



EFSA's work on animal cloning

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EP public hearing on "Cloning of animals for farming purposes"

Panel II – Scientific and ethical aspects and consumer perspectives

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EFSA'S ROLE

- The European Food Safety Authority (EFSA) is the keystone of EU risk assessment regarding food and feed safety. In close collaboration with national authorities and in open consultation with its stakeholders, EFSA provides independent scientific advice and clear communication on existing and emerging risks.
- EFSA is an independent European agency funded by the EU budget that operates separately from the European Commission, European Parliament and EU Member States.

EFSA'S ROLE IN THIS ISSUE

- The European Commission requested EFSA to advise on food safety, animal health and welfare and the environment.
- EFSA provided scientific advice to the EC (2008, 2009, 2010, 2012), who are the decision makers on any future EU measures in relation to animal clones, offspring and obtained products.



EFSA PROVIDED SCIENTIFIC ADVICE

Scientific Opinion in 2008

- Upon request of the European Commission
- Subject to public comments: 128 submissions from 64 parties
- Only for pigs and cows were there enough (but still limited) data
- Health and welfare issues in the juvenile stages
- No food safety concerns for meat and milk

EFSA PROVIDED SCIENTIFIC ADVICE

Statement in 2009

- Upon request of the European Commission:
 - Health and welfare investigated during their life span.
 - Is it possible to extend current knowledge on cows and pigs to sheep, goats and chicken?
- Conclusions of 2008 confirmed
- No extension to other species possible

EFSA PROVIDED SCIENTIFIC ADVICE

Statements in 2010 and 2012

- Literature review of recent research on animal clones and their offspring
- Call for data from EFSA
- Discussions with scientific experts
- Conclusions of 2008-2010 confirmed:
<http://www.efsa.europa.eu/en/efsajournal/doc/2794.pdf>



EFSA CONCLUSIONS 2012

Food Safety

- No differences with products (meat and milk) from healthy conventional animals:
 - no differences for clones nor for their offspring

EFSA CONCLUSIONS 2012

Health and welfare

- Remaining concerns associated with cloning:
 - Increased number of deaths at all stages of development (foetal, perinatal, juvenile)
 - Due to epigenetic dysregulation and incomplete cellular reprogramming
- These concerns do not affect offspring of clones through conventional breeding

EFSA CONCLUSIONS 2012

Cloning efficiency

- There are research improvements on aspects of the technology, but no significant enhancement of the overall cloning efficiency
- For cows the success rate of cloning is 6-15% versus 45-60 % for IVF
- For pigs the success rate of cloning is 6%

EFSA CONCLUSIONS 2012

Environment

- No risks for genetic diversity or for biodiversity of the environment

