

“Future challenges concerning animal breeding and consumer protection” (*regulations of interest for this topics and expected developments*)

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Introduction

1. Animal breeding and **Health**
2. Animal breeding and **Welfare**
3. **Animal Health** law
4. Animal breeding & International **Trade**
5. Genetic Erosion & **Biodiversity**
6. **Cloning** & Genomic Selection
7. EU future legislation on **Zootechnia**
8. Other challenges

1. Animal breeding and health

■ EU's activities:

1. No major EU strategy in terms of animal breeding
2. DG RTD funding several projects dedicated to different aspects of livestock production (require genomic data for its implementation-*Quantomics*: development of tools for mining livestock genomic information)
3. DG SANCO has carried out several initiatives:
 1. funding a reference body responsible for collaborating in rendering uniform the testing methods and the assessment of the results for pure-bred breeding animals of the bovine species
 2. Interbull (a Sub-Permanent Committee of ICAR: www.icar.org)

1. Animal breeding and health

- One of the main objectives of these projects is to promote the adoption of health and functional traits into the national selection indices in most EU Member States
- Some of these traits are animal health & welfare friendly

1. Animal breeding and health

■ Main objectives of the COM are:

- To investigate and to **provide standard methods** for both national and international genetic evaluation of bovine populations
 - Performing **regular international comparaisons** of bovine breeding livestock
 - Provides methods and perform **regular validation** of national genetic evaluations of bovine populations
 - Providing **technical assistance** to both the COM and Member States in matters related to assessing the genetic merit of bovine populations
- ***Ultimate goal: to assure that trading of bovine genetics within the EU and with non-EU states is harmonised and based on reliable information***

1. Animal breeding and health

- Nowadays dairy bulls are selected based on a balanced criteria which considers not only high level of milk and milk component productions but also on criterias like:
 - Longevity
 - Mastitis resitance
 - Female fertility
 - Calving difficulty
 - Cow temperament
 - And conformation traits related to fitness

1. Animal breeding and health

- The starting of the development of genetic evaluations for these traits **is recent**
- Provides important information which can be used for:
 - Veterinary medicines
 - Scientist on animal diseases
 - Veterinary preventive medicine
 - Genetic epidemiology
- Brings information on the role of the genes in predisposition to:
 - Different **pathogens**
 - **Metabolic** disorders
 - Development/**physiological** disorders
 - Information on the effects of genetic **resistance** to diseases medication and vaccination
 - Genetic **resistance** against pathogens

1. Animal breeding and health

■ DG Research:

■ **Quantomics (2010-2013), 6 millions Euros:**

- They are developing and testing new quantitative and genomic breeding tools (for genome-wide association and genome-wide selection) in dairy cattle (especially for mastitis resistance) and in broiler chickens (for health status at slaughterhouse).
- These tools will enable the use of dense marker information enhance the use of the most important causative polymorphisms.
- <http://www.quantomics.eu/>

■ **Gene2farm (2012-2016), 3 millions Euros (other dairy breeds than Holstein):**

- They will develop an accessible, adaptable and reliable system to apply the new genomic knowledge to European cattle farming.
- The project will sequence key animals and exchange data with other international projects to create the most comprehensive bovine genome sequence database.
- The project will explore the opportunities for extended phenotypic collection, including the use of automated on farm systems and will develop standardisation protocols that, in consultation with ICAR, could be used by the industry for data collection and management.
- New tools will be tested and validated by demonstration in collaboration with dairy, dual purpose, beef and minority breed organisations. Finally a dissemination programme will ensure that training needs of the industry are served from an entry level training programme for farmers to advanced summer schools for the SMEs and expert user community.

1. Animal breeding and health

- **LowInputBreed (2009-2014), 6 millions Euros**

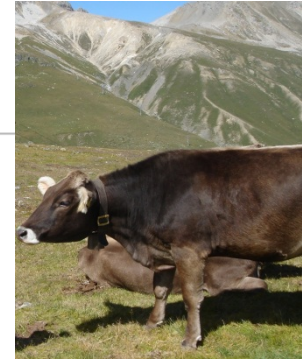
- This project aims to develop integrated livestock breeding and management strategies to improve animal health, product quality and performance in European organic and 'low input' milk, meat and egg production (dairy cattle, pig, sheep and laying hen).
<http://www.lowinputbreeds.org/>
- For cattle: development of selection systems within Breed (Swiss Brown Cattle) to improve health, product quality and performance; comparing GW / traditional quantitative-genetic selection on 1,000 cows (45 herds) phenotyped on health and welfare parameters, genotyped + estimation of genetic parameters (heritabilities, genetic correlations, etc) and finally design a GW selection scheme on composite genomic breeding values relevant for organic and 'low input' systems

- **NextGen (2010-2014), 3 millions Euros- *biodiversity oriented-***

- To develop optimized methodologies for preserving farm-animal biodiversity, in the context of whole genome data availability (cattle, sheep, and goats);
<http://nextgen.epfl.ch/>
- Regarding cattle they are sampling 1000 cattle in Uganda from Angole, Uganda, and zebu breeds collecting one healthy and one sick animal per herd from as many as 250 herds across Uganda, to minimise relationship and they will study disease resistance (vector-borne infections)

2. Animal welfare and animal breeding in the EU





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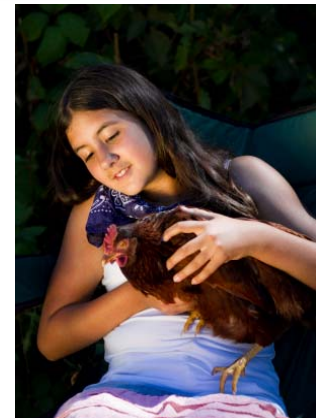
Treaty on the functioning of the European Union:

“In formulating and implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage.”

2. Animal welfare and animal breeding in the EU

Conclusions

- **The challenge of new cultural approach** to animal welfare standards.
- Society and policy makers get closer and promote the same welfare goals for informed and responsible citizens.
- The society can become the advocate of animal welfare – appropriate information disseminated



2. Animal welfare and animal breeding in the EU

Consumers are concerned about the humane and responsible treatment of animals

"Attitudes of EU citizens towards Animal Welfare", Eurobarometer Survey, March 2007

- **62%** of European consumers stated that they would **change their shopping habits** and purchase products which are more animal welfare-friendly.
- **43%** say they consider animal welfare most or some of the time when they purchase meat.
- **74%** of EU consumers believe they **can positively influence animal welfare** through their purchasing decisions.
- Nearly half perceive food produced under high animal welfare standards to be of better quality.

2. Animal breeding and welfare in the EU legislation

- Few references
- Council Directive 98/58/EC concerning the protection of animal kept for farming purposes:
 - « natural or artificial breeding procedures which cause or are alike to cause suffering or injury to any animal concerned must not be practised »
 - « No animal shall be kept for farming purposes unless it can reasonably be expected on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare »

2. Animal breeding and welfare in the EU legislation

The European Food Safety Authority's (EFSA) role:

- EFSA's panel provides **independent scientific advice** to the E. Commission, E. Parliament and Member States
- Its scientific opinion focus on helping risk managers to identify methods to reduce poor welfare and to improve health
- EFSA has no mandate to give advice on **ethical or cultural** issues related to welfare

2. Animal breeding and welfare in the EU legislation

- Scientific report on the effects of farming systems on dairy **cow welfare** and disease (July 2009; EFSA-Q-2006-113)
- *Welfare of dairy bulls* is not covered
- *Leg disorders, mastitis and reproductive disorders* are considered major components of poor welfare in dairy cows
- The reports covered four areas:
 - Metabolic and reproductive disorders
 - Udder disorders
 - Leg and locomotion problems
 - Behavioural disorders, fear and pain
- The panel concluded that ***long term genetic selection*** for higher milk yield is one of the major factors affecting the health of dairy cows as well other aspects of their welfare
- Other EFSA's scientific reports available containing provisions on animal breeding but for other animal species (broilers, etc)

2. Animal breeding and welfare in the EU legislation

- **EFSA and welfare indicators:**
- The COM has called for animal welfare indicator to be developed to reinforce the scientific basis of EU Regulation in this field
- EFSA is undertaking ground-breaking work to develop a set of scientifically measurable AW indicators (*in co-operation with scientific institutes in EU MS*)
- Aim of these welfare indicators will support decision-making on:
 - Acceptable conditions for farming
 - Monitoring and control programmes
 - January 2012: two opinions on the use of animal based measures for animal welfare assessment (cows and pigs)

3. The new Animal Health law: Why a new law and what is it all about?



3. The Animal Health Law (AHL)

- **From** a fragmented legislation of ca. 40 Directives and Regulations
- **To** a single and robust legal framework for animal health
- Laying down the overarching principles for:
 - Disease prevention (disease awareness, registration, traceability, biosecurity)
 - Disease control and eradication
 - Intra-EU movements and entry into the EU of animals and animal products
 - Emergency measures
- Supplementing rules needed to ensure complete implementation
 - Detailed provisions of the current Directives and Regulations included in delegated and implementing acts



3. The Animal Health Law (AHL)

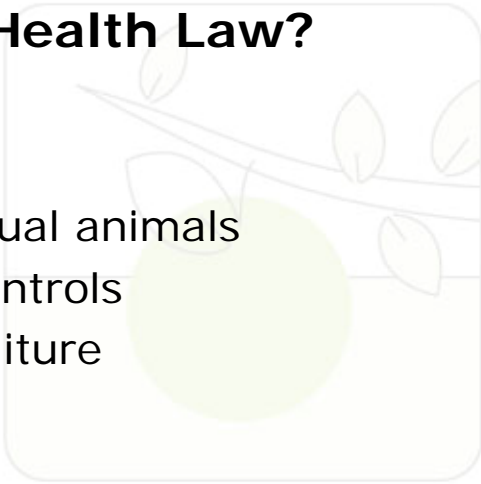
What is out of Animal Health Law?

■ Not in scope:

- Welfare of animals
- Pathologies of individual animals
- Veterinary checks, controls
- EU veterinary expenditure
- Feed, medicated feed
- Veterinary medicines
- Veterinary education

■ In scope but specific rules remain in place:

- ABPs
- TSE rules
- Certain zoonoses (e.g. Salmonella)



3. The Animal Health Law (AHL) – New elements

- The main instrument to implement the objectives of **Animal Health Strategy (2007-2013) "Prevention is better than cure"**
- The scope:
 - Transmissible diseases
 - Kept and wild animals (not only production animals) and their products
 - Terrestrial, aquatic and other animals
- **Responsibilities** of keepers, operators, veterinarians, competent authorities, etc.
- **Risk based approach:** Categorization/prioritisation of diseases for EU intervention
- Improved **response to emerging diseases**



of **Animal Health Strategy**
for the European Union (2007-2013) where
"Prevention is better than cure"



3. The Animal Health Law (AHL) – New elements

- More prevention:
 - Biosecurity at farms, in transport, assembly, at borders
 - Enhanced surveillance, disease notification and reporting
 - Clearer policy for the use of vaccines and in relation to disease control & diagnosis also some other veterinary medicines
- Easier and safer trade:
 - Enhanced convergence with international standards on animal health (OIE)
 - Compartmentalisation
 - Requirements for export
 - Added flexibility

3. The Animal Health Law (AHL)– New elements

■ More flexibility to adjust to:

- Climate changes and emerging risks
- International standards and scientific developments
- Different sizes and types of establishments, types of animal production
- Local circumstances (registration, approval, etc.)
- Systems providing equal guarantees (for animal movements, traceability, etc.)

■ Objectives:

- Better response to new threats and adjustment to local circumstances
- Reduce administrative burdens/costs, where involved risks permit so

3. The Animal Health Law (AHL) – Opportunities

- Horizontal principles and rules contributing to better overall husbandry
- Better response to new threats
- Less administrative burdens/costs, where involved risks permit so
- Facilitated movements and trade
- Flexibility for disease prevention and control measures proportionate to the risks

3. The Animal Health Law (AHL) – New elements

Union intervention: Antimicrobial resistant pathogens

- Prevention is better than cure: indirectly the new AHL may bring less expenditure on veterinary medicines (better husbandry, etc...)
- AMR pathogens are considered as "disease agents"
- Following the outcome of disease categorisation / prioritisation:
- COM may decide to apply different disease **preventive and control measures** (notification, surveillance, eradication, disease control measures, movement control, etc.)

4. Major challenges: international trade

- According to EU breeders organisations, Genomic Selection in the EU *is on disadvantage* in relation to other third countries
- Subsidies, lower prices
- Result: market forces driven (e.g.: foreign *genetics gained market access in the EU*)
- EU industry should be a major exporter of genetic material and technology-related worldwide

4. Major challenges: international trade

- Trade barriers imposed by third countries:
 - Animal health reasons
 - Recently, barriers of an *administrative nature*
 - Recently, *environmental and biodiversity* reasons
- Protection of national/domestic production ?
- WTO legal gap ?
- SPS, TBT Agreement ?
- How to challenge these type of trade barriers ?
- Incertitude & unpredictability in terms of international trade must be avoid

5. Animal breeding and biodiversity

- *Is Biodiversity a Major challenge ?*
- **Genomic selection:** the ideal situation is to have as many traits as possible
- **Genetic erosion:** less market-oriented breeds may be left behind in favour of more commercial breeds
- how to ***preserve genetic biodiversity?***
- The role of animal breeding organisations ?

5. Animal breeding and Biodiversity

- Local initiatives are not by themselves able to cope: a bigger **infrastructure** is needed
- Lack of **human & financial resources**
- Need for the COM to actively participate at international bodies (UN and WTO)
- Lack of COM's line for **animal genetic resources** (under construction)
- Shared competences Commission-EU Member States, makes it more difficult
- **Nagoya Protocol** (to be ratified by COM-DG ENV and MS)
- Joint work with FAO is currently taking place

5. Animal breeding and Biodiversity

- *Protection and sustainable use of agriculture biodiversity* has growth in importance in terms of:
 - Preserving biodiversity
 - Providing genetic resources for plant and animal breeding and *securing agriculture production* and availability of food/feed
- **International conventions**, treaties or bodies have been set up to secure the conservation and sustainable use of genetic resources in a fair way (availability and exchange is not always a guarantee!)
- Consequences of **climate change** and **control of invasive alien species** are major issues in relation to genetic resources

5. Animal breeding and Biodiversity

- FAO-Commission on Genetic Resources for Food and Agriculture (CGRFA) established 25 years ago: focused mainly on **plant** genetic resources
- Following adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture in 2001, CGRFA has shifted into broader scope and now **also covers animal** genetic resources- GPA (Interlaken)

5. Animal breeding and Biodiversity

- The Commission has developed a rolling Plan of Work stretching over 10 years and the main focus is laying on plant and animal resources, forestry and issues related to **Access and Benefit Sharing**.
- Another important dossier is the elaboration of a regime for access to GR and benefit sharing under the Convention for Biological diversity
 - Nagoya protocol signed by EU (except Slovakia, Malta)
 - ITPGRFA (plant GR for food and agriculture)
- important this regime takes due account of the specific nature of genetic resources for food and Agriculture.

5. Animal breeding and Biodiversity

- Steering group on a "*Community Programme on the Conservation, Characterisation, Collection and Utilisation of Genetic Resources in Agriculture*" has been recently established to evaluate the EU programme
- It shall also take into account other EU instruments supporting the conservation of agricultural genetic resources such as:
 - The Rural Development Policy (Rural Development Council Regulation (EC) No 1698/2005)
 - EU Research Framework Programmes
 - Developments on Convention on Biological Diversity (CBD) and the adoption of the Nagoya protocol on Access and Benefit Sharing
 - "Biodiversity Strategy", first adopted by the EU in 2001

6. Animal breeding and cloning

- COM's legislative proposal failed to reach an agreement with the European Parliament and the Council
- The use of cloning for scientific/research purposes will not be banned
- Imports of genetic material from Third countries
- Consequence for Europe: will EU be left behind in terms progress and technology ? (e.g. US, China, Argentina..)
- COM currently working on an ***Impact Assessment***

6. Animal breeding and cloning

- Cloning genetic material is rare in sheep and pigs
- More advanced in cattle and horses
- Within cattle, more frequent in dairy than in beef breeds (e.g. Brazil-beef)
- Ideal situation is to have as many traits as possible
- Genomic selection if well used, ***will be the "end of cloning" ?***

7. Commission's ongoing initiatives in relation to zootechnic legislation

- **Main objectives: to revive the Standing Committee on Zootechnics**
- To address concerns in relation to the approval for breeder organisations wishing to operate in other EU MS
- Source of complain by:
 - Competent authorities of EU Member States
 - EU breeder organisations

7. Commission's ongoing initiatives in relation to zootechnic

- According to the information provided, some EU MS may be **obstructing EU cross-border activities of "foreigners" breeders' organizations**.
- In some cases foreign breeder organizations are not authorised or not registered and in some other occasions, restrictions are put in order to "expand" or to "operate freely".
- Council directive 2009/157/EC (on pure-bred animals of bovine species) is very clear on its wording: *"EU MS shall ensure that activities like intra-EU trade on pure-breed animals, on semen, ova, embryos, the establishment of herd-books and the recognition of organisations and associations maintaining herd-books ARE NOT PROHIBITED, RESTRICTED or IMPEDED on zootechnical grounds"*.

7. Commission's ongoing initiatives in relation to zootechnic legislation

- Some EU MS may be even misusing the wording contained in COM Decision 84/247
- Such a legislation provides the legal basis to refuse to recognise a new breeder's organisation (or association) but this is only in case **it endangers the preservation of the breed or jeopardise the zootechnical programme of the existing organisation.**
- Only on this basis and if **truly justified**
- COM also remind EU MS that any refusal on this basis should be subject to **an obligation to inform** the COM on this refusal by the EU MS concerned.

7. Commission's ongoing initiatives in relation to zootechnic legislation

- Some EU MS may be imposing unjustified restrictions on intra-EU trade of bovine **genetic material** (e.g. **bovine semen included those which are GS tested by ICAR/Interbull validated systems**)
- This is resulting on questioning the role of international standard setting organisations like ICAR.
- Some EU MS may defend its position by claiming to be in accordance with Art 2, point 1 of Council Directive 87/328/EEC. Not true.
- COM clarified that it does not share these views (COM's letter *sent to all EU MS on 26 October 2010, ref: D/764080*) on genomic selection.
- COM clarified that the breeding values which are established in accordance with the approved systems (e.g.: ICAR/Interbull validation methods) **are on line with EU legislation** and qualify bulls so tested for artificial insemination in accordance to Directive 87/328/EEC.

7. Commission's ongoing initiatives in relation to zootechnic legislation

- It seems like some breeding organisations may be doing its "**own interpretation**" for some genomic performance parameters in order to calculate the breeding value of an animal (e.g. -beef conformation- COM Decision 2006/427/EC)
- COM remind the importance to stick to EU legislation and if needed to the provisions contained at international standard setting organizations

7. Recast on EU zootechnic legislation

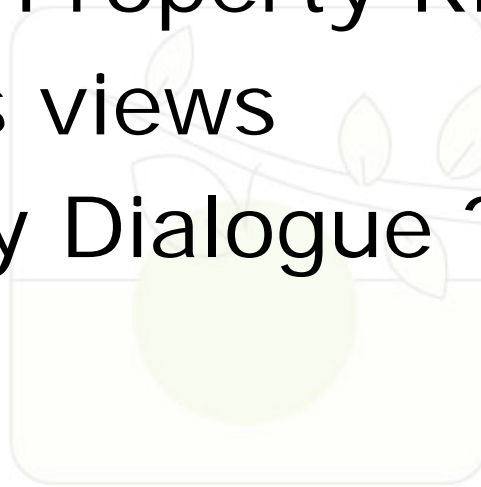
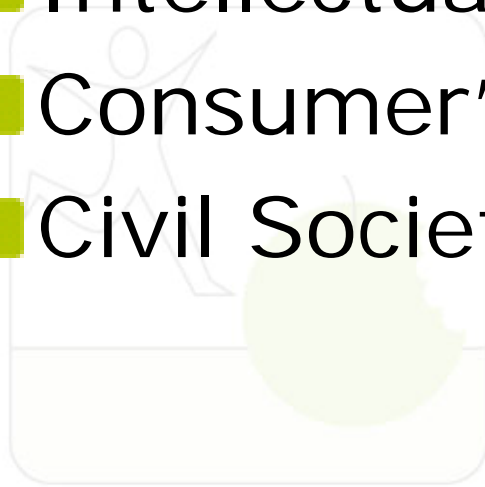
- Wording of the current legislation **will have to be clearer in order to avoid misinterpretations** by some EU MS's side
- COM's line is that the concept of **single market** and free circulation of goods and services must be respected
- With this aim, the current legislation on zootechnia is being subject to a recast process. This process aims to:
 - aiming to simplify and to improve the current wording
 - to address those provisions which may have been subject of misunderstanding by EU MS in the past (*cross-border activities*)
- COM intends that a legislative proposal for zootechnia will be adopted **during 2013**.
- Still some extra time to go via Co-Decision process

7. Recast on EU zootechnic legislation

- However, the above-mentioned does not mean that in the mean time EU MS may escape from the legal obligations contained in the EU legislation
 - restrictions to cross-border activities must be avoid
 - the COM will follow closely any step considered to be restrictive at this respect

8. Other challenges ?

- Intellectual Property Rights ?
- Consumer's views
- Civil Society Dialogue ?



**Thank you
for your attention**



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EUROPEAN COMMISSION