Public Consultation for Australian Animal Welfare Standards and Guidelines- Poultry RIS Questions

Specific public consultation questions related to the Regulation Impact Statement (RIS) have been drafted by the independent RIS consultants and approved by the Office of Best Practice (OBPR). These questions **are located throughout the main body of the RIS and have been extracted below for your convenience.**

Views and advice are sought in providing information or data that would further assist in the assessment of the impacts (costs and benefits) expected under each of the RIS options/variations. The questions are requests for additional information, requests for reader opinions or value judgements, and requests related to the selection of a preferred option or group of options.

Q1, Q4, Q6 and Q17 are requests for additional information about the problems addressed by this Consultation RIS, to inform the subsequent Decision RIS.

Q2, Q3, Q5, Q7 and Q8 are requests for reader opinions or value judgements about the problems addressed by this Consultation RIS.

Q9, Q10, Q11, Q12, Q13, Q14, Q15 are requests related to the selection of a preferred option or group of options.

Please note: The questions are optional and don't have to be answered to make a submission, you can do this separately or in conjunction with answering all or some of the below questions. It is suggested you have a copy of the RIS in front of you whilst answering the below questions to help with context.

Public consultation questions on the Poultry Welfare Standards Regulation Impact Statement, drafted by the independent RIS consultants and approved by the Office of Best Practice.

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RIS PUBLIC CONSULTATION QUESTIONS

Date: February 26, 2018

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The Australasian Veterinary Poultry Association (AVPA) has a wide membership of Australian and New Zealand poultry veterinarians and also those with an interest in poultry health and science. Poultry scientists and researchers, who may or may not be veterinarians, are also active members of the Association.

This submission on behalf of the AVPA has been prepared by a subcommittee consisting of experienced poultry veterinarians and poultry welfare scientists. A recent opinion poll to understand the views of the broader AVPA membership was also conducted to inform this submission. The AVPA Executive has elected to include some of the results of the opinion poll in the submission to support responses, only where consensus could not be reached within the subcommittee.

AVPA is well positioned to comment on the scientific justification for the proposed new Australian Animal Welfare Standards and Guidelines for Poultry. However, the AVPA does not attempt to understand community expectations or represent the views of the broader community in this submission.

It is important to recognise the critical role of veterinarians with respect to ensuring that poultry welfare is maintained and safeguarded. Therefore, it is the view of the AVPA that veterinary advice must be sought preventatively, and in cases where welfare issues arise, and that the role of the veterinarian should be strengthened in the proposed new Welfare Standards and Guidelines.

Overall comments on the RIS

RIS location - 2.3.1 Risks to animal welfare

1. Do you agree with the summary list of advantages and disadvantages of layer hen farming systems in Part 2.3.1?

☒ No ☐ Yes Comments:
Suppositions and generalisations have been made about all types of production systems and the summary points have not been scientifically referenced to substantiate their accuracy. Furthermore, there are many types of caged systems (single tier, multi-tier, conventional, furnished/enriched and colony cages) as well as different types of free range (intensive and extensive) and barn systems (eg. barns with or without a scratch area, aviary systems and barns with verandahs). There may be inherent differences within the broader production systems reviewed with respect to all of the categories and points for consideration.

Caged Farming Systems

1. The advantages and disadvantages of colony cages and enriched or furnished cages were not specifically included in the scientific review or the RIS. These alternative caged systems, which may not have been adopted in Australia but have been adopted overseas, may reflect negatively on the thoroughness and completeness of the Australian Welfare Standards and Guidelines scientific review and the RIS. Furnished cages are briefly mentioned in the summary table. For example, a disadvantage of barn farming systems is "poorer air quality from dust in litter-based systems (floor housing and aviary) compared with furnished cages". Therefore, the assumption could be made that the advantages and disadvantages of caged systems summary list is designed to encompass all types of caged systems and this is considered simplistic with respect to animal welfare when furnished cages are a proposed option in the RIS.
2. A further example of where oversimplification of the advantages and disadvantages, based on a very broad production system classification, is the advantage listed under caged farming systems that cages are the "**easiest system for inspecting individual hens**". Whilst this may be the case for single-tier, this would be inaccurate for high-rise caged systems. The hens on the higher and lower tiers and at the back of high-rise systems are likely to be more difficult to inspect individually and on a daily basis than hens in non-caged systems. Furthermore, the quality of the inspection will vary and be dependent on the different diseases and clinical signs. Whilst some cage systems may allow for a better inspection of the head, comb and upper body, abnormalities associated with gait, the lower body or varying levels of paralysis may be better identified in non-cage systems.

Advantages

3. The "**reliable provision of feed and water**" is listed as an advantage for caged systems. This advantage should not be restricted to cage and barn systems but should be an advantage of all systems. Management failures could impact on the reliability of feed and water supply in all systems but the impact of the failure will be a product of the flock size and the duration of time that the feed and/or water supply was interrupted. It is assumed that this advantage is included in contrast to free range systems, where negative implications for animal welfare could occur as a result of birds eating material from the range area, diluting the nutrient value of their formulated feed. However, the implications for welfare may not be restricted to negative implications in the case of free range. For example, the ingestion grit or larger particles may aid gizzard development, as demonstrated in free range broiler research by Durali *et al.* (2014). This has also been demonstrated in layer chickens (Svihus, 2012). In the same paper, it was hypothesized that ingestion of materials on the range could also improve retention time in the crop, and thus potentially improve efficacy of the digestion process.
4. "**Efficient management of adverse weather risk, temperature and ventilation (provided appropriate and functioning equipment is used)**" is listed as an advantage of caged farming systems. Successful management

of environmental conditions is variable and will depend on the facilities and infrastructure of all production system categories. It is a generalisation that caged farms have more efficient management in the case of adverse weather conditions. Whilst newer, high-rise caged systems may require tunnel ventilation to maintain the thermal comfort of birds, older sheds without tunnel ventilation are still utilised to house birds in cages. Management of adverse weather risk is not mentioned in the barn category. Theoretically, if birds are housed in any indoor system, these farms will also be capable of effectively managing temperature either by tunnel ventilation or by an alternative system.

Importantly, the reliance on more complex systems for environmental control may be problematic, or a disadvantage, in the case of extreme weather conditions or natural disasters. Power, alarm failure or generator failures may result in severe consequences for animal welfare. This risk is not limited to caged systems.

Disadvantages

5. "**If disease occurs, it can spread faster in high density systems such as cages**" is listed as a disadvantage of caged housing systems. Disease may spread faster with higher densities due to the high number of birds and increased pathogen shedding. However, the rate of transmission will also depend on the particular pathogen and its route of transmission (eg. faecal-oral, respiratory etc.). Disease in general may spread faster in non-caged housing systems where all birds have increased opportunity for contact, co-mingling and increased contact with faeces. With a limited number of birds housed in each cage, the opportunities for bird-to-bird contact are minimised and spread is generally slower. However, the most important factor with respect to disease transmission is how quickly the disease spreads between units or between farms.
6. "**A greater risk of leg weakness and bone fractures is found in conventional cages**". More specifically, osteoporosis and cage layer fatigue may occur when hens are housed in cages (Lay *et al.* 2011). Fatty Liver Haemorrhagic Syndrome, a metabolic disorder, may also be more prominent in hens in cages and result in mortality and production losses (Shini and Bryden, 2009).

<u>Barn Systems</u>

Advantages

7. An advantage of barn systems is that "**hens prefer nesting in barns than outdoors because they are darker and more secluded**". If hens prefer to nest in the dark, this could also be linked to caged farming systems, where hens may prefer to lay eggs in an indoor, often darkened environment in comparison to free range. This summary point is likely related to the provision of nests and the hens' motivation to access a nest, rather than the darkness of the environment, which may be more conducive to nesting.
8. "**Perches improve leg bone strength**" is quoted as an advantage of barn housing systems. This would be more appropriately phrased "perches, if included, improve leg bone strength", as the inclusion of perches in barn systems is not currently a mandatory requirement. However, if a scratch

area is provided, birds will often be required to jump up onto a slatted area to access feed, water and the nest boxes. As a disadvantage of this, jumping from perches onto slatted floor areas can be associated with keel and leg injuries. Perches may also be provided in furnished cages. Furthermore, the positive effects of perches with respect to welfare will be also related to the perch design and their availability rather than their presence alone.

Disadvantages

9. Barn systems are reported to be the **'hardest to inspect hens because of high density and hens keep moving'**. See comments under ease of inspection in cage systems. It can be an advantage of non-caged systems that the hens are moving because this allows any health or behavioural issues, particularly those associated with illness or poor mobility, to be easily identified.
10. **'Pecking orders'** are reported to be **'less stable than in cages'.** This statement may simplify the complex issue of social structure relating to flock size. There is evidence that large groups (groups of 120, compared to 10) do not establish a pecking order, rather their social system is based on signaling (ie. Bigger combs and heavier body weights) than recognizing individuals and the hierarchy established by aggressive interactions (D'Eath & Keeling, 2003). The authors of this study observed a reduction in aggressive interactions between hens in larger group sizes. The fact that pecking orders are less stable could be an advantage of larger groups, as hens may not establish such a social structure. There will be other contributing factors relating to higher incidence of feather pecking and cannibalism in non-caged systems, such as the difficulty associated with controlling light intensity in some barns and all free range systems.
11. "**Poorer air quality from dust in litter-based systems (floor housing and aviary) compared with furnished cages**" is listed as a disadvantage under the barn systems category and also referred to within the free range farming section. Data has shown that the amount of dust generated is generally higher in non-caged compared to caged systems (Just *et al.* 2009). Aside from dust, endotoxin exposure may also be relevant to this aspect. Higher endotoxin concentrations within cage housing environments have been demonstrated (Just *et al.* 2009). Also differences in symptoms have been observed between workers in caged and non-caged farming environments with acute and chronic phlegm occurring more frequently in workers from caged production farms (Just *et al*., 2009). The author of this study commented that observations of higher total dust concentrations in non-caged production environments are not in agreement with the observations of greater respiratory dysfunction experienced by workers in caged-housing systems.

    Another important aspect to consider is the flock size and the time that personnel spend inside sheds in different systems. Given that the majority of free range farms are small farms, dust levels may be more reflective of the flock size and the concentration of animals in the same area in addition to the time spent in the sheds or with the birds. The WHS considerations may be more complex than simple observations with respect to the dust levels.

Free Range Systems

Advantages

1. The **'highest freedom to express natural behaviours'** is listed as an advantage of free range systems. Whether birds are able to express natural behaviours may be more related to resources than the housing system *per se*. There is a distinction between behavioural needs and behavioural wants and natural behaviours that would warrant further exploration in this area.
2. Free range systems are reported to have the **'lowest risk of overcrowding and smothering'**. The risk of smothering will depend on the number of birds per unit. There is evidence that smothering can be related to panic or the provision of attractive resources, such as pecking stimuli or nest boxes (Riber, 2010, Campbell *et al.*, 2016) and has also been correlated with ranging on sunny days (Rayner *et al.*, 2016). Therefore, the summary point may be inaccurate, as the risk of smothering is not only based on the housing system.

Disadvantages

3. The "**cost of eradication of emergency diseases**" is listed as a disadvantage under free range systems. This is problematic given that the majority of Avian Influenza outbreaks in Australia and overseas have been in indoor commercial flocks and all outbreaks of Newcastle Disease in Australia have been in indoor flocks. Therefore, proportionately, the highest costs of emergency disease eradication have not been associated with free range flocks. Furthermore, most free range farms in Australia are small and Highly Pathogenic Avian Influenza has not been identified in flocks with fewer than 17,000 birds. The likelihood of farms being infected and diagnosed with an emergency disease has not been considered. The operational costs associated with eradicating an emergency disease will be dependent on the flock and farm size, farm location and facilities and is not a direct association with the production system. There may also be additional costs associated with cleaning and disinfection of cages compared to barn sheds.
4. "**Difficulty in cleaning range area between flocks thus leading to a buildup of pathogens in the environment**" is listed as a disadvantage of free range farming systems. This is true practically, as range areas cannot be easily cleaned. However, UV light can also act as a method of sterilization of the outdoor area. Complexity may be added to this comparison and to others in the summary list, including the difficulty of cleaning caged systems, or additionally, whether farms are multi-age or may not be completely de-populated to allow effective cleaning and sanitation. The likelihood of pathogen carryover between flocks is a much more complicated area to assess and this point alone may lead to erroneous conclusions being drawn.
5. Please refer to other comments relating to ease of inspection in non-caged versus caged systems
6. "**Exposure to severe environmental conditions, or alternatively restriction to indoors in inclement weather which causes stress to birds because of changes in their daily routines**" is listed as a disadvantage of

free range systems. The wording of this statement is considered problematic, as it is likely that free range hens will choose to stay indoors during periods where the weather may not be conducive to ranging. It is unknown whether stress is caused when hens choose not to venture outdoors. However, it is accepted that stress is caused if daily routines in the case of ranging are changed and access to the range is restricted for any reason. This is supported by research by Campbell *et al* (2017). In this study, there were higher corticosterone concentrations in eggs from birds that had been restricted from accessing the range for a 2-day period. Hens that had been provided with enrichment during rearing did not demonstrate the same increase. Furthermore, the impacts of extreme weather events may not only impact birds in free range housing systems. Dr Ruhnke (2015) stated that Australian farmers are frequently exposed to extreme droughts, heat waves and bushfires. The latest flooding event on the east coast of Australia occurred in March 2015. Farmers were required to rely on autonomous power sources and helicopter feed deliveries for days and significant bird losses occurred. The impacts were not restricted to free range or barn flocks.

All Systems - Food Safety

7. Caged farming systems are claimed to produce the "**cleanest and safest eggs for consumption**". The science with respect to food safety does not entirely support the conclusion reached. Whilst the premise that caged eggs are the cleanest eggs may be factual, the science relating to the food safety aspects is contradictory. In a comprehensive review by Holt *et al*. (2011), the conclusion was that "there is no general consensus demonstrating the superiority of one housing situation over another regarding food safety and egg quality". Furthermore, a study cited by Nicol *et al*. (2017) identified conventional caged housing as a specific risk factor for *Salmonella* shedding. This has been confirmed in surveys conducted in Queensland in 2014 and 2015 and NSW in 2013. In the NSW survey, single tier cage farms had the lowest *Salmonella* prevalence (10%), followed by free range farms with moveable sheds (34%), free range (50%), multi-tier cage (100%) and barn (100%).
8. With respect to food safety, the assertion is also made in the RIS that there are differences as to whether an "**egg washing machine is required**" based on the production system. Caged eggs may be the cleanest and may be less likely to require washing. However, the assertion that free range eggs require an egg washing machine is inconsistent with Australian Standards and what occurs overseas, particularly in the European Union where despite a relatively higher percentage of free range and barn reared flocks, washing of A-grade eggs is prohibited. In the United States, all eggs sold must be washed. This is not dependent on the production system. The FSANZ Primary Production and Processing of Eggs and Egg Products, introduced in Australia in 2014, do not require free range eggs to be washed. The requirement of some fast-food restaurants to source eggs that have been washed is not related to the production system. Furthermore, NSW Food Authority guidelines developed in order to ensure compliance with the Egg Food Safety Scheme of Food Regulation

(NSW Food Authority, 2017) states that "eggs that are only slightly dirty can be cleaned or rubbed with an egg brush, paper towel, sanding sponge or plastic scourer with a gentle rubbing action. Dirty eggs with mud or faeces that cannot be removed easily using this method should be separated from clean eggs and/or disposed of". There is no requirement to wash eggs from any production system.

9. The inclusion of these comments relating to food safety, which could be viewed as misleading, are likely to be of public concern and may create significant fear or heightened concern. This is likely to have a direct influence on community choices in response to the RIS.

Do you think that any advantages and disadvantages are missing from this list? If so, please include them below.

☐ No ☒ Yes Comments:

1. There is no mention of foot or claw health in any system. The research would appear to support foot health as being improved in conventional and furnished cages when compared to non-caged systems. However, claw health may be worse in caged systems, if hens are not provided with scratch pads (Lay *et al.* 2011). Differences in foot and claw health between conventional and enriched cages should also be considered and may warrant further differentiation of caged systems based on their outcomes for animal welfare. Hyperkeratosis can occur on the toes and footpads of caged hens at a higher frequency than in non-caged systems (Lay *et al.* 2011). The load on the toe or footpad of hens on wire floors of the cage as well as the slope of the cage floor may contribute.

1. Keel bone fractures, linked predominately to perching in non-caged systems and aviary systems, have not been mentioned. These should also be considered in addition to leg weakness and bone fracture listed under disadvantages of caged systems.

2. The lower incidence of endoparasites is missing from the list of advantages for caged housing systems.

3. Free-range systems are listed as having the "**highest level of disease because of the lowest level of biosecurity**". However, the levels of disease are unlikely to be related only to biosecurity. Furthermore, it is not only the level of disease but the diseases present that are different between systems and may have different consequences for welfare and production. A study from Sweden (Fossum *et al.*, 2009) assessed common causes of hen mortality in different housing systems. This study demonstrated a higher occurrence of bacterial and parasitic diseases and cannibalism in laying hens housed in indoor litter-based housing systems than those kept in cages. This study only captured mortality in different systems in Sweden at one point in time and there is considered to be a lack of Australian research to substantiate that causes of mortality are the same. In Australia, there are bacterial diseases that are considered to present a much greater issue for bird health and welfare in non-caged

housing systems compared to caged systems. For example, Spotty Liver Disease and Fowl Cholera occur more prominently in non-caged systems. Both diseases frequently result in very high mortality and considerable production losses. Vaccination in the case of Fowl Cholera may effectively control the disease. However, response is variable and in some cases the disease may still cause production losses and be difficult to control.

4. Relating to the above point, there may also be differences in the quantities of prescription antibiotics required to control diseases in caged versus non-caged housing systems. Australian usage information and comparisons between housing systems is not readily available. However, it can be reasonably assumed that increased presence of bacterial diseases in non-caged housing systems will require increased antibiotic use to treat these diseases.

5. An advantage of caged systems is that they are highly automated and generally self-sufficient. A person may not require the same level of stockmanship or animal husbandry skills to successfully manage hens in cages.

6. The identification of mortalities and ease of removing them has not been considered in the summary list. Frequent identification and prompt removal of mortalities is likely to be difficult and may be compromised in high-rise caged systems when compared to single or fewer tier systems and also in non-caged systems. This may also lead to some mortalities not being readily identified on the bottom and upper cages and removed promptly. The position of the mortalities in the cage may also impair the hens' ability to access to feed and water easily depending on the internal design of the cage. There may also be WHS issues associated with removal of mortalities in all systems. Opening of cages or bending down to access the lower tiers to remove mortalities may create similar issues akin to mortality collection and floor egg collection in barn and free range systems.

7. The impact of the rearing environment on welfare has not been considered. The advantages and disadvantages of the different production systems may vary depending on how the birds have been reared. It should be noted in this document that the assumption has been made that birds were reared in similar environments or under similar conditions.

8. With respect to the summary of the environmental assessment and comparison between systems, there is little consideration given to any environmental impacts other than nutrient run-off to waterways. Nutrient run-off is dependent on waste management, flock management, stocking density and the topography of the land in the case of free range. A thorough evaluation of environmental impacts should be completed, as this is a significant consideration with respect to the aims of the RIS. A comparison of the systems with respect to odour, nutrient deposition into

soil, land use considerations and also the level of land or pasture degradation has not been reviewed or considered as part of this assessment. There may be beneficial impacts associated with ranging poultry on grain-growing land and orchards, resulting in reduced need for fertilisers and pesticides (Glatz *et al.* 2004).

2. Do you think the risks to the welfare of poultry discussed in Part 2.3.1 are sufficient to justify the introduction of better standards and/or guidelines?

☐ No ☒ Yes Comments:

Many of the risks identified do substantiate the need for comprehensive standards and guidelines to protect poultry welfare in Australia. The field of animal welfare science is evolving, as are farming practices, necessitating regular updating of the welfare requirements. The current legislation and Model Codes are also deficient in some areas, which could lead to negative impacts on poultry welfare.

1. Standards and legislation with respect to some of the areas of risk highlighted (eg. indoor stocking density) already exist in most states. Therefore, it is questionable based on review of available science whether there is significant risk in this area to substantiate the introduction of new standards and guidelines.

2. Strengthening requirements with respect to litter management in the case of non-caged poultry will ensure management risks are minimised in this area. However, it is important to recognise and balance the requirement to maintain litter in a dry and friable condition with other welfare aspects, including increased stress on birds, increased likelihood of back scratching and generation of ammonia associated with working litter. The current wording of the standards may need to be modified to acknowledge the practicalities of litter management on farms without compromising the intent of the standard.

3. The introduction of too stringent standards in order to minimise risks to poultry welfare could result in negative implications. For example, if routine second beak trimming is not permitted in the case of laying chickens, particularly with the increase in the free range egg laying sector where light control options are limited, preventing high mortality associated with aggressive vent pecking and cannibalism is very challenging. It is considered poor welfare to perform therapeutic beak trimming whilst birds are in lay, once the behaviour has developed and high mortality has already occurred. The same may be true for turkeys, where research is currently limited with respect to mechanisms to control aggressive pecking. Beak trimming in birds older than 10 days has been associated with increased risk of neuroma formation (Luman & Glatz, 1996). Limiting the extent of the trim to a third of the beak and ensuring that trained and skilled personnel perform this task, where beak trimming at older ages is required, is supported.

3. Which of the above mentioned areas of risk to poultry welfare do you think are of the greatest concern?

Comments:

There are two areas for consideration – the responsibilities of personnel, which is considered fundamental to the standards, and the specific standards to ensure poultry welfare is protected.

- **Lack of clear responsibilities for personnel in charge.** Defining the responsibilities for personnel in charge of poultry is a key consideration but without clear standards, there is limited scope for clear responsibility. This area also has the potential to affect the greatest number of poultry for the most amount of time and could have the most severe consequences with respect to welfare.

- It is difficult to ascertain which of the risk areas relating the specific standards are of highest importance because overall risk assessment will relate to the number of birds affected and the duration of the impact.

  The risk assessment should determine which of the risk areas are considered of highest importance. See comments relating to the assessment of risk under Question 17.

If the number of birds and the duration of the impact is considered, many risks could be considered equal. None of the below risks are considered high risk (refer to table below). However, some are considered medium risk and others low risk – this helps to define their importance.

Area of risk	**Number affected**	**Duration**	**Comments**
Lack of freedom of poultry to express innate behaviours	10.7 million hens	More than 12 months	Sound scientific data and broad consensus Medium numbers long duration = **medium risk**
Lack of perches, nests and litter for layer hens	10.7 million	More than 12 months	Equivocal data for perches Long duration / medium numbers = **medium risk**
Lack of quantitative lighting standards;	132.7 million	More than 12 months in 4.2% of affected birds but 8 weeks for broilers	Evidence demonstrating various impacts including health and structural Very high number very short duration for most affected birds = **medium risk**
Need for restrictions on routine beak trimming;	19.66 million	Chronic impact that may last up to 6 months	Good scientific evidence of neuroma development Medium/high number medium duration = **medium risk**

Inadequate space allowances for poultry (stocking density);	18.8 million birds	More than 12 months for laying hens	Medium numbers and long duration = **medium risk**. However, the scientific data is equivocal.
Access to water for ducks	9,14 per annum	More than 12 months in case of breeders	Medium numbers / long duration = **medium risk**
Risky litter management;	89.98 million	Short to medium duration	Very high number short to medium duration = **low/medium risk**
Care of meat chickens and turkeys awaiting slaughtering; and 29.7 million	29.7 million/annum	Very short duration	High number very short duration = **low risk**
Need to restrict routine use of induced moulting	2.95 million hens	Short duration of up to 4 weeks	Affects a variety of physiological and immune parameters as well as stress and increased mortality Low numbers and short duration = **low risk**

Are there any other areas of concern to poultry welfare? Please provide reasons for your answers, together with supporting scientific evidence.

Comments:

1. Poor handling of poultry is considered a risk affecting all species for the duration of their lives. Standards related to handling are deficient in some sections, specifically for emus, meat chickens and laying chickens. Under the other species sections, specific handling standards are included. Guidance should also be provided in terms of specific species handling to optimise welfare outcomes.

2. There may be fewer people with the knowledge and expertise in relation to the minor species, such as quail, partridges, guinea fowl, emus and ostriches, to be able to substantiate that the proposed new standards adequately ensure the welfare of these species.

3. Good stockmanship skills and adequate training is considered fundamental to poultry welfare. These areas are addressed in the first section of the draft standards but it may be difficult to guarantee in all circumstances and for all species of poultry that the level of training and stockmanship is optimal.

RIS location - 2.4.1 Lack of clarity in standards

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4. In your experience, to what extent do the existing Model Codes of Practice (MCOPs) and related regulations create uncertainty for Industry?

Comments:
In general, the main stream Australian poultry industry accepts that the current Model Codes are the minimum requirements, with some exceptions, and adheres to the standards and guidelines. Most states have endorsed the Model Codes either directly or indirectly by referring to them in their legislation, except in the case of Victoria, which has its own Code.

The main issue is that the Model Codes have also not been updated for some time to reflect current industry practices, recent scientific advancements in the field of poultry welfare science or changing community expectations. This could create uncertainty as to the relevance of the existing Codes.

Does such uncertainty vary between different states and territories?

Comments:
Some states have more comprehensive poultry Codes of Practice rather than reference the Model Codes (eg. Victoria), which could create some confusion. However, generally, there is considered to be minimal uncertainty, as there is considered to be reasonable consistency between states and territories.

Uncertainty could also be related to free range stocking densities, where the requirements to stock 1,500 laying hens per hectare in the existing Model Code were not universally adhered to and enforced. In Queensland, the requirement to stock 1,500 hens per hectare was originally regulated. In the other states at the same time, stocking densities of 10,000 hens per hectare or more were consistently applied. Inconsistencies and uncertainty as to whether the Model Code should be applied in all states and territories in the case of free range stocking densities for laying hens has created problems for consumers and for the industry.

5. In your experience, how does this type of uncertainty for industry adversely affect productivity? If possible, please provide some case examples. .

Comments:
The AVPA is not well positioned to be able to comment on current uncertainty from an industry productivity perspective.

RIS location - 2.4.2 Excess regulatory burden

6. Are you aware of any other poultry farming businesses in addition to those given in Part 2.4.2 that operate in more than one state or territory? If so, please list.

☐ No ☒ Yes Comments:
Others would be better informed to be able to list.

7. In your experience, what is the effect of cross-jurisdictional inconsistencies on industry (i.e. even where jurisdictional standards are clear and verifiable)? If possible, please provide some case

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examples of where additional costs have been imposed on industry as a result of such inconsistencies.

Comments:
Whilst there are minimal examples where current cross-jurisdictional inconsistencies may create issues, an example may be the ACT where caged egg production is not permitted. However, caged eggs from interstate are still sold in the ACT. However, this has the potential to be a major problem in future if the new standards are not adopted by all states and territories in their final form and in their entirety.

There should be overriding Commonwealth legislation to ensure that all states and territories implement consistent legislation following acceptance of the new Standards and Guidelines to prevent some farmers/companies being able to obtain a competitive advantage over others in different states, similar to what has occurred in the European Union.

8. Do you think there needs to be national consistency in animal welfare standards for poultry? Please provide reasons for your answer.

☐ No ☒ Yes Comments:
See comments for Question 7 above. Furthermore, the welfare requirements for poultry should not change depending on the state or territory where the poultry are housed.

RIS location - 4.2.4 Option B: (non-regulatory option – voluntary national guidelines)

9. Do you think that the net benefits to poultry welfare likely to achieved under **Option B**, are justified?

☒ No ☒ Yes Comments:
Whilst the main stream commercial industries may adopt voluntary standards, Option B would not guarantee improvements in poultry welfare outcomes with respect to all species and operations. There would also be no requirement to comply, which may affect poultry in businesses where welfare may not currently be a high priority or those that may operate outside recognised industry quality assurance programs.

Would the combination of costs and benefits under **Option B** be preferable to other options?

☒ No ☐ Yes Comments:
The benefits of Option B may be compromised, particularly in the short term where there is no requirement to comply within a defined timeframe. However, over time, Option B could still result in the new standards being referenced in state animal welfare legislation with reasonable requirement to comply.

The standards and guidelines could also be adopted as part of industry quality

assurance programs, necessitating main stream compliance. Whilst there are no defined costs in the RIS associated with Option B, it is likely that compliance costs will still be associated with Option B and may be similar to Option C.

If the new standards and guidelines were voluntary, this may also drive inconsistencies with respect to state and territory legislation.

RIS location - 4.2.5 Option C: (the proposed national standards as drafted)

10. Do you think that the proposed national standards under **Option C** reflect community values and expectations regarding the acceptable treatment of poultry?

☒ No ☒ Yes Comments:
It is difficult for the AVPA to make assumptions with respect to broader community expectations. However, it is reasonable to assume that the community would be supportive of nationally consistent standards and guidelines for poultry that are scientifically sound and will improve poultry welfare and farming conditions across all species sectors.

It is difficult to determine whether the community may be more supportive of welfare standards that may be considered to drive higher welfare rather than minimum standards. The changes to purchasing behaviour over the last decade, where supermarket sales of free range eggs compared to caged eggs have increased may demonstrate this. However, caged eggs are also still purchased by a reasonable proportion of the community so it is difficult to understand the full extent of the community's views with respect to the more controversial poultry welfare issues and whether there are other factors, such as price or perceived view of product quality that may also govern consumer choice.

11. Do you believe that the net benefits to poultry welfare likely to be achieved under **Option C,** are justified?

☐ No ☒ Yes Comments:
There is need for nationally consistent and legally enforceable standards to ensure poultry welfare is protected.

Net benefits to welfare will be achieved under Option C.

Would the combination of costs and benefits under **Option C** be preferable to other options?

☐ No ☐ Yes Comments:
Option C will improve welfare for all species of poultry in all housing systems in a nationally consistent manner.

However, in response to this question, AVPA recognises that its members' have divergent opinions, particularly with respect to welfare of hens in conventional caged housing systems. A consensus could not be reached within the AVPA

subcommittee that formulated this submission or the wider membership.

RIS location - 4.2.6 Option D: (vary the proposed standards [Option C] to include phasing out conventional cages for layer hens)

12. Do you believe that the net benefits to poultry welfare likely to be achieved with a 10 and 20 year phase out of conventional cages under **Option D,** are justified?

☐ No ☐ Yes Comments:
The AVPA recognises that its membership has divergent views on this issue and a consensus could not be reached within the subcommittee that formulated this submission or the broader membership.

The inability for hens to express the full range of innate behaviours when housed in conventional cages is well recognised. However, welfare is considered to be multi-factorial and there are considered to be other advantages for welfare when hens are housed in cages. For example, lower mortality, better disease control and protection from predation. Conventional cages and furnished cages should also be considered separately in light of different outcomes for welfare.

The majority of respondents to the AVPA membership survey that was conducted to help formulate this submission were of the opinion that the welfare needs of hens can be met when hens are housed in conventional cages. However, others are of the opinion that welfare of hens in conventional cages is compromised.

Would the combination of costs and benefits under variations of **Option D** be preferable to other options, either as a stand-alone option or in combination with other options?

☐ No ☐ Yes Comments:
The AVPA Executive conducted an opinion poll to determine whether its membership was supportive of Option D. This was due to the divergent opinions expressed by the AVPA subcommittee who formulated this submission.

The results of the AVPA membership survey confirmed that a consensus could not be reached to be able to answer this question. There are strong opinions both for and against Option D.

48% of respondents did not support phasing out conventional cages under Option D. A further 20% acknowledged that the different housing systems have advantages and disadvantages and it is difficult to make a decision either way. 26% of respondents supported a phase out of conventional cages under Option D.

RIS location - 4.2.7 Option E (vary the proposed standards [Option C] to reduce maximum stocking densities in barns or sheds for layer hens and meat chickens)

13. Do you believe that the net benefits to poultry welfare likely to be achieve under **Option E**, are justified?

☒ No ☐ Yes Comments:

The scientific evidence with respect to stocking densities is lacking in order to substantiate a reduction from the previous maximum permissible densities for all species of poultry. The densities proposed are also in accordance with internationally accepted densities for both meat chickens and laying chickens.

Meat Chickens

In the case of meat chickens, management factors and housing conditions are considered to have a much greater impact on welfare outcomes than stocking density alone. This was the conclusion of the research conducted by Dawkins *et al.* (2004) at a range of densities between 30-46kg/m2. There may be welfare disadvantages when birds are kept at very high densities (56kg/m2) but stocking densities need to be very low (ie. 15kg/m2) to have a clear welfare benefit (Buijs *et al.* 2009). There are few measurable improvements when birds were housed at intermediate densities (23-35kg/m2). At these intermediate densities, management is considered to be the most important consideration.

Therefore, the relationship between welfare indicators and stocking density is not considered to be linear at the current maximum permissible densities and there is currently no consensus on the optimal density for meat chickens (Buijs *et al.*, 2009). The literature does not support 30kg/m2 as being the new prescribed density.

Estevez, 2007 also concluded in their research that 'the welfare of broilers can be ensured at a range of (reasonable) densities, as long as the requirements for environmental quality are fulfilled'. The proposed standards aim to ensure growing conditions that promote optimal welfare outcomes, which is considered achievable at the proposed maximum permissible densities.

Laying Hens

The current permissible density for hens is 30kg/m2 for laying hens in rearing and in lay. This is provided that there are 'cooling systems and ventilation fans in place to ensure temperature control during extreme conditions' as per the previous Model Code of Practice. Expressing the density for laying chickens in the form of birds per m2 instead of kg per m2 is supported. This ensures that densities are consistent with international standards for laying chicken densities.

Would the combination of costs and benefits under **Option E** be preferable to other options, either as a stand-alone option or in combination with other options?

☒ No ☐ Yes Comments:

There is limited justification for a reduction in stocking density based on a review of the available research.

Based on survey results, the support for Option E in combination with Option C or other options is considered low amongst AVPA members.

RIS location - 4.2.8 Option F (vary the proposed standards [Option C] to require the availability of nests, perches and litter for all chicken layers in cage and non-cage systems)

These Poultry Welfare Standards Regulation Impact Statement public consultation questions were drafted by the independent RIS consultants and approved by the Office of Best Practice Regulation.

14. Do you believe that the net benefits to poultry welfare likely to be achieved under **Option F**, are justified?

☒ No ☒ Yes Comments:

Various scientific reports have demonstrated improvements with respect to hen welfare when nests, perches and space to forage are provided (Widowski, 2013). However, furnished and colony cages were not reviewed in the supporting scientific documents in order to appropriately inform the Standards and Guidelines and the RIS options, particularly Option F. This is considered to be a significant flaw and impedes the ability for the community to make a more informed opinion with respect to Option F.

Whilst provision of enrichments may enhance hen welfare, it is questionable whether these are required for all systems and whether welfare is significantly compromised if any or all of these elements are not provided. It raises the question of behavioural needs versus behavioural wants. The Victorian Farmed Bird Welfare Science review reaches the same conclusion with respect to perches, where welfare may be enhanced by providing perches but negative impacts cannot be clearly demonstrated if birds that have never had access to a perch are not provided with perching. In the same review, the value of dustbathing is also questioned, despite this being a being a 'marker of high welfare'. The conclusion with respect to provision of litter for dustbathing is that 'the role of consistent internal motivation is less clear than for foraging, stretching, nesting and night-time roosting'.

If perches and litter were added to cages, under the current 600cm/hen, this could restrict the useable floor space and increase the relative density of birds. The stocking density for furnished or enriched cages would need to be considered and increased.

It is questionable whether the provision of litter, in the case of furnished cages, has resulted in optimal welfare outcomes. In the overseas experience, litter area is apparently used 'rather infrequently and sham dustbathing is common even in furnished cages in the presence of litter' (Valkonen, 2010). Litter in furnished cages is reported to be depleted quickly and competition may occur for limited dustbathing area. However, the fact that the litter is quickly depleted may also support this as being a valuable resource. Alternative enrichments may be used to replace the litter area, such as turf mats (Valkonen, 2010).

Pododermatitis and keel bone deformations have been linked to the presence of a perch in furnished cages (Valkonen, 2010). Furthermore, the shape and material of the perch is reported to have an impact on the level of pododermatitis and keel bone lesion incidences. Also, hens without perches were more active during the daytime than those with perches (Valkonen, 2009). In the same study, hens in cages with perches sat more often, whilst the hens without perches stood and walked more often. Reduced levels of osteoporosis have been reported when birds are housed in furnished cages compared with conventional cages. However, the cage size and group size may have an impact on activity levels and also needs to be considered in relation to welfare outcomes.

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Would the combination of costs and benefits under **Option F** be preferable to other options, either as a stand-alone or in combination with other options?

☐ No ☐ Yes Comments:
AVPA acknowledges divergent opinions within the subcommittee that formulated this submission and also the broader membership with respect to evaluating the overall benefits of Option F. A consensus could not be reached to be able to provide an answer to this question.

The Standards already require nests be provided for hens in non-caged systems. There may be benefits associated with the provision of perches in non-cage systems but perching can be provided in many forms and there may also be disadvantages (eg. keel bone fractures). Whilst litter may encourage hens to dustbathe, it may also have detrimental impacts on welfare, such as increased footpad dermatitis, especially if not well managed. However, there may be other suitable alternatives to litter for furnished cages, including mats.

RIS location - 4.2.9 Option G (vary the proposed standards [option C] to ban castration, pinioning and devoicing, hot blade beak trimming at hatcheries, and routine second beak trim)

15. Do you believe that the net benefits to poultry welfare likely to be achieved under **Option G**, are justified?

☐ No ☐ Yes Comments:
These different procedures should not be grouped together. Therefore, an overall response to this question cannot be provided.

Castration and devoicing:
Castration and devoicing should all be **banned** for commercial poultry, as they were in the Model Code of Practice. There is no recognised justification for performing these procedures in commercial poultry. Veterinarians may be permitted to perform these procedures on backyard poultry or individual birds under anesthetic with appropriate analgesia but these procedures must be well justified on animal welfare grounds.

Pinioning:
There may be sound justification for pinioning in the case of pheasants. Pinioning in pheasants prevents a startled or nervous bird from flying rapidly upwards, which could result in the bird injuring or killed itself by colliding with the framework of the enclosed roof. The previous Model Code allowed pinioning of pheasants.
Under Section 4(2) of the Prevention of Cruelty to Animals Act (1979), an offence is committed if an animal is "unreasonably, unnecessarily or unjustifiably: beaten, kicked, killed, wounded, pinioned…" Therefore, pinioning, under current legislation requires the person to be able to justify the practice on welfare grounds. This should be reflected in the new standards.

Hot blade beak trimming at hatcheries:
Infrared beak treatment in the first week prevents the growth of the sharp tip of

the beak and lessens the damage caused by pecking. Infrared beak treatment at day-old as opposed to hot-blade trimming is the preferred approach and results in improved welfare outcomes. However, infrared equipment is expensive and this technology may be limited to commercial operations. In the case where infrared equipment may not be feasible, such as in the case of imported stock in quarantine or in laboratory/research settings, allowing minimal hot-blade trimming in the first 7 days after hatch may still provide superior welfare outcomes when compared with the alternative of not trimming at all.

GA9.12 could be made a standard and re-worded to ensure that infrared beak treatment is performed, where feasible, and new technologies or alternatives to hot blade trimming are adopted as soon as they become available. **GA9.14** should also be made a standard to protect the welfare of poultry undergoing beak trimming procedures.

Routine second beak trim:
A subsequent routine beak trim, using hot-blade, performed by skilled operators and only if a maximum of a third of the beak is removed, should be permitted with sound justification. The welfare benefits are well justified and supported. It is considered poor welfare to perform beak trimming once birds are in lay, or therapeutically, to try and control a cannibalism outbreak. Under these circumstances, the behaviour is already well established and mortality would be at a high-level to justify the resultant production losses associated with trimming when birds are in lay. Also, with the increase in free-range and non-caged housing systems, there may be limited mechanisms of preventing or controlling a severe outbreak of aggressive pecking or cannibalism if routine beak trimming was not permitted. Further research is required in this area to understand aggressive pecking behaviour and mitigation strategies.

A routine second beak trim, using hot-blade method, may also be required in the case of turkeys. Pecking and cannibalism outbreaks in this species can be severe and minimal research has been completed to understand the motivation for pecking in this species and suitable control mechanisms. In the case of beak trimming in turkeys, the trim should also be minimised to a maximum of a third of the beak to limit the risk of adverse welfare outcomes.

Would the combination of costs and benefits under **Option G** be preferable to other options, either as a stand-alone option or in combination with other options?

☐ No ☐ Yes Comments:
All procedures listed under Option G should not be grouped together. Therefore, an overall an answer to this question cannot be provided.

Yes - Banning of castration and devoicing of commercial poultry should be included in addition to Option C, as these procedures are not performed and not justified.

No- A routine subsequent hot blade trim should be permitted provided that it is well justified on welfare grounds and in accordance, performed by trained and skilled operators and within the parameters.

These Poultry Welfare Standards Regulation Impact Statement public consultation questions were drafted by the independent RIS consultants and approved by the Office of Best Practice Regulation.

No- Pinioning should be permitted in the case of pheasants, where there is sound justification on welfare grounds.

RIS location - 4.3 preferred option

16. Which of the Options A, B, C, or combination of one or more Options D,E, F, or G, in your opinion would provide the greatest net benefit for the Australia community?

Comments:
The AVPA does not attempt to understand community expectations or represent the views of the broader community.

The AVPA recognises divergent opinions within its membership with respect to the options presented. All members' opinions are considered valid and based on knowledge and expertise. Therefore, a consensus cannot be reached in order to provide a definitive answer to this question.

Option C will ensure that the welfare of all species of poultry is protected in a nationally consistent manner and this option is generally supported by members either as a stand-alone option, or in combination with other options. For specific details on support for other options (principally Options D and F in combination with Option C), please refer to the relevant sections.

Option E is generally not supported by the AVPA subcommittee who formulated this submission and is considered to not be well supported by the wider membership.

The components of Option G that will see banning of castration and devoicing of commercial poultry is also supported.

17. Do you have any further information or data would assist in the assessment of the impacts (costs and benefits) expected under each of the options/variations?

Comments:

There are significant flaws in the RIS and lack of definitions, which are likely to affect its meaningfulness and interpretation.

1. The RIS could be challenged as deficient in its overall assessment of the risks and how the level of risk is assessed. On page 30, the measurement of risk is presented as a combination of likelihood and impact. On page 31, the impact is identified as a combination of numbers and duration. Given that it is difficult to quantify the impacts on individual birds, the number of animals affected is used as a rough proxy of the quantitative animal welfare impacts of the different options. The impacts are summarised in Table 49.1 and do not include a component assessing the duration of the impact. Green and Mellor (2011) in their assessment of animal welfare risk acknowledge that challenges to animal welfare can be brief or transient, or chronic and long-lasting. In chronic cases, quality of life may be affected. It could be argued that induced moulting only has a very short duration in terms of impact compared to the negative implications and chronic pain caused by beak trimming and neuroma formation. The public,

when making submissions, may not be able to adequately assess the priorities for animal welfare when the duration of the negative impact has not been taken into account.

2. It is unsafe to rely on industry data without seeking independent data. The RIS comparative mortality data for different housing systems is inconsistent with the mortality data reported from a large Poultry CRC sponsored project. In these studies, the mortality was monitored for 1 million birds on 18 cage farms and 14 free range flocks that underwent infra-red beak trimming at day-old. Mortality rates corrected to 50 weeks of age was 2.8% in free range compared to 1.81% in birds housed in cages (Glatz & Hinch, 2008). The Poultry CRC report reported that 50% of free range farms did not beak trim their hens so this could also explain some of the inconsistencies in the data (Singh *et al.* 2015). These results are vastly different to those contributed to the RIS, of 12%, 8% and 4% in free range, barn and cages respectively. There is little transparency in the industry data or to the characteristics of the farms that provided data.
3. It could be assumed based on the point above that when optimal beak trimming techniques and methodology is used, the mortality forecasted in the RIS and on which the costings are based, is likely to be much lower. Since GA9.13 outlines the use of infrared beak trimming, it would have appropriate to estimate the cost of the changes to the standards and guidelines on this basis and be guided by the studies mentioned above, including mortality rates.
4. If the mortality figures in the RIS are used, it is questionable to apply the same percentage of mortality to flocks of different flock sizes since the size of the flock would have a significant impact on the data. The CRC studies suggested that it is likely that 'the small flock size contributed to the flock being docile' and other studies also report fewer severe pecking outbreaks in small flocks (Nicol *et al.* 1999).
5. The average number of hens in a free range flock (page 5, Table 5) is quoted as 35,953 hens. The majority of free range flocks are small flocks. The median number of hens in different flocks would be a better and more informative number to use for the public consultation process. There are many factors identified in the RIS that may be more related to flock size. The interaction between management, welfare outcomes and flock size was poorly evaluated and could have an impact on the costings. For example, the ability to inspect individual animals, the usage of the range, *Salmonella* prevalence and food safety, cost of labour, air quality, susceptibility to airborne diseases and the cost of controlling and eradicating emergency diseases.
6. The total number of egg farms (337 total and 199 free range) listed in Table 4 on page 5 of the RIS is also inconsistent with the number of free range enterprises in Australia that was provided by ABS (2017). The number provided by ABS was 1,539 free range farming businesses, 130 caged egg farming businesses and 159 barn egg farming businesses. This inconsistency could have significant impacts on various elements of the costings presented in the RIS.
7. The laying rates presented in the RIS are questionable, as no source is provided for these critical comparative numbers. The percentages are higher than the commercial breed standards. For example, for HyLine Brown layers, peak production is quoted as 93-95% with Hen Day to 60 weeks at 249 eggs, which is 59.3%. The Egg Industry in a submission to the Productivity Commission (June 2010) refers to a production rate of 23 eggs per month, which is 76% laying rate.
8. The RIS stated that the future supply of free range eggs could be a problem because of planning restrictions and land shortages compounded by the fact that more space is required for free range. Land shortage is a problem facing the poultry industry in general and the requirements for reliable supply of water and electricity tends to affect large farming complexes more acutely than small farms that by their nature tend to be free range flocks
9. No data was provided on the size of the parcels of land that are currently available for different housing systems and no allowance was made to the elasticity of land availability for most free

range flocks. This is a particularly important consideration now that the Egg Labelling Standard allows 10,000 hens per hectare. Operators that are currently free range at a lower stocking density of 1,500 hens per hectare or 3,500 hens per hectare have a capacity to increase the size of the operation without the need to purchase land. This has significant implications for the costings presented in the RIS. No consideration was also given to the need to have large buffer zones to minimise environmental impacts on neighbours in the case of intensively housed poultry. This would affect land cost for new caged facilities more than smaller free range.

10. The RIS does not appear to allow for any compensatory changes to egg price as a result of shortage of eggs, which may occur if beak trimming or phasing out of cages affects the liveability of hens. The RIS calculated that restrictions on induced moulting would reduce the period of lay from 66 to 56 weeks, leading to a national egg volume reduction of 2.4%. However, induced moulting could be utilised as a strategy to deal with temporary oversupply of eggs and this beneficial outcome was not considered. Furthermore, the restrictions on induced moulting leading to a 2.4% reduction in egg volume would potentially benefit the caged egg sector more, since oversupply of eggs is usually associated with this sector more than others.
11. Induced moulting, for a number of factors, is more often practiced in caged layers compared to free range and barn birds. Moving towards non-caged systems and the emergence of new strains of laying hens with longer production cycles should see induced moulting become a redundant practice. The potential difference between the lengths of the production cycle in various systems is not incorporated into the different element of costing in the RIS and the costing advantage of phasing out cages on this specific expenditure is ignored in the RIS. Rather than discounting the cost of 2.4% reduction in eggs and the cost of replacement pullets from Option D, the RIS disregards the lack of induced moulting in non-caged systems, adding this cost to the total costs of Option D rather than subtracting it.
12. The costs of some options, such as Option G, are based on data provided by ACMF. Extrapolating the data supplied by ACMF from breeder farms that have both sexes present in the same shed to a layer hen situation with only females and no male/male or male/female interactions is questionable.
13. A mistake has been made in the mathematics in Table 41 since the percentage does not add up to 100%, nor does the total sum add up to $1,128.11.
14. Option F – Table A3.8 does not account for any increase in land or new facilities required to house hens in furnished cages compared with conventional cages. The space allowances for poultry in these types of cages should be considered because it is unlikely that the same number of birds would be housed with the same footprint. Option F could be a lot more expensive when compared to Option D. The phase in time for Option F is also unclear. However, perhaps this option assumes that hens could be housed in the same conventional cages with added enrichments. This would result in space being restricted and poor welfare outcomes.

18. Do you think that any of the Options A to G are likely to have disproportionate impact on small businesses compared to medium and large business?

☒ No ☐ Yes Comments:

Do you think that any of these options are likely to have a greater impact on small business than other options? Please provide reasons for your answers together with available supporting evidence.

Comments:

No. Although there may be flaws in the consideration of cost impacts for businesses of different sizes, as definitions of small, medium and large businesses are not clearly outlined in the RIS and are not in alignment with the definition of small farms or micro farms in the RIS. Small businesses are defined as having less than 20 FTE. The number of FTEs required will depend to some extent on the number of birds housed and the number of sheds but also on the level of automation. Very large farms (more than 500,000 hens according to the RIS) with sophisticated automation can operate with less than 20 FTE and be regarded as small poultry businesses. Furthermore, the discrepancy between Australian Bureau Statistics (ABS) and RIS numbers of small poultry businesses would likely reduce the cost per individual farm if the ABS figures are used. This would also affect the entire costings since most small and micro farms are not cage farms and it is questionable whether the impact of cage replacements and additional land would affect them.

OTHER COMMENTS OR SUGGESTIONS

Please include any comments or suggestions that you'd like to share.

See other submission document with comments on specific Standards and Guidelines.

References:

1. Buijs, S., Keeling, L., Rettenbacher, S., Van Poucke, E. & Tuyttens, F.A.M. 2009. 'Stocking density effects on broiler welfare: Identifying sensitive ranges for different indicators', *Poultry Science,* 88(8), 1536-43.
2. Campbell, D. L. M., Hinch, G. N., Downing, J. A., & Lee, C. 2017. 'Early enrichment in free-range laying hens: effects on ranging behaviour, welfare and response to stressors'. *Animal*, 1-10.
3. Campbell, D. L. M., Makagon, M. M., Swanson, J. C., & Siegford, J. M. 2016. 'Litter use by laying hens in a commercial aviary: dust bathing and piling'. *Poultry Science*, *95*(1), 164-175.
4. Dawkins, M.S., Donnelly, C.A. & Jones, T.A. 2004. 'Chicken welfare is influenced more by housing conditions than by stocking density', *Nature*, 427(6972), 342-4.
5. D'Eath, R. B., & Keeling, L. J. 2003. 'Social discrimination and aggression by laying hens in large groups: from peck orders to social tolerance'. *Applied Animal Behaviour Science*, *84*(3), 197-212.
6. Durali, T., Groves, P., Cowieson, A., & Singh, M. 2014. 'Evaluating range usage of commercial free range broilers and its effect on birds performance using radio frequency identification (RFID) techology'. In *Australian Poultry Science Symposium* (Vol. 25, No. 16, pp. 103-106).
7. Estevez, I. 2007. D*ensity allowances for broilers: where to set the limits? Poultry Science,* 86(8), 1265-1272.

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8. Fossum, O., Jansson, D.S., Etterlin, P.E. & Vagsholm, I. 2009. 'Causes of mortality in laying hens in different housing systems in 2001 to 2004', *Acta Vet Scand*, Jan 15, 51-3.
9. Glatz, P. & Hinch, G. 2008. 'Minimise cannibalism using innovative beak trimming methods'. Final Report, Project 04-20, Australian Poultry CRC.
10. Glatz, P. & Ru, Y. 2004. 'Developing free-range animal production systems'. A report for Rural Industries Research and Development Corporation, RIRDC Publication No 04/058. RIRDC Project No SAR-30A. ISSN 1440-6845.
11. Green T.C. & Mellor D.J. 2011. 'Extending ideas about animal welfare assessment to include 'quality of life' and related concepts'. *New Zealand Veterinary Journal*, 59, 263–71.
12. Holt, P.S., Davies, R.H., Dewulf, J., Gast, R.K., Huwe, J.K., Jones, D.R., Waltman, D. & Willian, K.R. 2011. 'The impact of different housing systems on egg safety and quality'. *Poultry Science*, 90(1), 251-62.
13. Just, N., Duchaine, C. Singh, B. 2009. 'An aerobiological perspective of dust in cage-housed and floor-housed poultry operations', *Journal Occupational Medical Toxicology*, 4(13).
14. Lay, D.C., Fulton, R.M., Hester, P.Y., Karcher, D.M, Kjaer, J.B., Mench, J.A., Mullens, B.A., Newberry, R.C., Nicol, C.J, O'Sullivan, N.P. & Porter, R.E. 2011. 'Hen welfare in different housing systems', *Poultry Science*, 90(1), 278-294.
15. Lunam, C.A., Glatz, P.C. & Hsu, Y.J. 1996, 'The absence of neuromas in beaks of adult hens after conservative trimming at hatch', *Australian Veterinary Journal,* 74(1), 46-49.
16. Nicol, C.J., Bouwsema, J., Caplen, G., Davies, A.C., Hockenhull, J., Lambton, S.L, Lines, J.A., Mullan, S. & Weeks, C.A. 2017. 'Farmed Bird Welfare Science Review'. A report for the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR). ISBN 978-1-925629-82-2.
17. Nicol, C.J., Gregory, N.G., Knowles, T.G., Parkman, I.D. & Wilkins, L.J. 1999, 'Differential effects of increased stocking density, mediated by increased flock size, on feather pecking and aggression in laying hens', *Applied Animal Behaviour Science,* 65(2), 137-152.
18. Rayner, A.C., Gill, R., Brass, D., Willings, T.H. & Bright, A. 2016. 'Smothering in UK free-range flocks. Part 2: investigating correlations between disease, housing and management practices', *Veterinary Record*, 179(10), 252.
19. Riber, A. B. 2010. 'Development with age of nest box use and gregarious nesting in laying hens'. *Applied Animal Behaviour Science*, *123*(1), 24-31.
20. Shini, S. & Bryden, W.L. 2009. 'Occurrence and control of Fatty Liver Haemorrhagic Syndrome (FLHS) in caged hens. A report for the Australian Egg Corporation Limited. AECL Publication No UQ-105A. AECL Project No UQ-105. ISSN. 1448-1316.
21. Singh *et al.* 2015. 'Free range poultry survey 2014 – farm demographics and practices'. Poultry CRC Report – unpublished data.
22. Svihus, B. 2012. 'Gastrointestinal tract development: Implications for free-range and conventional production'. In *Australian Poultry Science Symposium* (Vol. 23, pp. 7-13).
23. Valkonen, E., Rinne, R. & Valaja, J. 2009. 'The effects of perches in furnished cages'. In *Poultry Welfare Symposium*, p. 18.
24. Valkonen, E. 2010. 'Egg production in furnished cages'. PhD thesis, MTT Agrifood Research Finland, *MTT Science,* 12. MTT Agrifood Research Finland.
25. Widowski, T. M., Classen, H., Newberry, R. C., Petrik, M., & Schwean-Lardner, K. 2013. *Code of Practice for the Care and Handling of Pullets, Layers, and Spent Fowl: Poultry (Layers): Review of Scientific Research on Priority Issues* (Doctoral dissertation, University of Saskatchewan).