Concepts and measures of Animal Welfare
KSL Root Nr. 476517

Summary

Animal welfare is a matter of great public concern, and laws are in place to protect the welfare of animals under human care. Despite this attention, the definition of animal welfare, how it is assessed, and the application to inform policy making is fluid. Scientifically, animal welfare is a multidimensional concept comprising health, behaviour, and feelings. Therefore, there is no single outcome measure by which animal welfare can be assessed, but outcomes addressing any of these three components (health, behaviour, wellbeing) may serve to characterize states of animal welfare. Animal welfare scientists have developed a plethora of diagnostic measures and test procedures; some are highly specific for specific aspects of animal welfare (e.g the Grimace Scales to assess pain in animals), others more generally assess the animals' "quality of life" (e.g. the Welfare Quality assessment protocols). Whereas some are based on extensive test procedures under controlled (laboratory) conditions (e.g. tests of cognitive biases), others are amenable to on-site assessments (e.g. lameness scores). The present course seeks to provide an overview of the basic concepts that underpin animal welfare, review some of the newer and more refined measures of animal welfare (with a special focus on long-term/cumulative measures) including the use of smart technology, discuss the reliability and utility of welfare measures for policy making, and put the concept of animal welfare into perspective with the goals of sustainable development.

Organizers:

PD Dr. Michael Toscano (Div. Animal Welfare, Vetsuisse)

Tutors:

 Members of the Division of Animal Welfare (Veterinary Public Health Institute, Vetsuisse Faculty)

Date

The course will be offered as a block course over a 2-3 day period between week 12 and 18 in 2024 depending on student interest.

Credits:

 1.5 ECTS

Registration*:

By e-mail to michael.toscano@unibe.ch indicating your current student status (e.g. PhD student of the GCB) and your Matriculation Number.

*GCB students must also register in KSL in parallel for the ECTS to show in their KSL Planning, be included in their ECTS total, and be printed on their diploma supplement.

Lecture summary

1. Introduction to the course and classical animal welfare definitions and assessment (HW)

    General introduction to the basic concepts of animal welfare (comprising health, behaviour and feelings), with classical examples of how each of these dimensions has been studied to assess animal welfare. Methods will then be extended to cover affective states, including cognitive biases.

2. On-farm and direct measures (SG)

    Farmers, auditors, scientists and others, are required to monitor animal health and welfare issues of their animals, constantly, and take actions if necessary. How do they assess health and welfare esp. with a high number of farm animals? How are used methods deemed reliable and what are typical measures that are assessed

3. Behavioral tracking and use of sensor analysis (MT)

    With increased farm size and difficulty to retain trained workers, advances in sensor technology is increasingly being applied to monitor animal welfare and performance. Methods are broad and include the actual animals themselves as well as environmental conditions, feed levels, and other important variables. The lecture will review this technology and how it can be used towards improving animal welfare.

4. Integrating assessments into policy and consumer information (MT)

    Information from animal welfare assessments is of value for those doing fundamental and applied research, but then is often used by policy makers and consumers to make critical decisions. The lecture will review that process and provide several examples relating how assessments influenced policy and culture.

5. Student presentations

    Students will choose a single relevant article and present a 10 minute summary presentation followed by 10 minutes of questions.

6. Biomarkers and long term/cumulative stress indicators, e.g., telomere, neurogenesis, epigenetic (MT)

    Animal welfare scientists are increasingly recognizing the limitations of short term indicators of welfare and the need for measures that represent an animal's ability to adapt to internal and environmental stressors. The lecture will cover emerging areas that reflect novel indicators of biologically relevant changes against experienced stress over extended periods of time.

7. A: Pain Assessment / B: Sustainability within Animal Welfare (SG)

    Part A. Animals experience pain though it is difficult to determine how, when, and its influence on their welfare. We have a variety of methods to identify pain in animals and its impact.

Part B. The extended concept of One Health combines human and animal health with the state of the whole planet, i.e. sustainability regarding a low carbon output. How can farm management procedures aid in the compatibility of protection of all three goals?

8. Humane killing (MT)

Animals often need to be killed for a variety of reasons including cessation of suffering, disease outbreaks, and production reasons. The lecture will review different conditions for killing, methodologies, and associated philosophies.