How to assess animal welfare

Marco De Nardi

How to define animal welfare?

- **«The Five Freedoms» definition**

  - Freedom from hunger, thirst & malnutrition
  - Freedom from pain, injury & disease
  - Freedom from thermal & physical discomfort
  - Freedom from fear & distress
  - Freedom to perform natural behaviours

  (The Brambell Committee, 1965 and the Farm Animal Welfare Council, 1992)

→ A definition still widely used, including in the OIE Terrestrial Animal Health Code

EU legislation

8. 8. 98   EN   Official Journal of the European Communities   L 221/23

COUNCIL DIRECTIVE 98/58/EC
of 20 July 1998
concerning the protection of animals kept for farming purposes

Article 3
Member States shall make provision to ensure that the owners or keepers take all reasonable steps to ensure the welfare of animals under their care

Article 6
Member States shall ensure that inspections are carried out by the competent authority to check compliance with the provisions of this Directive. Such inspections may be carried out at the same time as checks for other purposes.
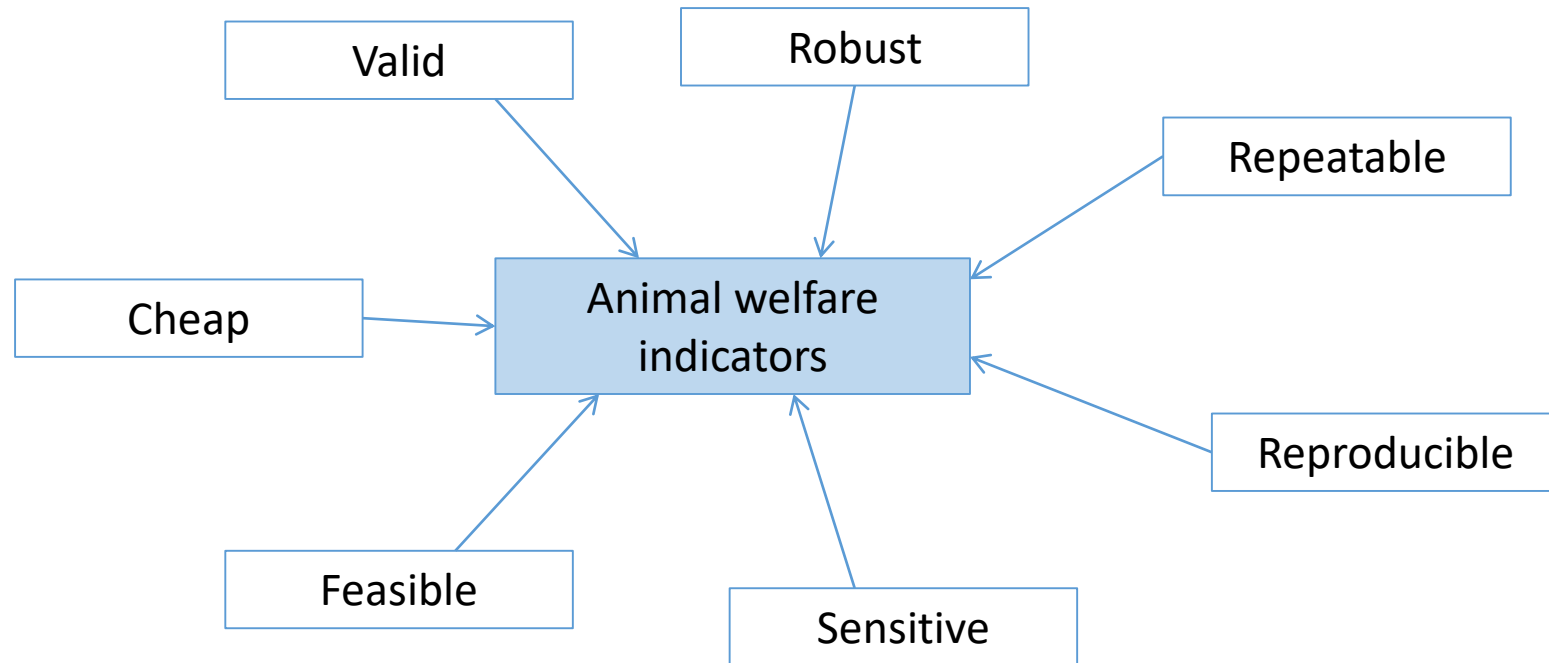
How to evaluate animal welfare?

- Need for an **objective welfare assessment**
  - To conduct **quantitative risk assessment**
    - ○ Intensity and magnitude of a hazard (causing poor welfare)
  - To inform **evidence-based policies**

- A diversity of welfare indicators has been proposed
  - **Welfare indicator**: an observation, a record or a measurement used to obtain information on an animal's welfare (*EFSA 2012*)

Requirements of animal welfare indicators

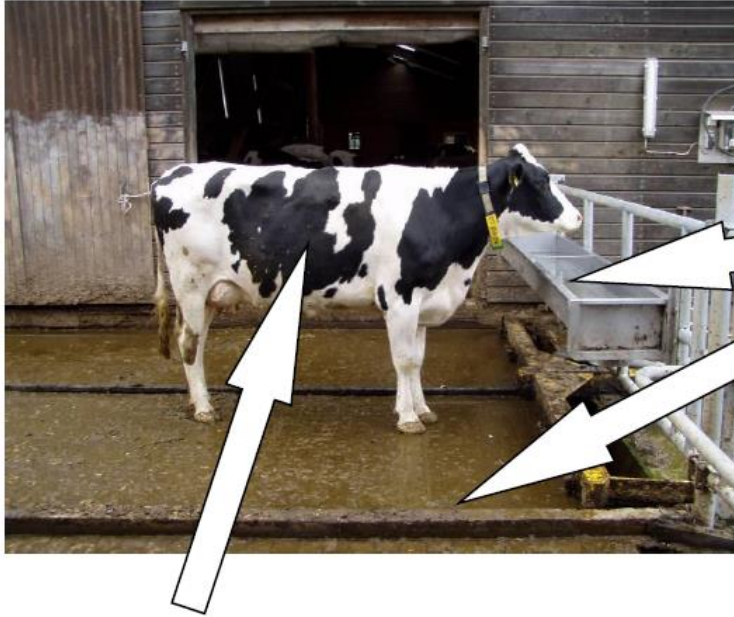- Similar to requirements of diagnostic tests

How to evaluate animal welfare?

Credit: Linda Keeling (SLU), ECVPH AGM 2016

How to evaluate animal welfare?

The input-based approach

Focus on provision of resources and management

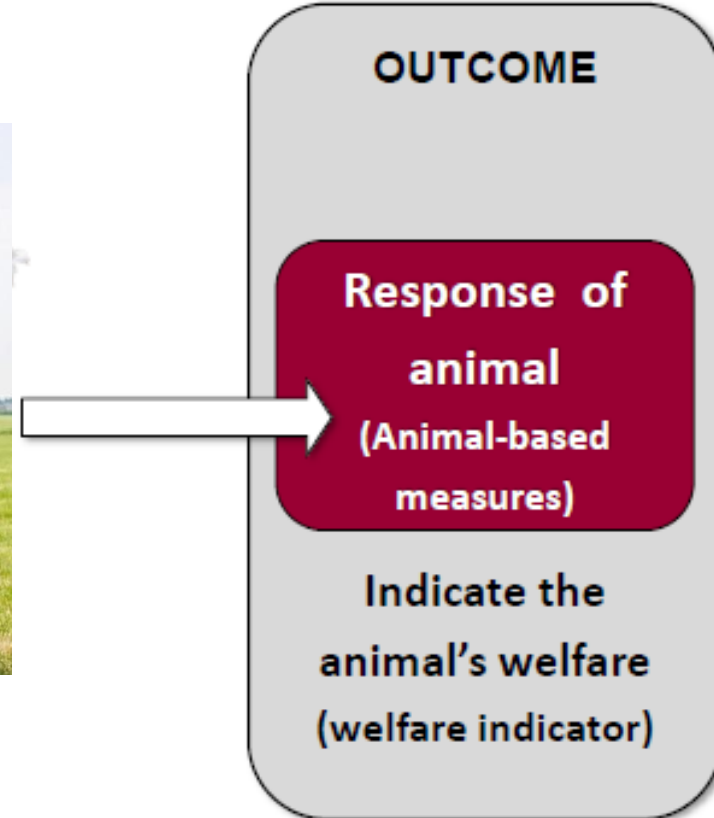The outcome-based approach

Focus on animal-based measures

Credit: Linda Keeling (SLU), ECVPH AGM 2016

Input-based vs outcome-based systems

Risk factors

Consequences
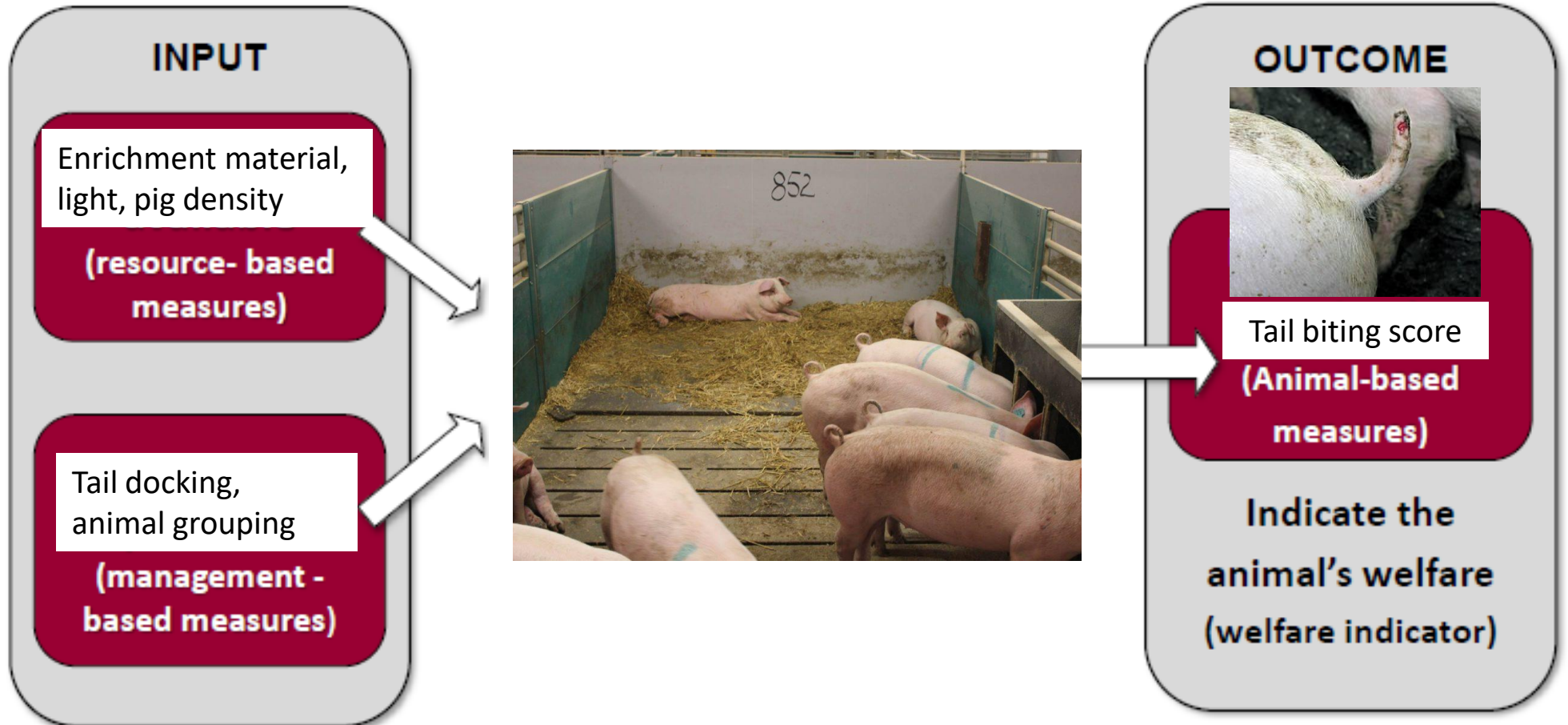
INPUT

Resources available
(resource- based measures)

Management practices
(management - based measures)

OUTCOME

Response of animal
(Animal-based measures)

Indicate the animal's welfare
(welfare indicator)

EFSA, 2012

Example: tail biting in pig production

Risk factors

INPUT

Enrichment material, light, pig density
(resource- based measures)

Tail docking, animal grouping
(management - based measures)

Consequences

OUTCOME

Tail biting score
(Animal-based measures)

Indicate the animal's welfare
(welfare indicator)

Input-based vs outcome-based systems

Risk factors

INPUT

Resources available
(resource- based measures)

Management practices
(management - based measures)

- EU animal welfare evaluation systems so far:
  - Mostly based on **input-based measures**
  - Very **prescriptive**
    - E.g. floor area, light intensity

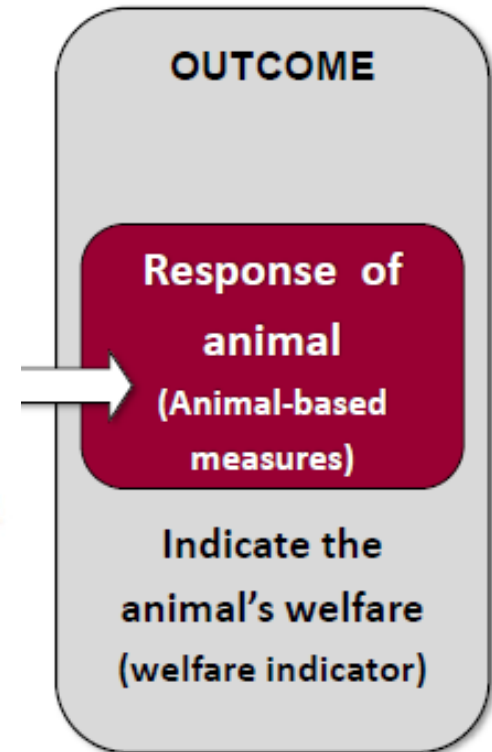| Pros	Cons
• Robust • Repeatable • Reproducible • Feasibility	• Cost (farm visit) • Sensitivity • **VALIDITY: does not really inform about the actual welfare of the animal (indirect measure)**

Input-based vs outcome-based systems

- **EU Strategy for the Protection and Welfare of Animals 2012-2015**

  - *"The Commission will consider the feasibility and the appropriateness of introducing indicators <u>based on animal welfare outcomes</u> as opposed to welfare inputs as has been used so far"*

  - *"The Commission will assess whether such a new approach would lead to a <u>simplified legal framework</u> and contribute to improve the <u>competitiveness</u> of EU agriculture"*
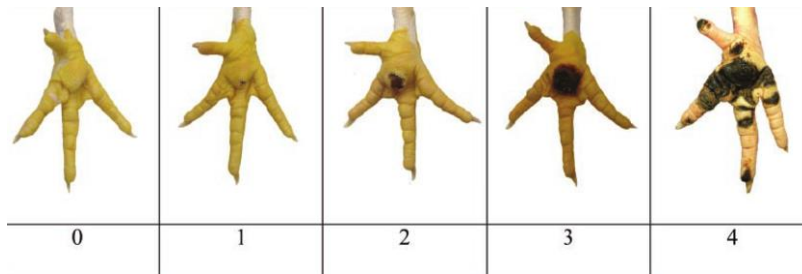
Consequences

OUTCOME

Response of animal
(Animal-based measures)

Indicate the animal's welfare
(welfare indicator)

Animal-based indicators

Clinical indicators

E.g. Pododermatitis in broiler chickens

Rushen et al. 2011

Valid and feasible but poor sensitivity

Behavioral indicators

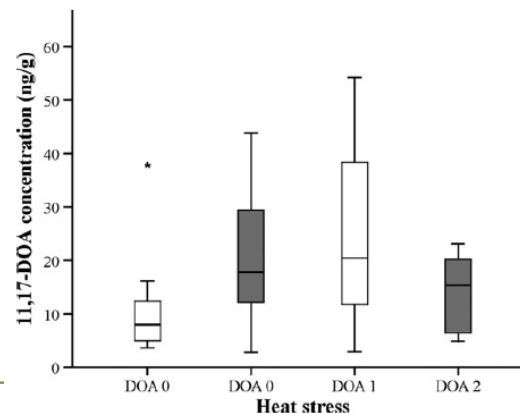E.g. Observation of bedding preferences in broilers

Valid but partly influenced by genetics and farm environment

Physiological indicators

E.g. Heat stress and glucocorticoids in dairy cattle

Rees et al. 2011

Valid but costly and not practical
→ Mostly for research purposes

Welfare Quality®
Assessment protocol for cattle

6.1 Collection of data for dairy cows on farm

		Welfare Criteria	Measures
Good feeding	1	Absence of prolonged hunger	Body condition score
	2	Absence of prolonged thirst	Water provision, cleanliness of water points, water flow, functioning of water points
Good housing	3	Comfort around resting	Time needed to lie down, animals colliding with housing equipment during lying down, animals lying partly or completely outside the lying area, cleanliness of udders, cleanliness of flank/upper legs, cleanliness of lower legs
	4	Thermal comfort	*As yet, no measure is developed*
	5	Ease of movement	Presence of tethering, access to outdoor loafing area or pasture
Good health	6	Absence of injuries	Lameness (loose housed animals), lameness (tied animals), integument alternations

	7	Absence of disease	Coughing, nasal discharge, ocular discharge, hampered respiration, diarrhoea, vulvar discharge, milk somatic cell count, mortality, dystocia, downer cows
	8	Absence of pain induced by management procedures	Disbudding/dehorning, tail docking
Appropriate behaviour	9	Expression of social behaviours	Agonistic behaviours
	10	Expression of other behaviours	Access to pasture
	11	Good human-animal relationship	Avoidance distance
	12	Positive emotional state	Qualitative behaviour assessment

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