該地域は、第 1.6.6 条の規定に基づき提出された証拠が OIE に受理されてはじめて、ワクチン非接種 FMD 清浄国又は地域リストに掲載されることになる。

当該リストに引き続き記載されるためには、本条第 2 号、第 3 号及び第 4 号の情報が毎年再提出されることを必要とし、疫学的状況その他重要な事象の変化（第 3 号の第 b 号

及び第 4 号に関連するものを含む) は、第 1.1 章の要件に従い、OIE に報告されるものとする。

ある FMD 清浄国または地域に、感染している可能性のあるアフリカ水牛の侵入があったとしても、サーベイランスによって FMDV の伝播が無いことが実証された場合には、その清浄ステータスを維持できる。

国又は地域のステータスは、第 1 号から第 43 号の条件が満たされた場合であって、以下に掲げる条件が満たされているときには、獣医当局が FMD の脅威を認識し、動物学的コレクションのうちの FMD 感受性動物に対する公的緊急ワクチン接種を適用したとしても、それによる影響を受けることはない。

- 動物学的コレクションが、動物の展示又は希少動物種の保全を目的としており、当該施設の境界を含めて明確に区別され、当該国の FMD 緊急時対応計画に含まれていること。
- 他の感受性家畜個体群又は野生生物からの効果的な分離等、適切なバイオセキュリティ措置が講じられていること。
- 当該動物が、動物学的コレクションに属するものとして認識されており、いかなる移動も追跡調査できること。
- 使用されるワクチンが、陸生マニュアルに規定される基準を遵守していること。
- ワクチン接種が、獣医当局の監督下で実施されること。
- 当該動物学的コレクションが、ワクチン接種後少なくとも 12 か月間、サーベイランス下に置かれること。

ワクチン非接種 FMD 清浄地域のステータスの申請を他のワクチン非接種 FMD 清浄同一のステータスの地域と隣接する新たな地域に対し行う場合には、当該新地域を隣接地域と統合し、拡大したひとつの地域とするか否か示されなくてはならない。当該 2 地域が依然として分かれたまま置かれる場合には、分離された地域のステータスを維持するために適用される管理措置、並びに、とりわけ、個体識別、及び第 4.3 章に従う当該同一ステータス地域間の動物の移動管理に関する詳細を提出するものとする。

野生のアフリカ水牛の侵入がある場合には、その脅威を管理し、当該国のそれ以外の区域における清浄ステータスを維持するため、第 4.4.6 条に準じた防護地域を設定するものとする。

新たに特定された FMDV の侵入の可能性から、清浄国または地域のステータスを保護するために用いられる防護地域を設定する場合は、第 4.4.6 条に従うものとする。防護地域においてワクチン接種が行われても、当該国または地域の他の地域の清浄性には影響しない当該国又は地域のその他の区域の動物衛生ステータスには影響しない。

第 8.8.3 条

ワクチン接種 FMD 清浄国又は地域

ワクチン接種地域の境界を定める場合には、第 4.3 章の原則に従うものとする。

ワクチン接種 FMD 清浄国又は地域の感受性動物は、当該清浄国又は地域への FMDV の侵入を予防するバイオセキュリティ措置の適用によって保護されるものとする。隣接する汚染国又は地域との物理的又は地理的障壁を考慮して、当該措置には防護地域を含むこともある。

ワクチン接種が、当該国の FMD の疫学に基づき、一定の動物種から構成される明瞭なサブ個体群のみを対象として決定される場合もあれば、全感受性個体群のその他の集合体も対象に含めることが決定される場合もある。

ワクチン接種 FMD 清浄国又は地域リストに入る資格を得るためには、加盟国は以下を満たすものとする。

- 1) 定期及び即時の動物疾病報告の記録を保持していること。
- 2) 当該予定 ~~FMD~~ 清浄国又は地域が、第 3 号に規定されるサーベイランスに基づき、以下の各号を満たしていることに関する宣言が OIE に送付されていること。
 - ~~a) 過去 2 年間、FMD の症例がないこと。~~
 - ~~b) 過去 12 か月間、FMDV 伝搬の証拠がないこと。~~
 - b) 過去 12 ヶ月間、FMD の臨床症状がある症例がないこと。
- 3) 以下の各号を満たしていることの証拠文書を提出すること。
 - a) FMD の臨床症状を摘発するためのサーベイランスが、第 8.8.40 条から第 8.8.42 条に従う過去 2 年間実施されており、~~FMD の臨床症状発見が無いこと及び以下の証拠がないことを立証がされているため、過去 2 年間実施されている~~こと。
 - i) 過去 2 年間 12 ヶ月にわたるワクチン非接種動物における FMDV 感染
 - ii) 過去 12 ヶ月間にわたるワクチン接種動物における FMDV 伝搬
 - b) 過去 2 年間 12 ヶ月間にわたり FMD を予防及び早期発見するための規制措置が実施されていること。
 - c) 過去 2 年間 12 ヶ月にわたり対象個体群における強制的な体系的ワクチン接種が実施され、適切なワクチン接種カバー率及び集団免疫獲得を達成していること。
 - d) 過去 2 年間 12 ヶ月にわたり、適切なワクチン株の選択を経たワクチン接種が実

施されていること。

- 4) 過去 12 ヶ月、以下の各号について、詳細に記載され、文書化された証拠が適切に実行され、指揮されたことを提供されること。
- a) FMD 清浄地域の場合には、FMD 清浄申請する地域の境界線が確立され、効果的に監視されていること
 - b) それが当てはまる場合には、あらゆる防護地域の境界線及びバイオセキュリティ措置が確立され、効果的に監視されていること
 - c) FMD 清浄申請する国又は地域への FMDV の侵入を予防するためのシステム、とりわけ、第 8.8.8 条、第 8.8.9 条及び第 8.8.12 条に規定される措置が確立され、効果的に監視されていること
 - d) 感受性動物及びそれらの畜産物の FMD 清浄申請する国又は地域への移動の管理効果的に実施され、監視されていること。

当該加盟国又は清浄申請した地域は、第 1.6.6 条の規定に基づき提出された証拠が OIE に受理されてはじめて、ワクチン接種 FMD 清浄国又は地域リストに記載されることになる。

当該リストに引き続き記載されるためには、本条第 2 号、第 3 号及び第 4 号の情報が毎年再提出されることを必要とし、疫学的状況その他重要な事象（第 3 号の第 b 号及び第 4 号に関連するものを含む）の変化は、第 1.1 章の要件に従い、OIE に報告されるものとする。

ワクチン接種 FMD 清浄国又は地域の要件を満たす加盟国が、ワクチン非接種 FMD 清浄国又は地域へとそのステータスの変更を希望する場合には、あらかじめ OIE に対し、ワクチン接種中止の予定日を通知し、当該中止の 24 か月以内に新たなステータスを申請するものとする。当該国又は地域のステータスは、第 8.8.2 条の遵守が OIE によって承認されるまで従前のままである。新ステータスのための一連の申請書類が 24 か月以内に提出されない場合には、当該国又は地域のワクチン接種清浄としてのステータスは、一時停止する。当該国が、第 8.8.2 条の要件を遵守していない場合には、第 8.8.3 条を遵守している証拠が 3 か月以内に提出されるものとする。それが行われない場合には、当該ステータスは取り消されることになる。

ワクチン非接種 FMD 清浄国又は地域の要件を満たし、かつ OIE 認定されている加盟国が、ワクチン接種 FMD 清浄国又は地域へとステータスの変更を希望する場合は、第 1.6.6 条の質問票の構成に従った申請書及び計画を OIE に提出するものとする、ワクチン接種の開始希望日を示すものとする。当該国又は地域のワクチン非接種 FMD 清浄国又は地域としてのステータスは、申請書及び計画が OIE によって承認されるまで従前のままである。ワクチン接種清浄国として承認された後、すぐに当該国又は地域はワクチン接種を開始する。加盟国は 6 ヶ月以内に、この期間の間、第 8.8.3 条を遵守した証拠

を提出するものとする。それが行われない場合には、当該ステータスは取り消されることになる。

国又は地域が増加するリスク（ワクチン接種の適応を含む）への対応として第 4.43.6 条に基づき防護地域を定める必要がある場合、一度防護地域が OIE によって承認されれば、当該国または地域のそれ以外の区域の清浄性は変更されない。

ワクチン接種 FMD 清浄地域のステータスの申請を他のワクチン接種 FMD 清浄同一ステータスの地域と隣接する新たな清浄地域の申請を行う場合には、当該新地域を隣接地域と統合し、拡大した一つの地域になるか否かについて示すものとする。当該 2 地域が依然として分かれたまま置かれる場合には、分離された地域のステータスを維持するために適用される管理措置、並びに、とりわけ、個体識別、及び第 4.3 章に従う当該同一ステータス地域間の動物の移動管理に関する詳細を提出するものとする。

第 8.8.4 条

ワクチン非接種 FMD 清浄コンパートメント

ワクチン非接種 FMD 清浄コンパートメントは、FMD 清浄国若しくは地域又は汚染国若しくは地域のいずれにも設置することができる。そのようなコンパートメントを設定する場合には、第 4.34 章及び第 4.45 章の原則に従うものとする。FMD 清浄コンパートメントの感受性動物は、効果的なバイオセキュリティ管理システムプランの効果的な適用により、他の感受性動物から分離されるものとする。

ワクチン非接種 FMD 清浄コンパートメントを設定したい加盟国は、以下の各号を満たすものとする。

- 1) 定期及び即時の動物疾病報告の記録を所持しており、FMD 清浄ではない場合には、当該国又は地域の FMD の有病率、分布及び特性に関する理解を可能にする第 8.8.40 条から第 8.8.42 条に従い整備された FMD の公的管理プログラム及びサーベイランスシステムを保持していること。
- 2) 当該 FMD 清浄コンパートメントに関し、以下の各号を宣言していること。
 - a) 過去 12 か月間、FMD の症例がないこと。
 - b) 過去 12 か月間、FMDV 感染の証拠が検出されてい認められないこと。
 - c) FMD に対するワクチン接種が禁止されていること。
 - d) 過去 12 か月以内に FMD に対するワクチンの接種を受けた動物が当該コンパートメント内にいないこと。
 - e) 動物、精液、受精卵及び畜産物は、本章関連条に従う場合に限り、当該コンパートメントに導入することができる。

- f) 文書による証拠が、第 8.8.40 条から第 8.8.42 条に従うサーベイランスが運用されていることを示していること。
 - g) 第 4.1 章及び第 4.2 章に従い動物個体識別及びトレーサビリティシステムが整備されていること。
- 3) 以下の各号を詳細に記述すること。
- a) 当該コンパートメントの動物サブ個体群
 - b) 第 1 号に従い実施されたサーベイランスによって同定されたリスクを緩和するバイオセキュリティプラン

当該コンパートメントは獣医当局が承認するものとする。最初の承認は、過去バイオセキュリティプランの効果的な確立の 3 か月前から当該コンパートメントの半径 10 キロメートル以内に FMD の症例又は伝搬の発生がない場合にのみ与えられるものとする。

第 8.8.4bis. 条

ワクチン接種 FMD 清浄コンパートメント

ワクチン接種 FMD 清浄コンパートメントは、ワクチン接種清浄国若しくは地域又は汚染国若しくは地域のいずれにも設置することができる。そのようなコンパートメントを設定する場合には、第 4.34 章及び第 4.45 章の原則に従うものとする。FMD 清浄コンパートメントの感受性動物は、効果的なバイオセキュリティプランを適用することによって、他の感受性動物から分離されるものとする。

ワクチン接種 FMD 清浄コンパートメントを設定したい加盟国は、以下の各号を満たすものとする。

- 1) 定期及び即時の動物疾病報告の記録を所持しており、FMD 清浄ではない場合には、当該国又は地域の FMD の有病率、分布及び特性に関する理解を可能にする第 8.8.40 条から第 8.8.42 条に従い整備された FMD の公的管理プログラム及びサーベイランスシステムを有していること。
- 2) 当該ワクチン接種 FMD 清浄コンパートメントに関し、以下の各号を宣言していること。
 - a) 過去 12 か月間、FMD の症例がないこと。
 - b) 過去 12 か月間、FMDV の伝搬感染の証拠が認められないこと。
 - c) 適切なワクチン株の選択を含む、陸生マニュアルに記載されている基準に基づくワクチンを用いた、強制的かつ体系的なワクチン接種が実施されていること。ワクチン接種カバー率と集団免疫獲得が入念に監視されていること。

- d) 動物、精液、受精卵及び動物産物は、本章関連条に従う場合に限り、当該コンパートメントに導入することができる。
 - e) 文書による証拠が、第 8.8.40 条から第 8.8.42 条に従う臨床的、血清学的及びウイルス学的サーベイランスが高い精度で感染の初期段階を検出できるように、運用されていることを示していること。
 - f) 第 4.1 章及び第 4.2 章に従い動物個体識別及びトレーサビリティシステムが整備されていること。
- 3) 以下の各号を詳細に記述すること。
- a) 当該コンパートメントの動物サブ群体群
 - b) 第 1 号及びワクチン接種計画に従い実施されたサーベイランスによって同定されたリスクを緩和するバイオセキュリティプラン
 - c) 2 c)、2 e) 及び 2 f) に規定する事項の実施状況

当該コンパートメントは獣医当局が承認するものとする。最初の承認は、過去バイオセキュリティプランの効果的な設定の 3 か月前から当該コンパートメントの半径 10 キロメートル以内に FMD の症例又は伝搬の発生がない場合にのみ与えられるものとする。

第 8.8.5 条

FMD 汚染国又は地域

本章においては、FMD 汚染国又は地域は、ワクチン非接種 FMD 清浄又はワクチン接種 FMD 清浄の資格を得る要件を満たさない国又は地域である。

第 8.8.6 条

FMD 清浄国又は地域内の封じ込め地域の設定

ワクチン接種の有無にかかわらず、FMD 清浄であった国又は地域内（防護地域内を含む）に限定的な発生があった場合には、国又は地域の全域に対する影響を最小限に抑える目的で、第 4.4.7 条に準じて、すべての疫学的に関連した発生を包含する単一の封じ込め地域を設定することができる。

これを達成し、当該加盟国がこのプロセスによる利点を十分に享受するために、獣医当局は第 4.4.7 条の要件に加え、可能な限りすみやかに、OIE に対し、当該申請を裏付ける以下の各号に関する文書化された証拠を提出するものとする。

- 1) 疑いの時点において、発生の疑われる当該飼育施設に対し、厳格な移動停止が課され、当該国又は地域に対しては、動物の移動管理が課され、本章に言及される他の物品の移動の効果的な管理が行われていること。

2) 確定時点においては、当該封じ込め地域全域に対し、感受性動物の追加的な移動停止が課され、第 1 号に述べられる移動管理が強化されていること。

~~3) 疫学調査（川上及び川下の調査）によって、当該発生が疫学的に関連しており、発生数及び地理的分布が限定的であることを立証された後に、当該封じ込め地域の確定境界が設定されていること。~~

34) 考え得る当該発生の感染源に関する調査が実施されていること。

~~5) 緊急ワクチン接種の活用の有無にかかわらず、掃蕩淘汰政策が適用されていること。~~

~~6) 最終発見症例に対するスタンピングアウト政策の適用後、第 8.8.1 条に規定される潜伏期間の最短でも 2 倍の期間内に、当該封じ込め地域内に新たな症例が認められないこと。~~

~~7) 当該封じ込め地域内の感受性家畜及び飼育野生動物個体群が、当該封じ込め地域に属していると明瞭に同定されていること。~~

48) 第 8.8.40 条から第 8.8.42 条に従うサーベイランスが、当該封じ込め地域及び当該国又は地域の他の区域内で行われていること。

59) 物理的及び地理的障壁を考慮した、当該国又は地域の他の区域への FMDV のまん延を予防する措置が行われていること。

~~当該封じ込め地域の外側の区域の清浄ステータスは、当該封じ込め地域が設定されつつある間、一時停止する。当該封じ込め地域の外側の区域の清浄ステータスは、当該封じ込め地域が本条第 1 号から第 59 号を遵守していると OIE が承認してはじめて、第 8.8.7 条の規定にかかわらず、回復することができる。感受性動物に由来する国際貿易用物品は、当該封じ込め地域の内外によらず、その原産地が同定されるものとする。~~

第 4.4.7 条の 4a) 項に準じて設定された当該封じ込め地域内で、ワクチン非接種動物における FMDV の感染又はワクチン接種動物における FMDV の伝搬の再発があった場合には、当該封じ込め地域の承認は取り消され、当該国又は地域全域の FMD ステータスは、第 8.8.7 条の関連要件が満たされるまで一時停止する。

第 4.4.7 条の 4a) 項に準じて設定された当該封じ込め地域内で、ワクチン非接種動物における FMDV の感染又はワクチン接種動物における FMDV の伝搬があった場合には、当該封じ込め地域の承認は取り消され、当該国又は地域全域のステータスは、第 8.8.7 条の関連要件が満たされるまで一時停止する。

当該封じ込め地域の FMD 清浄ステータスの回復は、その承認後 12 か月以内に達成され、第 8.8.7 条の規定に従うものとする。

第 8.8.7 条

清浄ステータスの回復 ~~(図 1 及び図 2 を参照)~~

- 1) ワクチン非接種で FMD 清浄であった国又は地域で FMD の症例が発生した場合には、以下の各号の待機期間のいずれかひとつが、その清浄ステータスの回復には必要である。
 - a) 緊急ワクチン接種を伴わないスタンピングアウト政策及びサーベイランスが第 8.8.40 条から第 8.8.42 条に従い適用される場合には、最後の殺処分動物の処分後 3 か月
 - b) スタンピングアウト政策、緊急ワクチン接種及び第 8.8.40 条から第 8.8.42 条に従うサーベイランスが適用される場合には、最後の殺処分動物の処分又はすべてのワクチン接種動物のと畜のうちいずれか遅い方から 3 か月
 - c) スタンピングアウト政策、事後のと畜を伴わないすべてのワクチン接種動物に対する緊急ワクチン接種及び第 8.8.40 条から第 8.8.42 条に従うサーベイランスが適用される場合には、最後の殺処分動物の処分又は最終ワクチン接種のうちいずれか遅い方から 6 か月。ただし、これには、~~残された~~ワクチン接種個体群に~~感染の証拠伝搬~~がない旨立証する、FMDV 非構造タンパク質の抗体検出に基づく血清学的調査を必要とする。~~血清学的調査及び、全てのワクチン接種された反芻動物とワクチン接種されていないこれらの子、また、他の FMD 感受性動物種を代表する数の抽出による全てのワクチン接種された群における非構造タンパク質に対する抗体の血清サーベイランスにより、ワクチン接種の効果が立証されれば、国がワクチン非接種個体群における感染のないこと及び第 8.8.40 条の第 7 項の規定に基づき緊急ワクチン接種個体群における伝搬がないことを立証する十分な証拠が提出できるのであれば、この期間は最低 3 ヶ月に短縮することができる。~~

当該国又は地域は、第 1.6.6 条の規定に基づき提出された証拠が OIE に受理されてはじめて、~~ワクチン非接種~~ FMD 清浄国又は地域のステータスを回復することになる。

第 1 号の第 a 号から第 c 号の期間は、動物学的コレクションの公的緊急ワクチン接種が第 8.8.2 条の関連規定に従い実施された場合には、影響を受けない。

スタンピングアウト政策が実施されない場合には、本項の待機期間は適用されず、第 8.8.2 条が適用される。

- 2) ワクチン非接種 FMD 清浄であった国又は地域で FMD 症例が発生した場合には、以下の待機期間が、ワクチン接種 FMD 清浄国又は地域のステータスの取得には必要である。摘発淘汰政策が適用され、継続的なワクチン接種政策が採用されている場合であって、サーベイランスが第 8.8.40 条から第 8.8.42 条に従い適用され、FMDV

非構造タンパク質に対する抗体検出に基づいた血清学的調査によって FMDV 伝搬の証拠がない旨立証しているときには、最後の殺処分動物の処分後 6 か月

当該国又は地域は、第 1.6.6 条の規定に基づき提出された証拠が OIE に受理されてはじめて、ワクチン接種 FMD 清浄国又は地域のステータスを取得することになる。

スタンピングアウト政策が実施されない場合には、本項の待機期間は適用されず、第 8.8.3 条が適用される。

- 3) ワクチン接種 FMD 清浄だった国又は地域で FMDV 感染例が発生した場合には、以下の各号の待機期間のいずれかひとつが、その清浄ステータスの回復には必要である。
 - a) 緊急ワクチン接種を伴うスタンピングアウト政策及び第 8.8.40 条から第 8.8.42 条に従うサーベイランスが適用される場合であって、FMDV 非構造タンパク質に対する抗体検出に基づいた血清学的調査によってウイルス伝搬の証拠がない旨立証しているときには、最後の殺処分動物の処分後 6 か月。この期間は国がワクチン非接種個体群における感染のないこと及び第 8.8.40 条の第 7 項及び第 8 項の規定に基づき緊急ワクチン接種個体群における伝搬がないことを立証する有効な証拠が提出することが可能なら、この期間は最低 3 ヶ月に短縮することができる。
 - b) スタンピングアウト政策が適用されないものの、緊急ワクチン接種及び第 8.8.40 条から第 8.8.42 条に従うサーベイランスが適用される場合であって、FMDV 非構造タンパク質に対する抗体検出に基づいた血清学的調査によってウイルス伝搬の証拠がない旨立証しているときには、最終症例の摘発後 12 か月

当該国又は地域は、第 1.6.6 条の規定に基づき提出された証拠が OIE に受理されてはじめて、ワクチン接種 FMD 清浄国又は地域のステータスを回復することになる。

緊急ワクチン接種が適用されない場合には、本項の待機期間は適用されず、第 8.8.3 条が適用される。

~~当該国又は地域は、第 1.6.6 条の規定に基づき提出された証拠が OIE に受理されてはじめて、ワクチン接種 FMD 清浄国又は地域のステータスを回復することになる。~~

- 4) FMD 清浄コンパートメントで FMDV 感染例が発生した場合には、第 8.8.4 条または第 8.8.4bis 条が適用される。
- 5) ステータスを回復しようとする加盟国は、当該ステータスの回復のための関連要件が満たされてはじめて、その申請をするものとする。封じ込め地域が設定された場合には、当該封じ込め地域内の制限は、当該封じ込め地域内の当該疾病の根絶が成功してはじめて、本条の要件に従い解除されるものとする。

一時停止後 24 か月以内に回復の申請をしない加盟国に対しては、第 8.8.2 条、第

8.8.3 条又は第 8.8.4 条が適用される。

第 8.8.8 条

清浄地域（ワクチン接種又は非接種のもの）におけると畜を目的とする FMD 感受性動物の汚染地域からの直接輸送

FMD 感受性動物は、清浄地域のステータスを危険にさらさないため、直近の指定と畜場/食肉処理場でと畜することを目的として以下の各号の条件の下で直接輸送される場合に限り、汚染地域を離れるものとする。

- 1) 移動前少なくとも 30 日間、FMD 感受性動物が原産地の飼育施設に導入されたことがなく、当該原産飼育施設の動物で、FMD の臨床症状を呈したものがいないこと。
- 2) 移動前少なくとも 30 日間、当該動物が当該原産飼育施設で飼育されていたこと。
- 3) 移動前少なくとも 4 週間、当該原産飼育施設の半径 10 キロメートル以内に FMD の発生がなかったこと。
- 4) 当該動物が、積載前に洗浄及び消毒された輸送手段によって、獣医当局の監督下において、途中他の感受性動物と接触することなく、当該原産飼育施設から当該と畜場/食肉処理場まで直接輸送されること。
- 5) 当該汚染地域からの動物の肉を取り扱っている間、そのと畜場/食肉処理場からの、生鮮肉の輸出が承認されないこと。
- 6) 車両及びと畜場/食肉処理場は、使用後直ちに徹底した洗浄及び消毒を受けること。

当該動物は、と畜前及びと畜後 24 時間以内に、と畜前及びと畜後の検査を受けて、FMD の証拠がなく、それに由来する肉は、第 8.8.22 条又は第 8.8.23 条の第 2 号に従い処理されるものとする。当該動物由来のその他の産物及びそれらと接触したあらゆる産物は、存在するおそれのある FMDV を殺滅するため第 8.8.31 条から第 8.8.38 条に従い処理されるものとする。

第 8.8.9 条

清浄地域（ワクチン接種又は非接種のもの）におけると畜を目的とする FMD 感受性動物の封じ込め地域からの直接輸送

FMD 感受性動物は、清浄地域のステータスを危険にさらさないため、直近の指定と畜場/食肉処理場でと畜することを目的として以下の各号の条件の下で直接輸送される場合に限り、封じ込め地域を離れるものとする。

- 1) 当該封じ込め地域は、第 8.8.6 条の要件に従い公式に設定されていること。
- 2) 当該動物が、積載前に浄化及び消毒された輸送機関によって、獣医当局の監督下に

において、途中他の感受性動物と接触することなく、当該原産飼育施設から当該と畜場/食肉処理場まで直接輸送されること。

- 3) 当該封じ込め地域からの動物の肉を取り扱っている間、そのと畜場/食肉処理場が、生鮮肉の輸出が承認されないこと。
- 4) 車両及び当該と畜場/食肉処理場が、使用後直ちに徹底した洗浄及び消毒を受けること。

当該動物は、と畜前及びと畜後 24 時間以内に、と畜前及びと畜後の検査を受けて、FMD の証拠がなく、それに由来する肉は、第 8.8.22 条又は第 8.8.23 条の第 2 号に従い処理されるものとする。当該動物由来のその他の産物及びそれらと接触したあらゆる産物は、存在するおそれのある FMDV を殺滅するため第 8.8.31 条から第 8.8.38 条に従い処理されるものとする。

第 8.8.9bis 条

ワクチン非接種清浄地域におけると畜を目的とする、FMD ワクチン接種動物のワクチン接種または非接種清浄地域からの直接輸送

ワクチン非接種清浄地域のステータスを危険にさらさないため、ワクチン接種動物は、直近の指定と畜場/食肉処理場でと畜されることを目的として以下の各号の条件の下で直接輸送される場合に限り、清浄地域から出られるものとする。

- 1) 当該動物の出発元飼育施設において、少なくとも移動の 30 日前から FMD の臨床徴候を示している動物がいないこと
- 2) 当該動物が少なくとも移動の 3 か月前から当該国又は地域内で飼養されていること
- 3) 車両内での当該動物は、獣医当局の監督下におかれること。また、当該動物の出発元飼育施設から直近の指定と畜場/食肉処理場まで直接輸送されること。
- 4) 汚染地域を経由する場合には、当該動物は、発送場所までの輸送の間、FMDV の感染源に暴露しなかったこと。

第 8.8.10 条

ワクチン非接種 FMD 清浄国、若しくは地域又はコンパートメントからの輸入に関する勧告

FMD 感受性動物の輸入

獣医当局は、当該動物が以下の各号を満たす旨証明する国際動物衛生証明書の提示を義務付けるものとする。

- 1) 発送日に FMD の臨床症状を呈していなかったこと。

- 2) 誕生以来又は少なくとも過去 3 か月間、ワクチン非接種 FMD 清浄国、若しくは地域又は FMD 清浄コンパートメントで飼育されていたこと。
- 3) 汚染地域を経由する場合には、発送場所までの輸送の間、FMDV の感染源に暴露しなかったこと。
- 4) 過去にワクチンを接種した場合には第 8.8.11 条の第 4 号を遵守すること。

第 8.8.11 条

ワクチン接種 FMD 清浄国、又は地域又はコンパートメントからの輸入に関する勧告

家畜反芻動物及び豚の輸入

獣医当局は、当該動物が以下の各号を満たす旨証明する国際動物衛生証明書の提示を義務付けるものとする。

- 1) 発送日に FMD の臨床症状を呈していなかったこと。
- 2) 誕生以来又は少なくとも過去 3 か月間、ワクチン接種 FMD 清浄国、又は地域又はコンパートメントで飼育されていたこと。
- 3) ワクチンが接種されていない場合、 発送前 14 日以内に採取された検体を用いた FMD のウイルス学的及び血清学的検査を受けて、陰性の結果であること。
- 4) ワクチンが接種されている場合、 発送前 14 日以上以内に採取された検体を用いたウイルス学的及び非構造タンパク検出血清学的検査を受けて、陰性の結果であること
- 5) 汚染地域を経由する場合には、 発送場所までの輸送の間、FMDV の感染源に暴露しなかったこと。

第 8.8.11bis 条

ワクチン接種清浄国、地域又はコンパートメントからの輸入に関する勧告

と畜を目的としたワクチン接種動物の輸入

輸入国の獣医当局は、以下の各号を満たす旨証明する国際動物衛生証明書の提示を義務付けるものとする。

- 1) 当該動物が発送日の少なくとも 30 日前から、当該原産飼育施設において FMD の臨床症状を示していないこと。
- 2) 当該動物が誕生以来又は少なくとも過去 3 か月間、当該国、地域又はコンパートメントで飼育されていたこと。

- 3) 当該動物が当該原産飼育施設から密閉された車両/船舶で獣医当局の監督の下に輸送されること。
- 4) 汚染地域を経由する場合には、当該動物が発送場所までの輸送の間、FMDV の感染源に暴露しなかったこと

第 8.8.12 条

公的管理プログラムが存在する FMD 汚染国又は地域からの輸入に関する勧告

家畜反芻動物及び豚の輸入

獣医当局は、以下の各号を満たす旨証明する国際動物衛生証明書の提示を義務付けるものとする。

- 1) 当該動物が、発送日に FMD の臨床症状を呈していなかったこと。
- 2) 豚が第 8.8.31bis 条を遵守していない残飯を給餌されていないこと。
- 32) 隔離されるまでの以下の各号のいずれかの期間、当該動物が当該原産飼育施設に飼育されていたこと。
 - a) 輸出国又は地域でスタンピング政策が FMD の制御に適用されている場合には、30 日間、又は 30 日齢より若いときには誕生以来
 - b) 輸出国又は地域でスタンピングアウト政策が FMD の制御に適用されていない場合には、3 か月間、又は 3 か月齢より若いときには誕生以来
- 43) 当該原産飼育施設が公的管理プログラムの対象であって、本条第 2 号の第 a 号及び第 b 号に定める相当期間、当該原産飼育施設内に FMD の発生がないこと。
- 54) 当該動物が、発送前 30 日間、ひとつの飼育施設内で隔離され、隔離中のすべての動物が、隔離期間開始後少なくとも 28 日の時点で採取された試料に関し、FMDV の証拠を求めるウイルス学的及び血清学的診断検査を受けて、陰性の結果であり、当該期間中当該飼育施設の半径 10 キロメートル以内に FMD の発生がなかった又は当該飼育施設が動物検疫所であること。
- 65) 当該動物が、当該飼育施設から発送場所までの輸送の間、FMDV の感染源に暴露しなかったこと。

~~第 8.8.13 条~~

~~ワクチン非接種 FMD 清浄国若しくは地域又は FMD 清浄コンパートメントからの輸入に関する勧告~~

~~家畜反芻動物及び豚の非冷凍精液の輸入~~