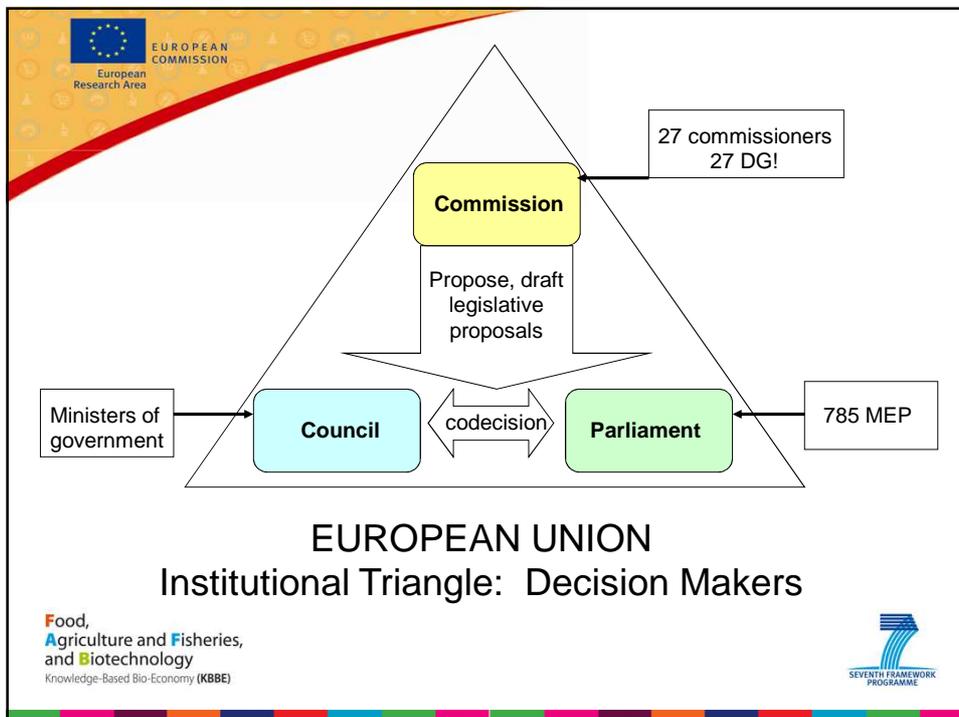


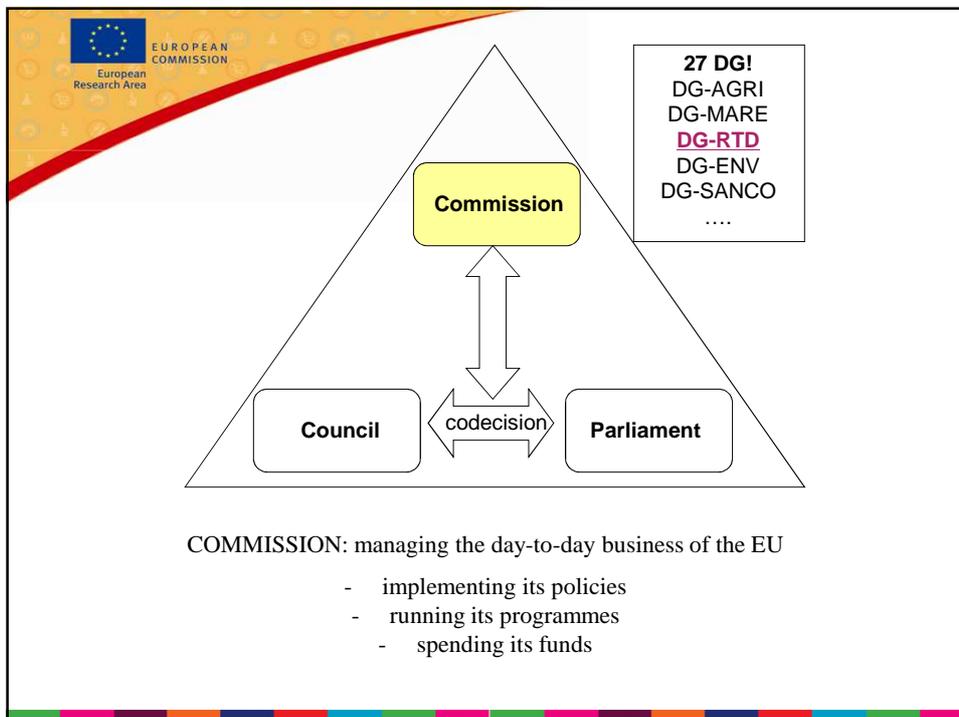
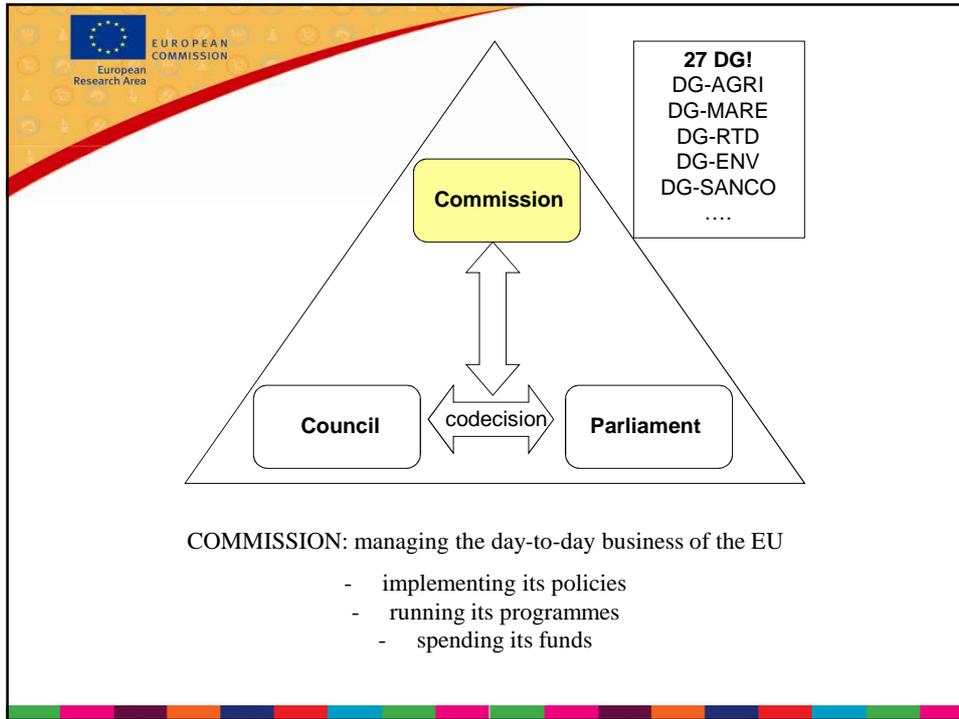


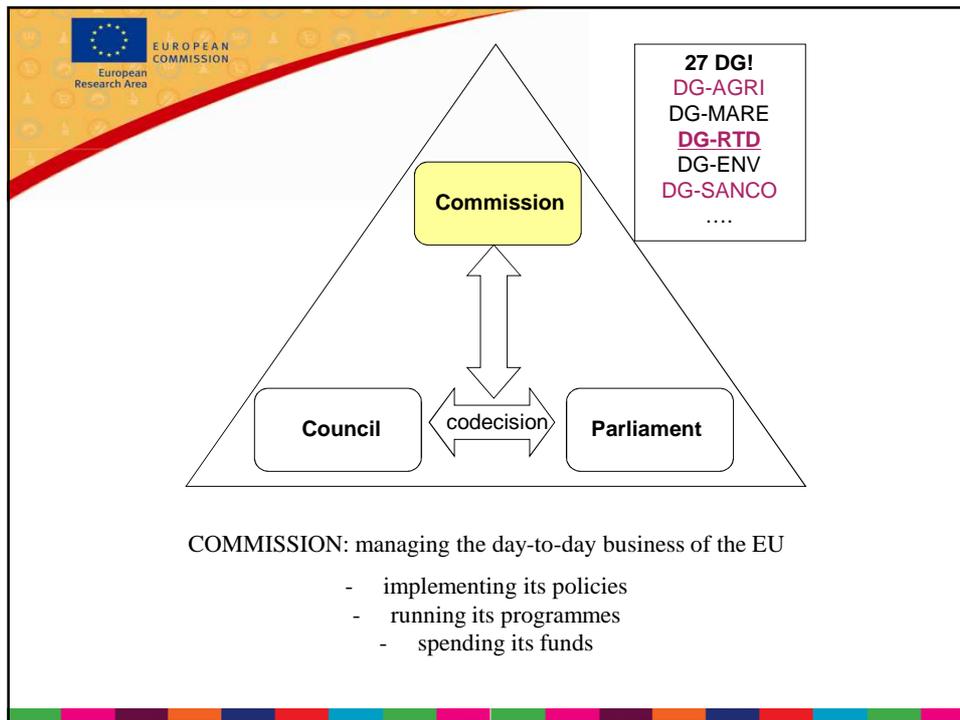
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Food,
Agriculture and Fisheries,
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

Anne-Sophie Lequarré







The slide is titled 'Ethics in breeding livestock'. It features a bulleted list of three points: 'Sustainability of breeding', 'Welfare of livestock', and 'Product quality from livestock'. The top left corner contains the European Commission logo and the text 'EUROPEAN COMMISSION European Research Area'. The bottom left corner has the text 'Food, Agriculture and Fisheries, and Biotechnology Knowledge-Based Bio-Economy (KBBE)'. The bottom right corner features the logo for the 'SEVENTH FRAMEWORK PROGRAMME'. The bottom of the slide has a decorative border with colored squares.

Ethics in breeding livestock

- Sustainability of breeding
- Welfare of livestock
- Product quality from livestock

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Ethics in breeding livestock

- Welfare of livestock
 - Health
 - Normal behaviour
 - Quality & quantity of feeding
 - Quality of lodging

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Ethics in breeding livestock

- Product quality from livestock
 - Healthy (composition, residues & pathogens-free)
 - Tasty

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Slide 1: Ethics in breeding livestock

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Ethics in breeding livestock

- Sustainability of breeding
 - Impact on environment
 - Goals of animal selection
 - Biodiversity

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Slide 2: Ethics in breeding livestock

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Ethics in breeding livestock

- Sustainability of breeding
 - Impact on environment
 - Reduce green gas effect
 - Better management of manure
 - Landscape maintenance

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Ethics in breeding livestock

- Sustainability of breeding
 - **Impact on environment**
 - **Rednex:** ↓ N excretion: rumen, diet + monitoring tools
 - **Animalchange:** mitigation & adaptation options for sustainable livestock
 - **Lowinputbreed**

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Ethics in breeding livestock

- Sustainability of breeding
 - **Goals in animal selection:** climate change
 - **Ruminant feed efficiency :** ↓ ecological footprint using systems biology, 'omics' and nutrition (2011)
 - **Monogastrics feed efficiency (2012)**

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Ethics in breeding livestock

- Sustainability of breeding
 - **Goals in animal selection:** disease resistance
 - **Quantomics:** mastitis in cattle
 - **3SR:** mastitis and parasite in sheep

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Ethics in breeding livestock

- Sustainability of breeding
 - **Goals in animal selection:** others...
 - Fitness, fertility, meat quality, etc
 - **Lowinputbreed**
 - **Fertility (2012)**

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Ethics in breeding livestock

- Sustainability of breeding
 - Biodiversity
 - **NEXTGEN**: sequencing, bioinfo, bio-banking to preserve farm animal biodiversity (cattle resistant to vector-borne diseases; sheep & goats adapted to abiotic stress)
 - Pig/chicken (2013)

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Major trends and challenges affecting the agriculture sector

- **Competition for land use**
 - food, non-food (bio-energy, bio-products)
 - more efficient use of waste
- **Feeding the increasing world population**
 - rising meat demand – up 70% by 2030
 - reducing crop losses
- **Coping with climate change**
 - spread of 'new' plant and animal diseases
 - water issues (competition) and soil degradation
 - adaptation of plant and animals
- **Addressing increasing environmental considerations**
 - minimizing further agricultural land use
 - habitat protection
 - maintenance of biodiversity
- **Adjusting to consumer demands**
 - food safety and quality issues

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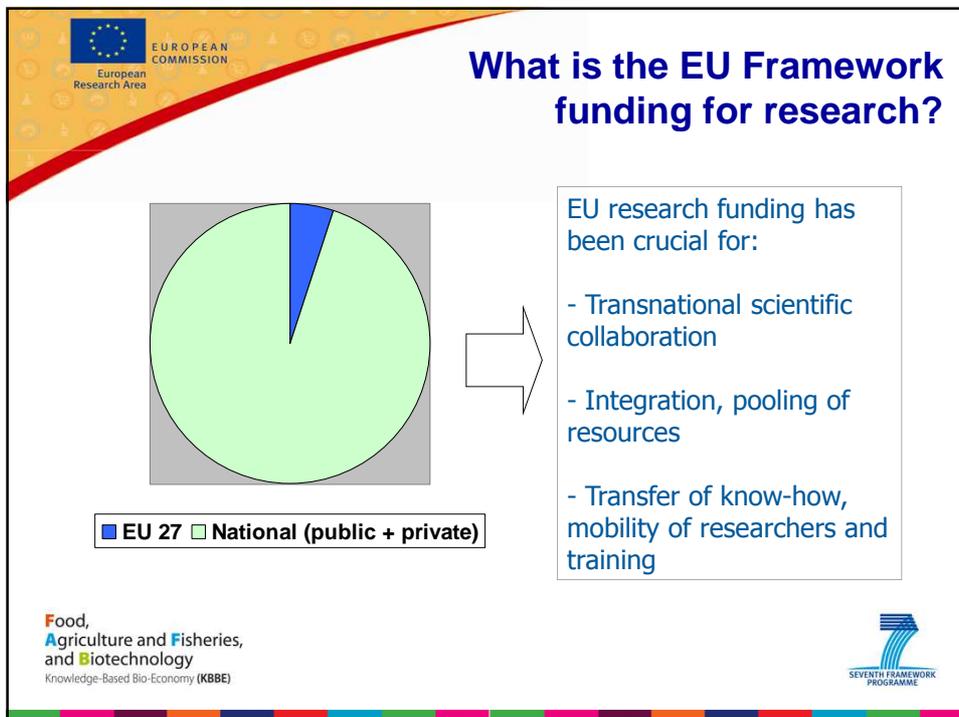
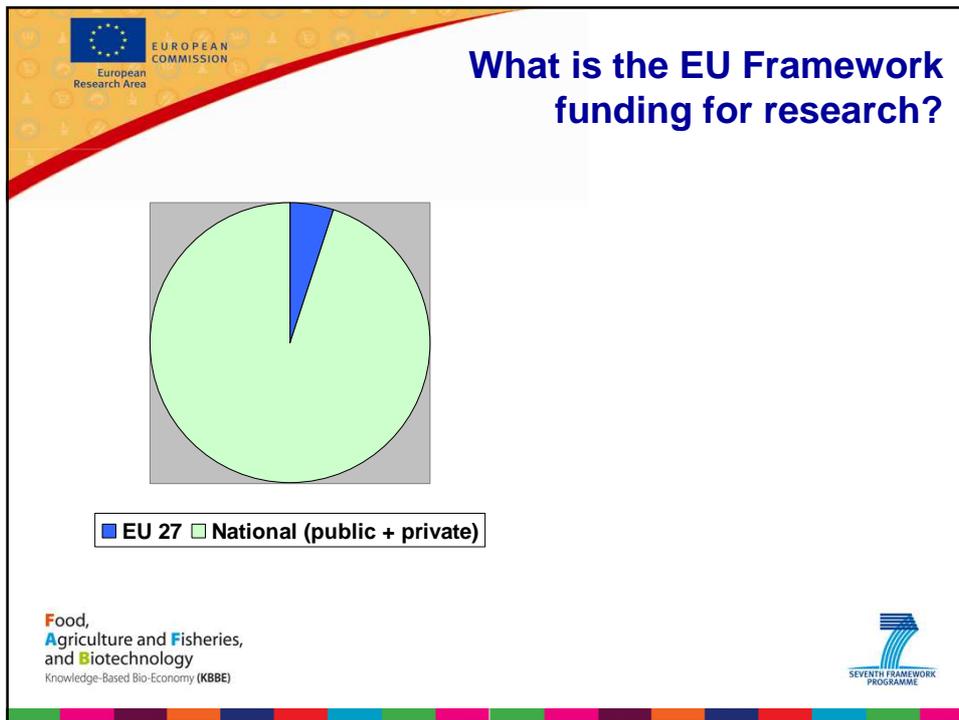
Ethical breeding:

- Management of optimal biodiversity in breeding programmes
- Identification of useful traits in species/breeds/varieties not subject to intensive selective pressure, thus contributing to sustainable agriculture
- Develop strategies to provide cost-effective in vivo or in vitro conservation of endangered alleles.

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Who provides input to the WP?

- **External input** provided by (nearly) everyone
 - Technology Platforms
 - Individual organisations
 - Various groups and associations
 - Individuals
- **“in-house”** expertise of the EC
 - Advisory groups
 - Programme Committee
 - positions of the Member States...

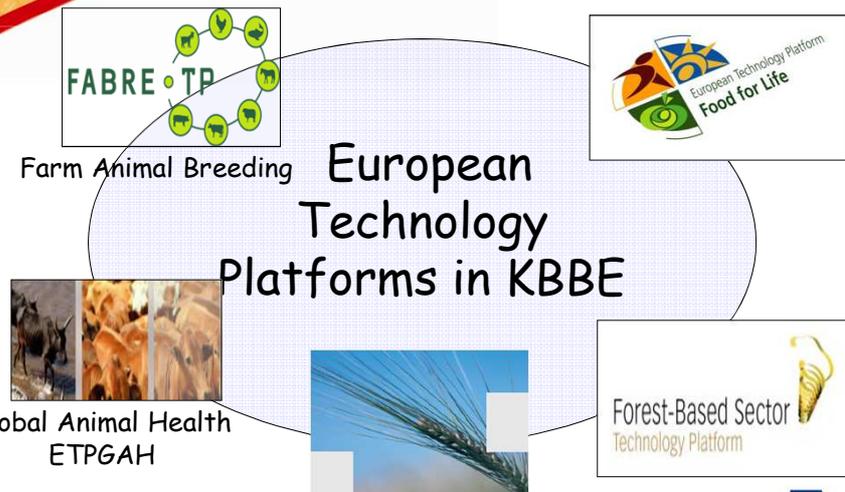
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Technological platforms

European Technology Platforms in KBBE



- FABRE • TP
Farm Animal Breeding
- European Technology Platform
Food for Life
- Global Animal Health
ETPGAH
- Forest-Based Sector
Technology Platform
- Plants for the Future

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Identification of topics for the annual work programme

Main line approach:

- ✓ Identified needs
- ✓ European added value
- ✓ Contribution to international commitments
- ✓ Available budget

'omics' technologies + basic sciences in livestock *sustainable use of biodiversity*

animal health and zoonoses *farming systems + agro-ecosystems*

farm animal breeding



WP TOPICS

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Thank you for your attention

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