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## UNIT 13 ANIMAL WELFARE ASSESSMENT

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### 13.1 LEARNING OUTCOMES

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- a) **Knowledge and Understanding:** After studying this Unit you will be able to:
  - Explain the purpose of animal welfare assessment.
  - Understand the application of animal welfare assessment.
- b) **Practical and Professional Skills:** After studying this Unit you will be able to:
  - Describe the measures that are used in welfare assessment.

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## 13.2 INTRODUCTION

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In the previous Blocks (Volume-I) for this Course we have discussed the theory of animal welfare and the different frameworks that are used to ensure that all domains of animal welfare are included in our thinking. We have also explored the scientific basis for how animals respond and why these different domains are relevant and important for animal welfare. In this Unit we will start to think about the application of this knowledge. In order to improve animal welfare this theoretical knowledge needs to be implemented in practice. Often this might be on a personal level, in thinking about our own handling and management of animals with whom we frequently interact. However, there is also a need for institutional or more systematic consideration of animal welfare, for which we need animal welfare assessment. This can be defined as the process of gathering data or information on an individual, group or system level, which allows some consideration to be made of the welfare state of the animals included in the assessment. Often this may be done by an external auditor or inspector, but can also be carried out by the animal keeper on a regular basis to provide documented evidence of welfare or change in welfare.

In the Units within this Block we will consider:

- The process of animal welfare assessment
- Why animal welfare assessment is conducted?
- What sorts of processes are undergone to assess welfare? and,
- How these processes are implemented?

The application of the knowledge you have already gained in this Course can be to help decide what is an acceptable way of keeping animals.

*Example:* To determine if there are practices or housing types that are unacceptable for animal welfare and where there are housing or management actions that are best practice.

These decisions may become part of legislation with certain practices being prohibited. In addition, we might want to know how well animals are managed within the housing, use or environments in which they are currently maintained. This is where a structured form of animal welfare assessment is useful, as it allows us to make some measures that can lead us to a decision on whether the animals are doing well or whether improvements are needed. The goal of animal welfare assessment is summarised in Box 13.1 for your understanding.

### **Box 13.1: Goal of Animal Welfare Assessment**

Our goal in conducting animal welfare assessment will be to determine whether:

- The animal has a good life
- A life worth living
- Whether significant improvement need to be made in its welfare state
- One or more of the Five Freedoms is not being adhered to, and
- Advice or support might be needed to lead to an improvement

## 13.3 PURPOSE OF ANIMAL WELFARE ASSESSMENT

Animal welfare assessment can provide evidence of the welfare state of an animal, group of animals or a management system, either on a single day and time, or repeatedly over time. Why might we want to have this information? As we have discussed previously, and will continue to consider in later Units, we have a moral or ethical duty to ensure that animals in our care are properly looked after. Animal welfare assessment is a way of investigating whether animals are being properly cared for, and providing evidence for the current welfare state of the animals. Animal welfare assessment also provides a means of checking progress in improving animal welfare, for example as a result of changing management practices (Box 13.2).

### Box 13.2: Animal Welfare Assessment

Animal welfare assessment is a way of investigating whether animals are being properly cared for, and providing evidence for the current welfare state of animals.

#### 13.3.1 Usefulness of Assessing Animal Welfare

There are many reasons why assessing animal welfare can be a useful tool.

- 1) The care of some animals, such as animals in farms and zoos or those used in research or education, may be covered by regulations or legislation at different levels:
  - a) National standards
  - b) Regional standards
  - c) International standards
- 2) Failure to meet standards can lead to sanctions such as an inability to export products to particular countries or regions.
- 3) In order to ensure compliance with these regulations there needs to a system of checking that animal welfare has met particular standards in a way that is fair and impartial, and considers the same measures or characteristics, regardless of where the animal lives.
- 4) Using a defined scheme of welfare assessment can allow this monitoring in a way that allows different facilities to be considered in the same way.
- 5) Particular animal welfare standards may be applied by a retailer (for food animals) or some other accreditation or certification body.
- 6) Often membership of these bodies will be voluntary, for example a zoo may choose to become a member of the World Association of Zoos and Aquaria (WAZA). However, for food animals it may be important for a farmer to be accredited, or a member of a group or scheme, to allow access to a particular market.
- 7) Some schemes also can charge a premium price for their products so membership can have significant financial advantages. In becoming a member, preferred supplier or being accredited there is a need to abide by the guidelines, rules or regulations of the scheme or body.

- 8) Where this includes animal welfare then the accrediting body or association will want to ensure that its members do adhere to the same practices and standards that it has laid out, especially if these are the main attributes, it is promoting.
- 9) This is usually achieved by some form of inspection, which will include an assessment of the state of animal welfare on the facility.

### 13.3.2 Welfare Assessment by Animal Owner vs. Systematic Process

Animal welfare assessment may also be carried out by the owner or keeper of the animals. This may be on a more *ad hoc* basis than a formal assessment, but may occur much more frequently than an official inspection. This can be considered as part of the normal care and husbandry of animals, in checking that the animals appear to be coping well and are not in need of additional or specialist treatment. However, there is a risk that the system can become ‘normalised’ in that the keeper fails to notice poor welfare if this occurs all the time, so does not appear to be an issue. It may also be that the focus is on the basic needs of animals, the provision of food, water and veterinary care, and the other aspects of animal welfare are ignored or forgotten. Having a systematic process of assessment against a standardised scheme can ensure that welfare state is continually assessed in the same way.

Before we proceed, please complete activity 1.

**Activity 1 (Discussion):** Discuss the purpose of welfare assessment with your friends or colleagues or fellow learners. How many different reasons can you come up with? Do these differ or agree with those discussed here?

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#### Check Your Progress 1

- Note:** a) Use the spaces given below for your answers.  
b) Check your answer with those given at the end of the unit.

- 1) Write the need for animal welfare assessment
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2) What is the goal in conducting animal welfare assessment?

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3) What do you understand by the term ‘animal welfare assessment’?

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4) Describe three ways in which animal welfare assessment can be important for improving animal welfare

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5) Differentiate between welfare assessment by animal owner and by a systematic process

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### **13.4 ANIMAL WELFARE ASSESSMENT MEASURES OR INDICATORS**

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There is no ‘Gold Standard’ measure of animal welfare, and it cannot be measured directly. Instead, we usually make a series of measures, sometimes called indicators, which allow us to make some judgement about the welfare state of the animal. In assessing the state of an animal’s welfare we need to ensure that we take into consideration all the different aspects of welfare, as we have previously discussed in this Course. If we focus only on a single aspect, then we

risk ignoring other areas which may be very important to the animal. Here we will recap those aspects and consider following types of measures or indicators might be relevant:

- a) Physical well being measures or indicators
- b) Biological function measures or indicators
- c) Animal mental state measures or indicators

### 13.4.1 Physical Well Being Measures or Indicators

The physical state of the animal, whether it is healthy and uninjured, is an important part of welfare. Therefore for animal welfare assessment it is important to determine:

- The presence or absence of disease
- Whether the animal is free from injury, and
- Whether the animal is being well looked after or not.

*Example 1:* We can assess the state of the hooves of some animals to consider if these have been trimmed if required, or that the animal has been able to wear them by normal behaviour.

*Example 2:* We can also assess the state of the coat, or fur or feathers, to see if this is complete with no missing patches, whether it is clean and shiny or dirty and dull.

These measures may be more subtle indicators of potential ill health, or show that the animal is not kept in clean conditions.

### 13.4.2 Biological Function Measures or Indicators

The biological function of the animal, as we have covered previously in this Course, can give us an indication of the ability of the animal to cope with the environment in which it is kept. *Example:* For agricultural animals, assessments of growth, reproduction and production (number of eggs laid or quantity of milk produced) have been suggested as good indicators of animal welfare.

However, production animals have often been highly selected for productivity, and therefore high levels of production are more indicative of genetic merit and so are not good indicators of welfare. Poor productivity, on the other hand, can be a signal that health or welfare is not good for the animal.

Other indicators of biological function can be more difficult to assess on a large number of animals, for example taking samples for physiological assessment. This can be useful for animals used in research, or for investigating the welfare of a small number of animals where there is a concern about their welfare, such as important zoo animals where individual close monitoring may be required, but can be difficult and expensive in other species. However, it is possible to monitor some aspects of physiological function that may help to build a picture of the welfare state of an animal. As we have already learnt, when an animal is stressed it releases specific hormones that can be readily measured in blood, faeces or milk, and it may also have a depressed immune system. Although these should not be considered sufficient evidence for good or poor welfare on their

own, they can be useful supporting evidence. In dairy cows, for example, analysis of milk can be used to assess the presence of sub-clinical disease, and more recent measures have also been used to assess energy balance and immune markers in milk. In wild animals, assessment of faecal glucocorticoid metabolites has been used to monitor stress in a non-invasive way. This means that the animals can be monitored without disturbing or interacting with them, which can also affect stress and welfare state.

Measures of biological function should always be interpreted with some caution. These indicators may be able to tell us that the animal has deviated from its normal state, but they do not usually tell us whether this is a good or a bad thing for the animal. For example, many animals go through a seasonal change in physiological state, and pregnant or lactating animals will also have different physiology to non-pregnant animals. Thus these indicators are usually used in combination with other data, and help to build a picture of the welfare state of the animal, but should not be used in isolation.

### 13.4.3 Animal Mental State Measures or Indicators

An important part of animal welfare is what the animal feels or experiences – are they generally positive (e.g. relaxed, content) or negative (e.g. anxious, fearful)? This is also the most difficult area to assess, as we are often inferring these emotional states from other measures. In many welfare assessment schemes we use behaviour to try to address this aspect of animal lives. In these cases we would often look to see if the behaviour of the animal is different from what we would normally expect for that species, or for that individual if it is an animal we know well. For example if animals are aggressive, pushing one another and with frequent displacements from the feeder or from preferred lying areas, we would probably conclude that the animals are not content and that some aspect of the environment is not meeting their needs. For social animals, being part of the social group, and having positive or affectionate contact with other animals in the social group, would be the normal behaviour of the species. In this case any animal that has withdrawn from the social group, and is not interacting with others, would be a cause for concern.

Stereotypic behaviour, where the animal performs repetitive, unvarying apparently functionless sequences of behaviour (such as pacing, swaying from side to side, wind-sucking, chewing or tongue-rolling for example), can also be an indicator that the environment is inadequate. These behaviours can develop if an animal is unable to satisfy a biological need to perform a highly motivated behaviour and are abnormal responses, although they can be considered as a way that the animal attempts to cope with the environment. The presence of these behaviours can indicate that the animal is in an environment that does not meet its needs, which would be a cause for welfare concern. Other forms of abnormal behaviour might be self-injury (such as feather plucking, or biting and chewing their own limbs, or excessive, repetitive licking of the same area) or involve injuring others by biting, chewing, licking or plucking. These can be welfare problems in their own right, as the animal is causing injury, but are also indicative of a poor environment that is not meeting the animal's needs.

Animal demeanour, that is the appearance of the animal, may also help us to understand the mental state of the animal. In general we would expect that the normal behaviour of the animal, when awake, would be to be bright and alert,

actively engaging with the environment or with other animals. Animals that appear dejected and apathetic, standing apart from others or not engaging with the environment, suggest that all is not well. Similarly animals that appear highly fearful and anxious, with very active but jerky movements, perhaps with frequent high-pitched vocalisations, suggest that the animal is distressed. Using these sort of measures, usually in combination with other measures, can help to build a picture of the animal’s mental state.

**Check Your Progress 2**

**Note:** a) Use the spaces given below for your answers.  
b) Check your answer with those given at the end of the unit.

- 1) What do you understand by animal welfare indicators?  
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- 2) Write a possible measure for animal welfare that is indicative of:
  - a) Physical Assessment: .....
  - b) Biological Function Assessment: .....
  - c) Mental State Assessment: .....
- 3) Why should welfare assessment measures of biological function always be interpreted with some caution?  
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**13.5 HOW IS ANIMAL WELFARE ASSESSED?**

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There are many different types of measures we can take to assess welfare. Each has their advantages or disadvantages, and often welfare assessment schemes will use a mixture of these different types. Here we will describe the different sorts of measures, and their advantages and limitations under the following headings:

- a) Resource-based measures
- b) Management-based measures
- c) Animal-based measures



### 13.5.1 Resource-based Measures

Resource-based measures assess the inputs into a system, in other words what we provide to the animal, for good welfare. This will often be where a scheme or accreditation body have particular standards, which may be part of what they are promoting, such as space allowance. Being a member of such a scheme would require that the animal does indeed have these resources and so the welfare assessment scheme is designed to check this is so.

*Example:* A certification scheme may dictate that an animal must have so many square metres in space, or must have a particular amount or type of bedding. Measures of this type then would be designed to check that the animals in a system are actually being provided with these resources.

Typical resource-based measures include:

- Assessing the presence or absence of things in the environment.
- Measuring the size of pens, enclosures, length of feed face.
- Assessing the air quality, ventilation, light level and other aspects of the physical environment.

#### Advantages of Resource-based Assessment

- a) A housing system may have been carefully defined to take into consideration all the different welfare needs of the animal. In this case, assessing whether these are provided or not is a useful assessment of animal welfare within the system.
- b) These type of assessments do not generally require a lot of training for those doing the assessment.
- c) The measures also have a high level of reliability (i.e. can easily be measured in the same way in different places, at different times and by different people) and it can be clear whether the guidance have been adhered to, or where a facility complies with the standards.

For these reasons most animal welfare assessment schemes still rely primarily on these types of measures.

#### Disadvantages of Resource-based Assessment

- a) Assessing the inputs into a system does not necessarily tell us how well the animals in the system are actually doing.
- b) Within a system some animals may cope well, and others not cope well at all, and by just looking at the physical aspects of the system we may miss these details.
- c) It may also be that the system has not considered all aspects of an animal's welfare in the guidelines, and by assessing the inputs alone we are not assessing other domains of welfare.
- d) In general, focusing on the physical structures or inputs to the system does not always engage with the animal keeper, who may be unable to easily change these, and does not generally use these measures themselves to assess their own animals.

Before we proceed, please complete activity 2.

**Activity 2 (Visit):** Visit a farm, animal shelter or zoo. For a species of your choice consider what resources are available to those animals and how those could be assessed?

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### 13.5.2 Management-based Measures

Management-based measures focus on how the animal keeper looks after the animals within the system. These sorts of measures will ask how and what decisions are made for animal welfare, how the different resources are used, and can also look at records kept by the managers of the system. Measures of this type might include things like looking at records of mortalities, morbidities and illness or treatment (where these exist), assessing how and when feed is provided to the animals and whether plans are in place to deal with emergencies or other sorts of contingency planning.

#### Advantages of Management-based Assessment

- a) The advantages of these sorts of measures are that they start to ask a bit more about how the system actually operates, rather than just defining what the system is as with the resource-based measures.
- b) They can also look at how the system works over time as records can give measures over a period of time rather than just on the day.

#### Disadvantages of Management-based Assessment

- a) These measures are entirely dependent on the existence and accuracy of the record-keeping, and whether the animal keeper or manager is correct in their description of what they do to manage the system.
- b) Management plans also do not necessarily explain how the animals cope in the system.

*Example:* A health plan may outline carefully how disease will be treated, but not necessarily how well or early the disease might be detected.

### 13.5.3 Animal-based Measures

The third type of measures that are animal-based, sometimes referred to as outcome-based measures. These measures do not consider the inputs (or at least not only the inputs) but what is the actual outcome for the welfare of an animal living within the system. These measures can be made on an individual animal, a number of individuals within the system or at a group level. Animal-based or outcome measures include assessing the physical condition of the animal (fat cover, presence of injuries, coat cleanliness and condition, for example), the presence of disease states and the behaviour of the animal (e.g. time spent lying, presence of stereotypical behaviour, aggression etc.).

#### Advantages of Animal-based Measures

- a) The advantage of these types of measures is that they get much closer to assessing animal welfare in terms of how well the animal is coping in the system.
- b) This can integrate information about what resources are provided to the animal in the system, and the decisions made in the management of the system, into measures of what this actually means in welfare outcomes.
- c) These sorts of measures are also closer to what the general public considers to be animal welfare, and can engage the animal keeper in similar sorts of measures that they may be making themselves on a day-to-day basis in the care of their animals.

#### Disadvantages of Animal-based Measures

- a) The disadvantages of these measures are that they generally require a much better knowledge and understanding of the animal than assessing the other types of measures.
- b) The person conducting the assessment will need considerably more training to achieve good reliability than with resource-based measures for example, and the measures may be considered more subjective and open to bias.
- c) This can then lead to greater difficulty in achieving agreement on the welfare state of the animals, within and between systems and facilities.
- d) In addition, these sorts of measures can often take longer to make and may require animals to be moved from their housing and to be handled.
- e) Outcome-based measures can also be considered only a 'snap-shot' of the state of welfare of the animals on a particular time and place when the inspection occurs.
- f) Many outcome based measures (such as low body fatness) could be seen as indicative of a longer period of food deprivation to reach such a state, but behavioural measures are often more immediately indicative of current state, rather than what might have occurred over a number of days, weeks or months.

The focus of three animal welfare assessment measures with examples is summarised in Box 13.3.

<b>Box 13.3: Summary of Animal Welfare Assessment Measures</b>		
<b>Resource-based Measures</b>	<b>Management-based Measures</b>	<b>Animal-based Measures</b>
<p>Resource-based measures assess the inputs into a system, in other words what we provide to the animal, for good welfare.</p> <p><i>Example:</i> A certification scheme may dictate that an animal must have so many square metres in space, or must have a particular amount or type of bedding.</p>	<p>Management-based measures focus on how the animal keeper looks after the animals within the system.</p> <p><i>Example:</i> Records of mortalities, morbidities and illness or treatment.</p>	<p>These measures consider the actual outcome for the welfare of an animal living within the system.</p> <p><i>Example:</i> Assessing the physical condition of the animal (fat cover, presence of injuries, coat cleanliness, the presence of disease states and the behaviour of the animal).</p>

Before we proceed, please complete activities 3 and 4.

**Activity 3 (Visit):** Visit a farm, animal shelter or zoo. For a species of your choice consider what management-based measures are available to those animals and how those could be assessed?

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**Activity 4 (Critical Thinking):** For an animal or species that you know well, identify what might be suitable animal-based measures for assessing welfare.

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**Check Your Progress 3**

**Note:** a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

1) What are the resource-based measures we can take to assess welfare?

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2) Give one advantage and one disadvantage of assessing animal welfare by:

a) Resource-based measures

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b) Management-based measures

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c) Animal-based measures

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**13.6 WELFARE ASSESSMENT IN PRACTICE**

As discussed previously, animal welfare can be assessed for a number of different purposes, which may influence the numbers and types of measures that will be used in assessment. Here we will consider the different types of schemes or reasons for assessment that exist and what each tries to achieve under the following heads:

- a) Minimum standards and legislation
- b) Quality assurance
- c) Retailers standards
- d) Enhanced welfare standards

**13.6.1 Minimum Standards and Legislation**

The minimum acceptable standards of animal care are usually those defined by legislation. For many countries, however, there are no laws on animal welfare and there the minimum standards may be defined by societal expectations or social norms, or other forms of regulation. Where animal welfare is regulated by legislation, there may be inspection schemes in place to ensure compliance with the law. As this defines the minimum standards often these focus on the:

- Avoidance of animal suffering, and
- Adherence to the legislation with regard to banned practices and housing systems.

*Example:* In the European Union there are a number of banned housing systems (such as battery cages for chickens and gestation stalls for pregnant sows).

Assessing compliance with the law would involve the inspection of premises using the resource-based indicator of whether these systems are still present and in use. Minimum standards that expect animals not to suffer excessively or unnecessarily may also consider some welfare outcome measures, such as high numbers of dead or sick animals, or animals with untreated disease or injury.

### **13.6.2 Quality Assurance**

Quality assurance is a way of providing a similar and consistent level of quality (in this case animal welfare) across a range of facilities and over time. This is provided by a scheme or accreditation body, which sets a particular standard for best practice in animal welfare.

*Example:* This could be accreditation with a specific body (such as WAZA for zoos), which then provides assurance that animal welfare standards meet its requirements in its members.

Becoming a member of a scheme requires members to meet standards, but may also confer advantages to members because they can now demonstrate they meet a standardised level of quality in animal welfare. In general, as part of the quality scheme, there needs to be some level of quality control, which may involve an inspection of members and assessment of the level of compliance with the best practice guidance laid down by the quality assurance scheme. Often these may involve a mixture of different welfare assessment measures, but adherence to particular resource-based guidance is often a key component, perhaps supplemented with some animal-based measures.

### **13.6.3 Retailers Standards**

Where animals are present to provide some commodity for human use (such as food, leather, fibre), there may be an intermediary, such as a buyer or retailer, who will determine what level of quality or animal welfare requirements they demand for a product. This may be no more than the minimum standards required by legislation. However, higher standards of animal welfare can be required for export purposes, to meet legislative requirements of the importing country, or may be required to allow the product to attract a premium price. Often these products fall under a particular brand or marketing claim about how the product is produced (similar to the quality assurance brand described above), and thus the retailer may wish to ensure that these claims are supported by evidence in support of how the animals are actually managed. Welfare assessment to meet these requirements may be similar to those for quality assurance, focusing on meeting the standards laid down in the product description or marketing.

### **13.6.4 Enhanced Welfare Standards**

Enhanced animal welfare standards may be provided because they can achieve a high price by focusing on targeting a niche audience in the market, or because of other motivations to keep animals in a very good state of welfare. Whereas minimum standards focus on avoiding suffering, enhanced welfare standards may focus on the positive aspects of animal welfare, and in being able to give an animal a good life. However, they share similar features with other forms of quality assurance and retailers standards. In general, there is a set of guidance

about how animals must be cared for, standards (which may give animals greater amounts of space than other schemes for example) and inspections to ensure compliance with these enhanced standards. This then allows the facility to use a particular brand or mark advertising the enhanced standard of animal welfare.

Enhanced standards of animal welfare may still rely heavily on resource-based measures, although these will be at the higher end (e.g. permanent access to pasture, provision of specific forms of enrichment to allow behavioural needs to be met). They may also use more outcome-based assessment methods, to check that the increased resource requirements of these schemes are leading to improvement in animal welfare. The focus on providing for a good life requires the use of indicators that can demonstrate positive welfare, not just avoidance of suffering. In general, the number of indicators that can be used to make this sort of judgement are rather few, although looking at the presence of play behaviour, exploration, affiliative social contact or positive animal demeanour are all candidates for this sort of assessment.

Before we proceed, please complete activity 5.

**Activity 5:** Consider any animal products or services that you regularly use. Do they have a quality mark or symbol? What criteria are being assessed? (hint: this may be food quality, food safety, a regional speciality etc.).

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**Check Your Progress 4**

**Note:** a) Use the spaces given below for your answers.

b) Check your answer with those given at the end of the unit.

1) What are the minimum acceptable standards of animal care?

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2) What is quality assurance in the context of animal welfare assessment?

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- 3) Write down the key differences between assessing minimum standards and enhanced welfare standards

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## 13.7 IMPLEMENTING ANIMAL WELFARE ASSESSMENT

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Implementation of a welfare assessment scheme involves a number of components. In the rest of this Block we will consider the different methods for welfare assessment and how these are implemented in practice. Here we will briefly consider the components that are required to ensure that the welfare assessments are consistent under the following headers:

- a) Training and auditing
- b) Animal welfare inspections
- c) Bench-marking
- d) Enforcement

### 13.7.1 Training and Auditing

In general, animal welfare assessment will require some training of those who will conduct the assessments on the following aspects:

- A good understanding of the species involved in the assessment, and the normal associated husbandry practices, is important for the assessor to be able to engage in an effective dialogue with the animal keeper, and to be able to identify abnormalities in the animal or system.
- The assessor also needs to understand the requirements of the welfare assessment scheme, and be able to conduct the assessment in a fair and unbiased manner regardless of who they are assessing.
- Training is particularly important for the use of animal-based measures, as these types of measures require a greater precision and understanding of the animal responses compared to other measures.
- For these the assessor may need to reach a particular criteria or level before they can reliably collect data in a consistent manner.
- Training, or auditing, of assessments can also be repeated at regular intervals to ensure that the assessor remains consistent.

Over time assessments may drift, if a particular measure is always poor on many farms, the assessor may start to see this as normal, and only look for those that deviate from this new ‘normalised’ state. Regular review of training can help to ensure that assessments remain consistent.



### 13.7.2 Animal Welfare Inspections

When the purpose of welfare assessment is to ensure compliance with some standard, whether this is legislative or for commercial or other reasons, then there usually needs to be some inspection by an external agency. This can be announced, where the facility are aware that the inspector will be coming and have some time to prepare for the visit, or unannounced, where the inspector arrives and views the facility in its usual state. Depending on the type of assessment scheme being applied, and the types of measures in use, the inspector may need to visit all areas of the facility, see and possibly interact with or handle some animals, and discuss records or management practices with the animal keeper or manager. The frequency of these visits will depend on the scheme itself, and possibly also the outcome of the previous inspection. For example, facilities that have been judged to be performing very well may be inspected less frequently than those that are judged to be inadequate in some way.

### 13.7.3 Bench-marking

A bench-mark is defined as a point of reference for a measure. In animal welfare terms, this can be used as a reference point to determine if a facility has passed or failed a welfare inspection, or to decide where on a scale the facility falls if there are levels associated with the assessment scheme. Determining where the bench-mark should be set can be an important part of conducting the assessment. This may be an idealised threshold – for example, it may be unacceptable for any animal or facility to ever be below a certain level, perhaps all animals must be provided with a minimum amount of space – or a more pragmatic response. Often welfare assessment schemes want to differentiate different facilities (this one is better than that one for example). If the bench-mark is set so high that no one is able to achieve the level then it will fail to achieve its goals, and will be demotivating for those involved. In this case bench-marks may be set so that a certain percentage of facilities will exceed the level. More idealised thresholds can be set relying on the science of animal welfare to provide supporting evidence for where levels should be placed. For example, the evidence can support that below a certain amount of space allowance animals are unable to lie in comfort, or there will be an increase in displacements and aggression, and thus the bench-mark should be set above this level. Enhanced welfare assessment standards may have several levels, each of which sets the bench-mark for achieving the next tier, again based usually on the evidence provided by animal welfare science.

### 13.7.4 Enforcement

For a scheme to achieve its goals often there needs to be some penalty for failing to achieve the required standard. For falling below minimum standards as set by legislation there may be legal consequences and prosecution, perhaps on the basis of animal cruelty. For quality assurance or other standards the penalty would be removal from the scheme or refusal of the right to use a particular mark or brand, or lack of access to particular markets. These may all have a financial cost to the animal keeper, or cause loss of potential income.

Before we proceed, please complete activity 6.

**Activity 6:** Consider any type of assessment scheme that you are aware of. What is the bench mark and how is it assessed and enforced?

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## 13.8 BENEFITS AND LIMITATIONS OF ANIMAL WELFARE ASSESSMENT

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### 13.8.1 Benefits

- The aim of welfare assessment is to bring about improvements in the quality of animal lives.
- Using a consistent method to assess animal welfare, applied in the same way across different systems, associated with particular inducements or penalties, can be an effective tool to bring about change.
- Often animal welfare is considered to be a luxury or too expensive, or might be thought to be unimportant. Without a scheme to reward developments or improvements in animal welfare, or to initiate change in animal management, then often the status quo is considered good enough, or other demands on time and money become more important.
- Regular checking, by assessment, can ensure that standards do not decline over time, or bad practice does not become the new normal for the system.
- Welfare assessment can also be useful to educate and train animal keepers in appropriate standards, and introduce new ways of thinking about animal welfare.
- Often animals are kept in particular ways due to tradition, because this is how they have always been kept, or because the animal keeper has no education or training in animal management, or opportunity to see alternatives in practice.
- Understanding the requirements of a particular scheme can help to suggest an alternative way of managing animals, or emphasise parts of animal management that may not have been considered previously.
- Animal welfare assessment can provide consumers of animal products, or others who have an interest in animal welfare, with information on the quality of life of the animals that produced the products.

- This can be an important factor in buying decisions, and may help to create a market for higher welfare goods. This can then be a catalyst to drive continuous improvement by meeting this new demand for better animal welfare.

### 13.8.2 Limitations

- Animal welfare assessment can only achieve its goal of improving animal quality of life if it is effective. This means that the standards, bench marks and methods used to assess welfare must be valid, in that they do measure some aspect of quality of life for the animal.
- The penalties or rewards for achieving animal welfare standards must be sufficient that good practice is rewarded and there is an incentive for poor practice to improve or change.
- The standards or bench-marks at which animal welfare is set must be at a level that animals at least have a life worth living, and ideally where there is some opportunity for continuous improvement.
- The processes that need to be achieved to ensure that the animal welfare assessment method is effective will be discussed in the next Units.
- Often welfare assessment can only provide information on the life of the animal on the day of assessment. It may be that only by carrying out multiple assessments over time can a true picture of the quality of life of the animal be acquired.
- However, often welfare assessment inspections occur infrequently, and may be very short, assessing only a small part of the facility, so cannot form an accurate picture of the quality of life for all animals.
- Where there is interest and motivation to improve animal welfare in the facility this may not matter, as the animal keeper will have a desire to improve welfare for all animals and may want an assessment to check on progress.
- However, if there is less enthusiasm for improving animal welfare then only the minimum required to pass an inspection may be carried out, and then only on the day of the inspection.
- Although standards and inspections that are conducted for legislative purposes apply to all of a particular group of animals for which the law applies, other schemes may be voluntary.
- If the standards of welfare in the scheme are very high then this can be effective in improving quality of life for a small number of animals in the scheme, which may have very good welfare, but will have no impact on the welfare of the majority of animals.
- If the standards of welfare are very low, then this may mean there are many animals and facilities enrolled in the scheme, but the improvements in welfare that can be achieved will also be very small.

Whether it is best to have a small number of animals with a very good quality of life, compared to a large number with a slight improvement, is an ethical decision that will be discussed later in the course.

Before we proceed, please complete activity 7.

**Activity 7 (Discussion):** Discuss animal welfare assessment with friends or colleagues or fellow learners. Would a system that provides a small improvement in the lives of many animals be preferable to a system with very high standards that provides very good welfare for only a few animals?

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**Check Your Progress 5**

**Note:** a) Use the spaces given below for your answers.  
b) Check your answer with those given at the end of the unit.

- 1) What is bench-marking in the context of animal welfare assessment?  
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- 2) What are the main activities required to implement a welfare assessment scheme?  
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- 3) List three benefits of animal welfare assessment.  
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- 4) Give three limitations to the use of animal welfare assessment to improve animal lives.

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## 13.9 LET US SUM UP

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- In this Unit we have been introduced to the concept of animal welfare assessment, and the reasons why this is carried out.
- We have discussed the opportunities to assess animal welfare taking into account the different domains of welfare that we might want to consider.
- We have also looked at the different types of measures that can be used: resource-based, management-based and animal-based, and discussed the advantages and limitations of each of these types of measures.
- Animal welfare assessment requires some level of standards or bench-marks, training and inspections to have an impact on animal lives.
- We have considered what is needed for each of these components.
- Finally we have discussed the potential benefits for animal welfare that can be achieved by welfare assessment but been made aware of the limitations in what can be brought about by assessment.

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## 13.10 KEYWORDS

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**Abnormal Behaviour:** Behaviours that do not form part of the normal behavioural repertoire of the species, or are performed in an unusual way or at a higher or lower rate than expected. This can include stereotypic behaviour, as well as injurious behaviour and mis-directed behaviour.

**Animal Welfare Assessment:** The process of gathering data or information on an individual, group or system level, which allows some consideration to be made of the welfare state of the animals included in the assessment.

**Animal-based Measures:** Measures that record welfare outcomes by looking at individual or group measures of how well the animals are coping with the environments in which they live.

**Bench-mark:** A level or threshold value that determines a particular value or score (in this case for animal welfare) or whether a facility has passed or failed to achieve the desired standard.

**Biological Function:** The biological ability of the animal to cope and flourish in the environment in which it is kept.

**Emotional State:** Measures of behaviour, demeanour and biological function that are associated with a particular emotions or mood.

**Management-based Measures:** Welfare measures that assess how the animal is managed by inspection of records and/or discussion with the manager or keeper of the animal to determine usual practices.

**Physical Well-being:** The physical appearance of the animal, whether it is healthy, clean and in good condition.

**Quality Assurance:** A means of providing a similar and consistent level of quality (in this case animal welfare) across a range of facilities and over time.

**Resource-based Measures:** Measures that record inputs or what facilities are available to the animal (e.g. space, food, bedding etc.).

**Stereotypic Behaviour:** Repetitive, unvarying, apparently function-less sequences of behaviour that can be performed for long periods of time. These are considered indicative of a poor environment having been experienced by the animal.

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## 13.11 BIBLIOGRAPHY AND FURTHER READING

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Blokhuis, H., Miele, M., Veissier, I., and Jones. B. Eds (2013). Improving Farm Animal Welfare: Science and Society Working Together, the Welfare Quality approach Wageningen Academic Publishers.

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## 13.12 SELF ASSESSMENT EXERCISES

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- 1) Why might we want to assess animal welfare?
- 2) List some examples of different measures that can be used for welfare assessment.
- 3) Define what you understand to be measures of physical state, biological function and animal mental states.
- 4) What are the key features of resource-based measures?
- 5) What are the advantages of using animal-based measures?
- 6) What is a bench-mark?
- 7) Why is training and auditing important in animal welfare assessment?
- 8) How can animal welfare assessment be useful to improve animal lives?

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## 13.13 ANSWERS/HINTS TO CHECK YOUR PROGRESS

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### Check Your Progress 1

- 1) In order to improve animal welfare the theoretical knowledge needs to be implemented in practice. Hence, there is a need for institutional or more systematic consideration of animal welfare, for which we need animal welfare assessment.
- 2) The goal in conducting animal welfare assessment will be to determine whether the animal has a good life, a life worth living or whether significant improvement need to be made in its welfare state. We may also determine if one or more of the Five Freedoms is not being adhered to and where advice or support might be needed to lead to an improvement.

- 3) Animal welfare assessment is a way of investigating whether animals are being properly cared for, and providing evidence for the current welfare state of animals.
- 4) Welfare assessment can ensure minimum standards are met for animal welfare; it is also possible to see if enhanced standards can be achieved; welfare assessment can allow animal owners to check welfare status; welfare assessment can lead to improvements because animal owners are incentivised to make improvements.
- 5) Animal welfare assessment by the owner of the animals is more on ad hoc basis than a formal assessment, but may occur much more frequently than an official inspection. However, there is a risk that the system can become 'normalised' in that the keeper fails to notice poor welfare if this occurs all the time, so does not appear to be an issue. Having a systematic process of assessment against a standardised scheme can ensure that welfare state is continually assessed in the same way.

### Check Your Progress 2

- 1) There is no 'Gold Standard' measure of animal welfare, and it cannot be measured directly. Instead, we usually make a series of measures, which are called as welfare indicators. They allow us to make some judgement about the welfare state of the animal.
- 2) (a) Physical measures include animal appearance (coat, hooves, absence of injuries, body condition) which can allow us to determine if it is being well cared for, and whether there are physical injuries. (b) Measures of biological function can include measures of productivity for farm animals (number of offspring, volume of milk produced, number of eggs laid), physiological indicators of stress responses and indicators of health and mortality. (c) Measures of animal mental state are primarily behavioural – a positive mental state may be indicated by play, social engagement and interest in the environment; a negative mental state might be suggested by animals which are withdrawn, hunched, apathetic, agitated, aggressive, or are unresponsive.
- 3) Welfare assessment measures of biological function may be able to tell us that the animal has deviated from its normal state, but they do not usually tell us whether this is a good or a bad thing for the animal. For example, many animals go through a seasonal change in physiological state. Thus these indicators are usually used in combination with other data, and help to build a picture of the welfare state of the animal, but should not be used in isolation.

### Check Your Progress 3

- 1) Resource-based measures we can take to assess welfare include: assessing the presence or absence of things in the environment; measuring the size of pens, enclosures, length of feed face, and; assessing the air quality, ventilation, light level and other aspects of the physical environment.
- 2) (a) Resource-based measures: advantages - simple and easy to measure, good reliability, in a well-designed facility that can be good indicators of welfare, do not change over time; disadvantages - do not consider how well the animal is coping in the environment, welfare can be poor even in a well-designed system for some animals (e.g. subordinates), may not engage the animal keeper (b) Management-based measures: advantages - allow us to

see how the facility is used for animal welfare, can assess animal welfare over a longer period of time; disadvantages - relies on good record keeping which may not be available, harder to assess reliability (c) Animal-based measures: advantages - assesses what the animal is actually experiencing, can be easier to engage the animal keeper; disadvantages – harder to achieve good reliability, requires more training of inspectors, may be only a ‘snapshot’ of welfare on the day of assessment.

#### Check Your Progress 4

- 1) Standards those defined by legislation are the minimum acceptable standards of animal care.
- 2) Quality assurance is a way of providing a similar and consistent level of quality (in this case animal welfare) across a range of facilities and over time. This is provided by a scheme or accreditation body which sets a particular standard for best practice in animal welfare.
- 3) *Minimum standards* – usually these are defined by legislation, either specific defining animal welfare or anti-cruelty laws, or by societal norms. These define the lowest acceptable level of animal welfare, below which it is not acceptable for the treatment of animals under human care. In some countries this may define forbidden practices (e.g. particularly restrictive housing, or painful management practices).

*Enhanced welfare standards* – these are usually standards set by a certification or accreditation body because there is some advantage (financial or moral) to the company or animal keeper to be able to indicate that their animals are kept in a very good condition. These standards may have a series of levels through which the facility can progress as it works towards providing a better life for its animals.

#### Check Your Progress 5

- 1) A bench-mark is defined as a point of reference for a measure. In animal welfare terms this can be used as a reference point to determine if a facility has passed or failed a welfare inspection.
- 2) The main activities required are: recruitment of farms/owners/facilities into the scheme by offering some benefits for ownership; training; regular auditing of inspectors and facilities; inspection of facilities against the benchmarks; feedback to owner of facility on outcome of the inspection, and; enforcement of standards.
- 3) Benefits of animal welfare assessment – ensures that welfare standards are maintained; prevents poor practice becoming normalised; provides incentives for continuous improvements; can be used as a training opportunity in animal welfare; can increase pride in animal husbandry skills; reassure consumers of animal products about the ways animals have been kept; offer opportunities to educate consumers and increase market for higher animal welfare products.
- 4) Limitations to the use of animal welfare assessment to improve animal lives– if the welfare assessment scheme is not based on validated measures then it may have no impact on the quality of animal lives; poorly rewarded schemes may not provide sufficient motivation for animal keepers; inspections may be infrequent and welfare may not be maintained between visits; very ambitious schemes may be demotivating and discourage participation; schemes that are unambitious may have minimal impact on animal lives.