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Clone food: Dolly for dinner?

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Content

Basics

Clones/ “clone food” on the market?

Public opinion

Problems with cloning

Political developments

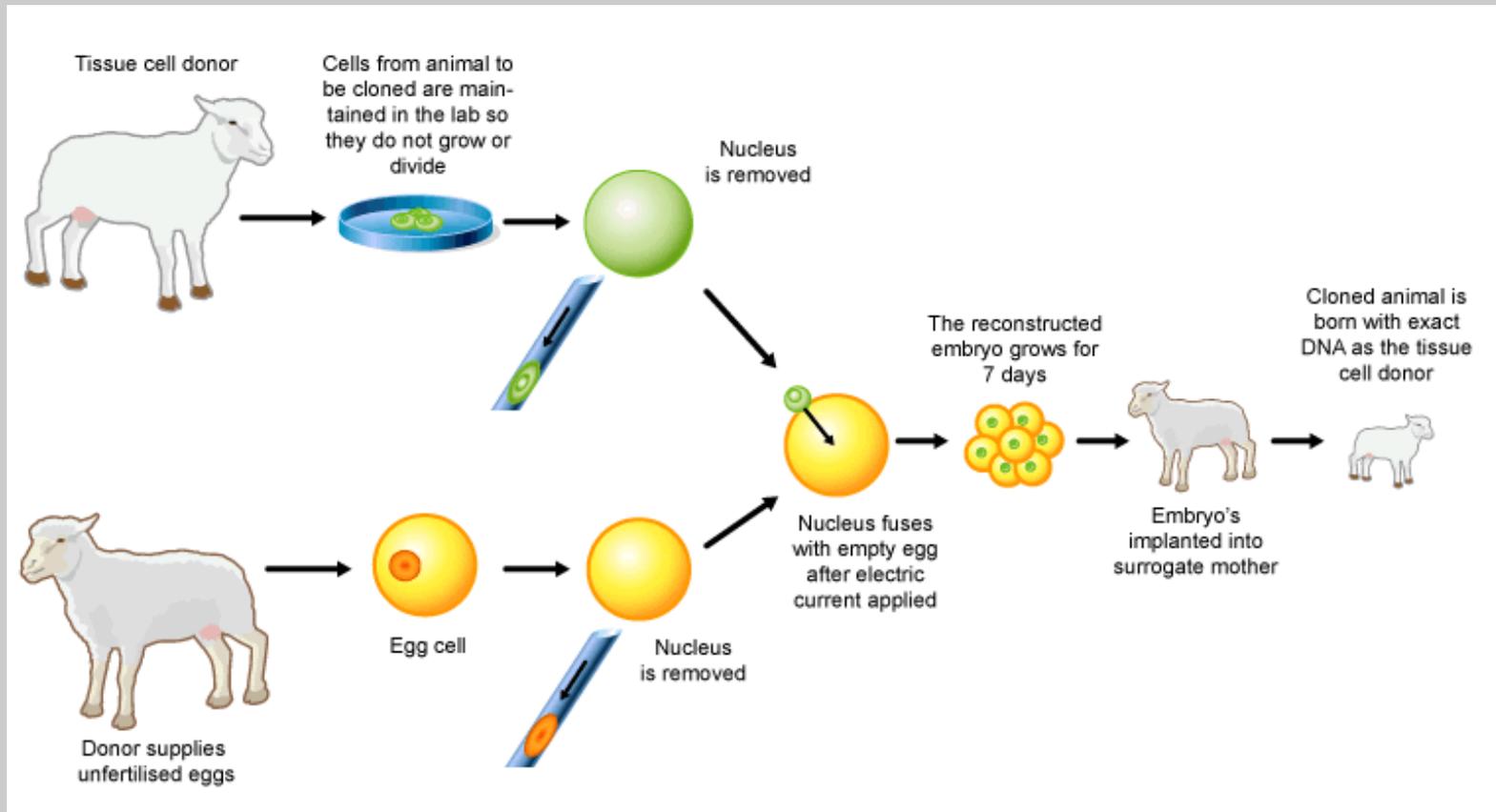
Outlook

What is cloning?

“Process of multiplying single organisms by means of asexual reproduction to create a population of identical individuals” (EGE 2008).

The most commonly used form is SCNT (Somatic Cell Nuclear Transfer).

The first mammal produced by SCNT was Dolly (1996).



Why cloning?

Aim: “copying” animals with desirable traits (fast grow rates, high production etc.), and rapid distribution of the traits in herds of different breeders.

Conventional breeding techniques: only some of the progeny will bear the specific trait.

In agriculture, the interest in clones is primarily as breeding stock. The clones are too valuable to be used for milk or meat production.

How many clones are there?



No reliable figures.

Cloning for agricultural purposes: mainly carried out in the US, Canada, and Argentina. Some activities also in N.Z., Australia, Chile, China, Korea.

EU: France (cloning of horses for sport purposes).

Cloning for food production: primarily for cattle. Also for pigs, but to a much lesser extent.

COM confirms: „Third countries' authorities do not have any information about the number of clones and the specific activities carried out by cloning companies on their territory, or about the amount of food products of clones or progeny of clones” (2013 IA to cloning proposals*).

Even less information about descendants of cloned animals.

*http://ec.europa.eu/food/food/biotechnology/novelfood/documents/cloning_impact_assessment_report_en.pdf

Is there already “clone food” on the market?



- Semen of breeding bulls and embryos are traded internationally. Imports of clone's semen or embryos are not prohibited.
- There are no traceability and/or labelling requirements for reproductive material of clones.
- US: foods from descendants of clones have entered the food chain. Beef from the US and Canada can generally enter the EU market (quota system).
- August 2010: scandal in UK, when products (milk and meat) from clone's offspring entered the food chain.
- No information about quantities of imports of clones and/or their reproductive material; unclear if products from descendants of clones have already entered the EU food market.

Public opinion

Eurobarometer polls 2008 and 2010*:

A large majority of Europeans have strong reservations and do not see the benefits.

- 70% feel it should not be encouraged
- 83% say that special labelling should be required if food products from the offspring of cloned animals became available in the shops.
- 84% agree that the long-term effects of animal cloning on nature were unknown
- 77% believe that animal cloning might lead to human cloning.

In the US, consumers also reject clone food by the big majority.**

* http://ec.europa.eu/public_opinion/archives/ebs/ebs_341_en.pdf

http://ec.europa.eu/public_opinion/flash/fl_238_en.pdf

**[http://www.fmi.org/news_releases/index.cfm?fuseaction=mediatext&id=935;](http://www.fmi.org/news_releases/index.cfm?fuseaction=mediatext&id=935)

Where's the problem?



- Animal health and welfare (this argument isn't denied by anybody: it is obvious that cloned animals have a much higher rate of morbidity and genetic abnormalities, e.g. high mortality rate, high rate of embryonic and foetal losses. For surrogate dams, increased health problems and pregnancy failures.)
- Intensification of agriculture
- Genetic Diversity
- Ethics (low “success rates”, human cloning?)
- Genetically modified animals (cloning as door-opener)
- Food Safety & Environment (limited data base)
- Irreversibility
- Patentability/Control of corporations
- No benefits for society

Political developments



EU Legislation:

So far: no dedicated regulation on cloning, but legislation on animal breeding, animal health and welfare, food etc. Novel Food Regulation (1997) covers food products produced from clones (but not from the descendants).

National legislation:

In most countries: indirect regulation through animal welfare laws. DK, NL and NO have specific laws forbidding cloning (partly with exemptions for scientific purposes/ therapeutic use)

For years, the European Parliament is calling for a ban on

- The cloning of animals,
- The placing on the market of food from cloned animals and their descendants,
- The importing of cloned animals, their offspring, semen and embryos from cloned animals or their descendants (e.g. EP resolution 2008*, EP legislative reports „novel foods“ 2009, 2010**)

*<http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2008/2598%28RSP%29&l=en>;

**<http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?lang=en&reference=2008/0002%28COD%29>

The new Commission proposals



Intensive discussions between 2008 and 2011. New legislation on „novel foods“ fails in 2011 because of the cloning issue.

December 2013: COM presents two new proposals:

- “Cloning Directive”: provisionally prohibits cloning of animals and the placing on the market of clones, but does not prohibit the placing on the market of reproductive material and descendants of clones. It only covers several species.
- "Clone food Directive" provisionally prohibits the placing on the market of food from animal clones, but does not provide for any measures on food from descendants of cloned animals. Legal basis does not even provide for Codecision: EP is asked for consent only, and Council has to act unanimously.
- Both Directives do not include traceability measures.

Doomed to fail: why?

- Public opinion is clear.
- All political groups in the EP call for strict measures.
- The COM, in 2010 already, said traceability measures would be easy to implement.

However, the proposals couldn't be weaker, and the choice of the legal basis alone makes the "Clone food" proposal doomed to failure. Why?

Heavy pressure from the U.S., Canada, and several Southern American countries.

- DG TRADE, from the beginning, interfered in an inadmissible manner. The original DG SANCO proposals went much further.

Cloning proposals: Reactions



European Parliament: ENVI and AGRI committees jointly responsible.

The draft report includes:

- A ban on cloning of all animal species used in farming
- A ban on the placing on the market and import of animal clones, their descendants, reproductive material of clones
- A ban on the placing on the market and import of food from clones animals and their descendants
- Traceability measures.

It also takes away the temporary restriction of the ban, and changes the legal form from a Directive to a Regulation. The “clone food” proposal is ignored.

Timetable in the EP: Amendments to the draft report have been tabled, and the vote in the Committees will be in the middle of June.

The Council did not discuss the proposals yet, but will probably be split again. First discussions at working level will take place end of May.

The Commission has commissioned a study to look specifically at the „burden of business operators triggered by the requirement to label food from the offspring of clones“. Results are expected in October.

...and now?



Nobody denies that cloning leads to several animals welfare problems. Dir 98/58/EC on the protection of farm animals says: “Natural or artificial breeding procedures which cause or are likely to cause suffering or injury to any of the animals concerned must not be practised”.

➤ A ban can be justified not only with **animal welfare reasons**, but also with the **precautionary principle**. There is no history of safe use, and uncertainties with regard to food safety exist.

Banning food from cloned animals only, without considering food from descendants of clones animals, is hypocritical. Such food will anyway not enter the market.

➤ At this stage, it is very important to put pressure on governments to campaign for strict rules!

➤ **We need pressure from civil society!**

Thanks for your attention.

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Further reading

COM website:

http://ec.europa.eu/food/food/biotechnology/novelfood/initiatives_en.htm

with links to:

- the COM proposals
- the impact assessment and the underlying studies
- EFSA's opinions
- the Eurobarometer surveys
- European Group on Ethics of science and new technologies report:
http://ec.europa.eu/archives/bepa/european-group-ethics/docs/publications/opinion23_en.pdf

Testbiotech Study: Agro-biotechnology: Cloning farm animals - a 'killer application'?

http://www.testbiotech.org/sites/default/files/Testbiotech_Cloning_2011.pdf

BEUC position paper: http://www.beuc.org/publications/beuc-x-2014-076_cpe_beuc_position_paper_on_cloning.pdf

Eurogroup for Animals re cloning: <http://eurogroupforanimals.org/what-we-do/category/farm-animals/cloning-of-animals-for-food>

Compassion on World Farming re cloning: <http://www.ciwf.org.uk/media/6900532/briefing-on-cloning-feb-2015.pdf>; <http://www.ciwf.org.uk/research/cloning-genetics/>

The US Center for food safety re cloning: <http://www.centerforfoodsafety.org/issues/302/animal-cloning>