

Poznámky pod čarou

- 1) Cohen, S.N., Chang A.C.Y., Boyer, H.W. and Helling, R.B. (1973) Construction of biologically functional bacterial plasmids in vitro. Proc. Natl. Acad. Sci. USA 70, 3240-3244.
- 2) 2)V roce 1980 obdržel Nobelovu cenu za základní studie nukleových kyselin zejména rekombinantní DNA spolu s Waltr Gilbertem a Frederickem Sangerem za jejich přínos k sekvenování DNA.
- 3) Paul Berg, David Baltimore, Herbert W. Boyer, Sanley N. Cohen, Ronald W. Davis, David S. Hogness, Daniel Nathans, Richard Roblin, James D. Watson, Sherman Weissman and Norton D. Zinder.
- 4) Berg, P. et al. (1974) Potential biohazards of recombinant DNA molecules. Science 185, 303.
- 5) Federal Registr July 7 1976.
- 6) Lidský inzulin se liší od prasečího běžně používaného v jedné z jednapadesáti aminokyselin. Citliví pacienti na to reagují.
- 7) Hall S.S.: Invisible Frontiers. The Race to Synthesize a Human Gene. The Atlantic Monthly Press, New York, 1987
- 8) Pro práce s infekčním materiálem a později podle směrnic NIH i s rekombinantní DNA se požadují různé stupně zabezpečení laboratoří označované P1 (nejjednodušší) až P4
- 9) Termín "postdoc", který označuje absolventa doktorandského studia, který ještě není přijat do trvalého stavu (jako staff member) je nepřeložitelný. Tito mladí vědci jsou většinou placeni z grantů, tedy mají smlouvu jenom po dobu trvání grantu, často pouze na rok.
- 10) Recombinant DNA Advisory Committee (RAC)
- 11) Není bez zajímavosti, že s tímto pánem Hospodářské noviny v roce 2006 uzavřely smlouvu o otištění jeho 4 až 6 článků. Zaměření se za těch 30 let nezměnilo. Viz dále.
- 12) Poměrně věrně realisticky popsáno ve filmu "Kmen Andromeda".
- 13) Zinder, N.D. (1986) A personal view of the media's role in the recombinant DNA war. In Zilinskas, R.A. and Zimmerman B.K. (Eds.) The Gene-Splicing Wars: Reflections on the Recombinant DNA Controversy. Macmillan, NY, London.

- 14) Halvorson, H.O. (1986) The impact of the recombinant DNA controversy on a professional scientific society. In Zilinskas, R.A. and Zimmerman B.K. (Eds.) The Gene-Splicing Wars: Reflections on the Recombinant DNA Controversy. Macmillan, NY, London
- 15) Podrobněji v přehledu Cantley, M., The regulation of modern biotechnology: A historical and European perspective. In H.-J. Rehm and G.Reed: Biotechnology, Weinheim, Berlin 1995.
- 16) Forecasting and Assessment in Science and Technology
- 17) Off.J.Eur.Comm. No L225/40 of 16 August 1978
- 18) Jednalo se o Ad Hoc Committee on rekombinantní DNA Research, ustaveném roku 1976 při European Science Foundation (ESF) a Standing Advisory Committee on Recombinant DNA, vytvořeném European Molecular Biology Organisation (EMBO).
- 19) Proposal for a Council Directive establishing safety measures against the conjectural risk associated with recombinant DNA work

Legislativní dokumenty vydávané Komisí mají různé stupně závaznosti pro členské státy:

Nařízení (Regulation) mají základní platnost a jsou závazné pro všechny členské státy. Jakmile jsou vydány, automaticky vstupují do jejich národní legislativy bez nutnosti dalších kroků.

Směrnice (Directives) jsou závazné pro členské státy co se týče výsledného cíle a účinku, ale ponechávají členským státům prostor pro volbu způsobu, jak bude tohoto výsledného účinku dosaženo.

20) Doporučení (Recommendations) jsou nezávazná, spíše mají přesvědčit. Jejich plnění není vymahatelné.

21) Health and Safety at Work Act

22) Becker, J.: Bioengineering hazards: European doubts, Nature, 291,181,21 May 1981;Becker,J.: Recombinant DNA research: EEC safety dispute, Nature, 294, 24, 31 December 1981

23) North Atlantic Assembly - spojnice mezi NATO a parlamentem

24) International Council of Scientific Unions (ISCU)

25) Scientific Committee on Genetic Experimentation (COGENE).

- 26) A European Approach to Regulations Affecting Biotechnology
- 27) Safety and regulation in biotechnology, ECRAB 1986
- Zaenen I., Larebeke N., Teuchy H., Van Montagu M. and Schell L.: Supercoiled circular DNA in crown gall inducing *Agrobacterium* strains. *J.Mol.Biol.* 86, 109-127, 1974.
- 28) Willmitzer L., Dhaese P., Schreiner P., Schmalenbach W., Van Montagu M. and Schell L.: Size location and polarity of T-DNA encoded transcripts in nopaline crown gall tumors. *Cell* 32, 1045-1050, 1983.
- 29) Např. Kleinhofs A. and Behki R.: Prospect for plant genome modification by nonconventional methods. *Annu.Rev.Genet.* 11, 79-101, 1977
- Hernalsteens J.-P., Thia-Toong L., Schell J. and Van Montagu M.: An *Agrobacterium* transformed cell culture from the monocot *Asparagus officinalis*. *EMBO J.* 13, 3039-3041, 1984.
- 30) DeBlock M., Schell J. and Van Montagu M.: Chloroplast transformation by *Agrobacterium tumefaciens*. *EMBO J* 14, 1367-1372, 1985
- 31) Proposal for the Council Decision Adopting a Multinational Research Programme of the European Economic Community in the Field of Biotechnology. COM (84) 230
- 32) Resolution on Biotechnology in Europe and the Need for an Integrated Policy, Doc. A2-134/86, Off. J. Eur. Commun. C76/25-29, 23 March 1987
- 33) Convention of the Organisation for Economic Co-operation and Development, Paris, 14 December 1960
- 34) Biotechnology and the Changing Role of Government, OECD, Paris 1988,
Biotechnology: Economic and Wider Impacts, OECD, Paris 1989. Biotechnology,
Agriculture and Food, OECD, Paris 1992
- 35) Recombinant DNA, Safety Considerations 1986. Safety Considerations for Industrial, Agricultural and Environmental Applications of Organisms Derived by Recombinant DNA Techniques. OECD, Paris 1986
- 36) nadepsaný Environmentally Sound Management of Biotechnology
- 37) na základě článku 8(g) § 3 CBD
- 38) na základě článku 19 § 3 CBD

39) Plné znění v češtině viz

[http://www.env.cz/AIS/websub.nsf/\\$pid/MZPMVFA4QCAR/\\$FILE/cartagensky_protokol.doc](http://www.env.cz/AIS/websub.nsf/$pid/MZPMVFA4QCAR/$FILE/cartagensky_protokol.doc)

40) Dušan Třeštík: Mýty kmene Čechů Nakl. Lidové noviny, Praha 2003

41) The objective of the Public Research and Regulation Initiative (PRRI) is to involve the public research sector in regulations and international agreements relevant to modern biotechnology. The PRRI believes that adequate biosafety regulations are essential to allow society to benefit maximally from the potentials of modern biotechnology. The PRRI is committed to utilising the scientific expertise of the organization's members in assisting with the development of workable, transparent and predictable regulations.

42) The private sector finances more than half and carries out two thirds of Europe's research and technological development activities. Investment by international and multinational concerns in Europe has maintained at a high level and even increased. That said, the global increase in expenditure on research and development in the private sector is less than it has been amongst its main competitors in the United States and Asia. Towards a European research area. Brussels 18 January 2000, COM (2000) 6

43) viz kapitola Biotechnologie a problémy světa

44) Daniels, R., Boffey, C., Mogg, R., Bond, J., and Clarke, R.: The potential for dispersal of Herbicide tolerance genes from genetically-modified, herbicide-tolerant oilseed rape crops to wild relatives. Contract reference EPG 1/5/151. Final report to DEFRA, CEH Dorset, Winfrith Technology Centre Dorchester, DT2 8ZD, 2005

45) Chloupek O.: Genetická diverzita, šlechtění a semenářství. Academia, Praha 1995 a 2000

46) Referát na konferenci Co-existence of genetically modified, conventional and organic crops: Freedom of choice, Vídeň 5.4.2006,
<http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/06/224&format=HTML&aged=0&language=EN&guiLanguage=en>

47) Editorial, Nature Biotechnology - 24, 1178; Oct. 2006, a Shane H Morris, Nature Biotechnology, Jan. 2007, v. 25, p33. www.nature.com/nbt

48) Abdulaziz Sachedina, University of Virginia: Cloning and the Qur'an and tradition; Islamic perspectives on human cloning.

<http://www.people.virginia.edu/~aas/article/article4.htm>

;

- 49) Muslim council approves GM foods. The Jakarta Post July 8, 2003,
<http://straitstimes.asia1.com.sg/asia/story/0,4386,198597,00.html> SciDev.Net, By Katie Mantell 16 July 2003,
<http://www.scidev.net/news/index.cfm?fuseaction=readnews&itemid=912&language=1>
- 50) C.L. Richard, O Hebrew: Why Biotech Foods Are Kosher. A Revista Da Cumnidade Judaica Brasileira , April 2000; <http://www.ohebreu.com.br>
- 51) Mae-Wan Ho: Genetické inženýrství – naděje nebo hrozba? Nakl. Alternativa, Praha 2000
- 52) více viz <http://www.agbioworld.org/biotech-info/articles/biotech-art/pusztai-potatoes.html>
- 53) ¹ it is noteworthy that *B. thuringiensis* has "a significant history of mammalian pathogenicity" Heinemann, J.A. and Traavik, T. Nat. Biotechnol. 23, 488 (2005)
- 54) např. preamble směrnice 2001/18/EC: (5) The protection of human health and the environment requires that due attention be given to controlling risks from the deliberate release into the environment of genetically modified organisms (GMOs).
- 55) 'with GMOs we have a very clear example of something that poses little if any risk but which has proved unacceptable.'..... "The fear of GMOs is out of all proportion to more tangible threats such as road accidents, which kill 40,000 EU citizens every year, and smoking, which claims 500,000 lives in Europe each year. To my knowledge, nobody has died from eating a GMO. Animals and humans have been eating GMO feed and food for years in the US without any obvious problems. In Europe 'GMO psychosis' has led to an untenable de facto moratorium on new authorisations of GM produce since 1998. The moratorium has serious implications for European industry, agriculture and research. SPEECH/01/565 David BYRNE European Commissioner for Health and Consumer Protection "Risk versus benefit" European Voice Conference "Farm to Fork" Brussels, 22 November 2001.
- 56) Public controversy over GMOs crystallised in the middle of the 1990s, as the first GM crops were being harvested. Mobilisation emerged at the global level around the "Pure Food Campaign," later known as the "Campaign for Food Safety." At the core of these campaigns, international NGOs such as Greenpeace, Friends of the Earth, RAFI and others co-ordinated the movements and set up discussion fora and comprehensive GMO databases on the internet.

The "Global Days of Action Against Gene-Foods" organised in the spring 1997 evidenced the transnational, and multi-faceted character of mobilisation. Table 4.1 illustrates the regional and political diversity of this campaign. According to the organisers, "activists from twenty-seven nations organised actions and press events against gene-foods and genetic engineering" (Pure Food Campaign, 1997).

Global mobilisation against GMOs has continued ever since, sometimes with spectacular actions. A second "Global Days of Action Against Genetic Engineering" took place in October 1997. In February 1998, the "Physicians and Scientists Against Genetically Engineered Food" issued a declaration in which they demanded a "moratorium on the release of Genetically Engineered organisms and the use of GE-food" (Physicians and Scientists Against GE Food 1998). In September 1999, activists from thirty countries (Latin America, North America, Asia and Europe) launched a lawsuit against major biotech companies, claiming a multi-billion dollar compensation for monopolistic practices (Financial Times, 13 September 1999). Economic Impacts of Genetically Modified Crops on Agri-Food Sector. A Synthesis. Working document, Directorate-General for Agriculture, Brusel 2000

57) Podle Pure Food Campaign, 1997)

58) The Denver Post, July 24, 2005 Patrick Moore se narodil v r. 1947. Studoval lesní ekologii na University of British Columbia u našeho profesora Krajiny, který emigroval do Kanady. V roce 1972 získal doktorát z ekologie a dva roky před tím se podílel na založení kanadské pobočky Greenpeace, kde byl devět let předsedou a sedm let ředitelem Greenpeace International. V roce 1991 založil firmu Greenspirit Strategies Ltd. ve Vancouveru. Je to konzultační firma v otázkách udržitelného rozvoje.

59) Vyhláška 298 Ministerstva zdravotnictví ze dne 28. listopadu 1997 k zákonu č. 110/1997 Sb. o potravinách a tabákových výrobcích.

60) Emma.Gibson@uk.greenpeace.org, 12. února 2001

61) „Environmental and consumer activist groups today called for a ban on all food products containing hybrid plants that have been developed by induced mutation via irradiation”

62) ¹ <http://www-mvd.iaea.org/MVD/default.htm>

63) Renewable biomaterials for non-food use. The impact of EU research (1998-2004). Review Workshop 28 June 2005. Agricultura market impacts of future growth in the

production of biofuels. Working Party on Agricultural Policies and Markets. OECD Directorate for food, agriculture and fisheries, Committee for Agriculture.

- 64) Lack of information and public scepticism on agricultural biotechnology contribute to biotech companies leaving Europe, Tiskové prohlášení EU institucí, Brusel 14. 3. 2003.
- 65) ¹ Biarritz (France) Meeting of EU agriculture ministers: Let's keep emotions out of biotech crop debate, September 5, 2000
- 66) Life Sciences and Biotechnology – A Strategy for Europe. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, COM(2002), Brusel 23.1.2002. Agricultural research in the European Research Area. Palais de Congrès, Versailles, 5-6 December 2000. Conclusions & Recommendations.
- 67) Regulation (EC) No 178/2002 of the European Parliament and of the Council laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety, 28 January 2002
- 68) Týdeník Rozhlas, 2006 č. 27
- 69) Biotechnology Research for Innovation, Development and Growth in Europe
- 70) ¹ Council Directive 90/219/EEC of 23 April 1990 on the contained use of genetically modified micro-organisms. Off.J.Eur.Comm. L117, 8 May 1990
- 71) ¹ Council Directive 90/220/EEC of 23 April 1990 on the deliberate release into the environment of genetically modified organisms, Off.J.Eur.Comm. L117, 8 May 1990
- 72) Zákon o odrůdách, osivu a sadbě pěstovaných rostlin 92/1996 Sb. ze dne 15. března 1996, částka 31
- 73) ¹ Regulation PE-CONS 3637/96 of the European Parliament and of the Council Concerning Novel Foods and Novel Food Ingredients.
- 74) The European Commission has today adopted a Communication on the use of the precautionary principle. The objective of the Communication is to inform all interested parties how the Commission intends to apply the principle and to establish guidelines for its application. The aim is also to provide input to the on-going debate on this issue both at EU and international level. The Communication underlines that the precautionary principle forms part of a structured approach to the analysis of risk, as well as being

relevant to risk management. It covers cases where scientific evidence is insufficient, inconclusive or uncertain and preliminary scientific evaluation indicates that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the high level of protection chosen by the EU. Today's Communication complements the recently adopted White Paper on Food Safety and the agreement reached in Montreal this week-end on the Cartagena Protocol on Bio-safety. Communication from the Commission on the Precautionary Principle, COM (2000).1, Brusel 02.02.2000

75) Shaw,S. and Schwartz,R.:Trading Precaution: The Precautionary principle and the WTO. United Nations University, Institute of Advanced Studies, November 2005

76) Where action is deemed necessary, measures based on the precautionary principle should be, inter alia:

1. proportional to the chosen level of protection,
2. non-discriminatory in their application,
3. consistent with similar measures already taken,
4. based on an examination of the potential benefits and costs of action or lack of action (including, where appropriate and feasible, an economic cost/benefit analysis),
5. subject to review, in the light of new scientific data, and
6. capable of assigning responsibility for producing the scientific evidence necessary for a more comprehensive risk assessment.

77) Regulation (EC) No 258/97 of the European Parliament and of the Council of 27 January 1997 concerning novel foods and novel food ingredients.

78) Zákon o odrůdách, osivu a sadbě pěstovaných rostlin 92/1996 Sb. ze dne 15. března 1996, částka 31.

79) Council Regulation 1139/98/EC of 26 May 1998 concerning the compulsory indication of the labelling of certain foodstuffs produced from genetically modified organisms of particulars other than those provided for in Directive 79/112/EEC.

80) SCF/CS/ NF/ LABEL/„OPINION No 13 Rev. 4, expressed on 17 June 1999 Concerning the scientific basis for determining whether food products, derived from genetically

modified soya and from genetically modified maize, could be included in a list of products which do not require labelling because they do not contain (detectable) traces of DNA or protein).

- 81) Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed.
- 82) genetically modified food' means food containing, consisting of or produced from GMOs.
- 83) 'produced from GMOs' means derived, in whole or in part, from GMOs, but not containing or consisting of GMOs.
- 84) In order to provide a high level of protection of human life and health, animal health and welfare, environment and consumer interests in relation to genetically modified food and feed.
- 85) It's still possible to impose tough restrictions on GMOs to protect the people and the environment from genetically modified crops.
- 86) based the ban on the fact that no long term health safety tests have been done and that imports would likely lead to the accidental spillage of the seed into the environment.”<http://euobserver.com/9/21578>
- 87) requirements arising from this Regulation should apply in a non-discriminatory manner to products originating in the Community and imported from third countries.
- 88) Einspanier, R., Klotz A., Kraft J., Aulrich K., Poser R., Schwägele F., Jahreis G and Flachowsky G: The fate of forage plant DNA in farm animals: collaborative case-study investigating cattle and chicken fed recombinant plant material. Eur. Food Res. Technol., Vol. 211, (Art. 248/3178)(2000).
<http://www.weihenstephan.de/fml/physio/sonstig/statement.htm> ; Beever DE & Kemp CF: Safety issues associated with the DNA in animal feed derived from genetically modified crops. A review of scientific and regulatory procedures. Nutrition Abstracts and Reviews, Zer. B: Livestock Feeds and Feeding. 70(3),:175 (2000).
- 89) “...Despite the scientific intrigue of this debate, the critical issue is whether the possible presence of plant DNA fragments in animal tissues is a safety risk; evidence indicates that this possibility presents no risk.” Animal agriculture’s future through biotechnology, Part 5 – Safety of meat, milk, and eggs from animals fed crops derived from modern

biotechnology. Council for Agricultural Science and Technology (CAST), Issue paper 34, July 2006.

90) Zákon 173/2000, Sb.

91) Doubková, Z.: Geneticky modifikované organismy pod dohledem – proces schvalování nového GMO. Geneticky modifikované organismy – Sborník přednášek, Ed. Ministerstvo zemědělství, Praha, 2006

92) Brookes, G. and Barfoot, P.: GM Crops: The Global Socio-economic and Environmental Impact of the First Nine Years 1996-2004. P.G. Economics 2005.

93) Radiation mutant, variety CM6, Ann. Report IAEA 2001

94) Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC

95) Orig. The Third Chimpanzee, Harper Collins, New York 1993, překlad Paseka, Praha 2004.

96) For any long-term outcomes to be drawn about the future of the UK agricultural system, however, there needs to be a clearer picture obtained of the current system in the UK and its effect on the environment. Only by measuring the environmental damage caused by existing agricultural practices can an accurate comparison of alternative systems take place. It is important that comparison against this baseline becomes a feature of future assessments of all agricultural technologies, as failure to do so would misrepresent both the positive and negative features of alternative systems. From the President Lord May of Oxford OM AC Kt PRS, 10 November 2003, Policy no: 27/03.

97) Carpenter, J., Felsot, A., Goode, T., Hamming, M., Onstad, D.: Comparative Environmental Impacts of Biotechnology-derived and traditional Soybean, Corn, and Cotton Crops. Council for Agricultural Science and Technology, Indianapolis, 2002.

98) Losey, J. E., Rayor, L. S. & Carter, M. E. Transgenic pollen harms monarch larvae. [Nature](#), , 214, (1999).

99) Přehled viz Nature September 12, 2001.

100) ČS rozhlas Radiožurnál 19.6.2007 17.30

- 101) Carl E. Pray, Jikun Huang, Ruifa Hu and Scott Rozelle: Five years of Bt cotton in China - the benefits continue. *The Plant Journal* (2002) 31(4), 423±430.
- Gianessi L., Sankula S. a Reigner N.: *Plant Biotechnology: Potential Impact for Improving*
- 102) *Pest Management in European Agriculture, Maize Case Study*. The National Center for Food and Agricultural Policy, June 2003, Full Report: www.ncfap.org.
- 103) Kershner, D.L. The Benefits of Bt-Corn, *Food & Drug Law Journal* v. 61 # 2 (June 2006), pp.197-235.
- 104) Kocourek F. a Říha K. jr.: *Zavíječ kukuřičný – nebezpečný škůdce. Kukuřice v praxi* 2006, Agronom. fak. MZLU a KWS Osiva s.r.o.
- 105) Příloha č. 2 k vyhlášce č. 53/2002 Sb, část 10, Tab. č.5.
- 106) Food Standard Agency (2003), Electronic Source: Contaminated maize meal withdrawn from sale,
<http://www.food.gov.uk/news/newsarchive/2003/sep/maize> and
<http://www.food.gov.uk/news/newsarchive/2003/sep/moremaize> and
<http://www.food.gov.uk/multimedia/pdfs/maizemeal10.pdf>
- 107) Romeis, J. a Bigler, F. Eds.: *Ecological Impact of Genetically Modified Organisms*, Bulletin OILB srop Vol. 27(3)2004.
- 108) Ondřej, M. a Drobník, J. *Transgenose rostlin* (str. 197-199), Academia, Praha 2002.
- 109) Klimovičová, M. a Tutter, J.: dopis ministrovi Ambrozkovi ze dne 13.4.2006,
www.greenpeace.cz
- 110) Hawes, C. and others: Responses of plants and invertebrate trophic groups to contrasting herbicide regimes in the Farm Scale Evaluations of genetically modified herbicide-tolerant crops. *Phil. Trans. R. Soc. Lond. B* (2003) 358, 1899–1913.
- 111) *The Guardian*, By Robert May, November 25, 2003,
<http://politics.guardian.co.uk/green/comment/0,9236,1092623,00.html>
- 112) From the President Lord May of Oxford OM AC Kt PRS , 10 November 2003, Policy no: 27/03
- 113) "The results clearly demonstrated that it is not the technology of genetic modification but the weed management system associated with it, such as volumes of herbicide used

and its persistence, that determines the environmental effects of a particular agricultural system.“

- 114) ¹ Prohibition of import and marketing of oilseed rape in Greece, Hellenic Republic, Ministry of Environment, Athens 05-03-2004
- 115) “.....given the conditions of transport, the small size of the seeds, as well as the favorable climatic conditions of Greece, it is certain that the seed will escape into the environment and will give viable plants”. „, It was also predicted that growing GM oilseed rape would increase the long-term decline of seed banks of soil, leading to „accelerated species decline“.
- 116) Nature, Pidgeon J.D. et al. Proc. R. Soc. B, doi: 10.1098/ČSOB.2007.0401
- 117) Report of the ACRE Sub-Group on Wider Issues raised by the Farm-Scale Evaluations of Herbicide Tolerant GM Crops, Revised after public consultation, 3 May 2007.
- 118) Benbrook, Ch.M., Impact of genetically engineered crops in United States: The first eight years. BioTech InfoNet Technical Paper Number 6, November 2003.
- 119) <http://www.ers.usda.gov/publications/aer810/aer810fm.pdf>
- 120) <http://www.ncfap.org/whatwedo/pdf/2004ExecSummaryA.pdf>
- 121) Consensus document on the biology of Brassica napus L. (Oilseed rape), Series on Harmonization of Regulatory Oversight in Biotechnology No.7, <http://www.oecd.org/dataoecd/28/22/27531440.pdf>
- 122) Commission du Genie biomoleculaire, Paris, le 13 février 2004.
- 123) Viz Kapitola 11 - 3 , str. 148.
- 124) Obsáhlá teoretická studie např. Smith-Kleefsman, M.W., Weissing, F.J. and Bijlsma R. Quantifying outcrossing probabilities of genetically modified plants. Centre for Ecological and Evolutionary Studies, University of Groningen, February 2005.
- 125) Scheffler, J.A., Parkinson, R. and Dále, P.J. (1995) Evaluating the effectiveness of isolation distances for field plots of oilseed rape (Brassica napus) using a herbicide-resistance transgene as a selectable marker. Plant Breeding 114: 317-321.
- 126) Rakouský, S. a Ondřej, M.: Monitorování řepky olejné (Brassica napus L.) odolné k herbicidům v ČR. Sborník ze semináře „Otázky biologické bezpečnosti GMO a mezinárodní závazky ČR. VÚRV Praha 2004.

- 127) L.T.Evans: Feeding the Ten billion; Plants and populatio growth. Cambridge University Press, ISBN 0-521-64685-5.
- 128) T.R.Malthus: Essay on the Principle of Population, 1798.
- 129) The Role of Biotechnology in Exploring and Protecting Agricultural Genetic Resources. Ruane L. and Sonnino A. Ed. FAO, Rome 2006.
- 130) State of the world fisheries and aquaculture 2000.
www.fao.org/DOCREP/003X8002E/X8002E00.htm.
- 131) Brigitte van Beuzekom and Anthony Arundel: OECD Biotechnology statistics – 2006,
<http://www.oecd.org/dataoecd/51/59/36760212.pdf>.
- 132) Brigitte van Beuzekom and Anthony Arundel: OECD Biotechnology statistics – 2006,
<http://www.oecd.org/dataoecd/51/59/36760212.pdf>.
- 133) Economic Impact of Dominant GM Crops Worldwide. A Review. Manuel Gómez-Barbero and Emilio Rodríguez-Cerezo, European Commission, DG JRC-IPTS, EUR 22547 EN, December 2006.
- 134) Sunilkumar G., Campbell LA. M., Puckhaber L., Stipanovic R.D. and Rathore K.S.: Engineering cottonseed for use in human nutrition by tissue-specific reduction of toxic gossypol PNAS News Nov. 20, 2006, Proceedings of the National Academy of Sciences (PNAS)- Article #05389.
- 135) („Identity Preservation is a move away from commodity trade and it implies additional cost at all stages of the food chain,..... which represents 6 – 17% of the farmgate price of the different crops.), Economic Inpacts of Genetically Modified Crops on Agri-Food Sector. A Synthesis. Working document, Directorate-General for Agriculture, Brusel 2000.
- 136) „I would also like to say that I deplore scaremongering about GMOs: every GMO authorised in the EU has been evaluated for its safety by independent scientists and there are no known adverse effects on human health from eating GMOs). IP/02/1770, Brussels.
- 137) Brookes G., Craddock N. and Kniel B.: The EU non-GM Market, September 2005.
- 138) <http://www.foodnavigator.com/news/> 29/09/2005.
- 139) Viz kapitola „Reakce společnosti na nástup biotechnologie“

140) A common-agency lobbying model is developed to help understand why North America and the European Union have adopted such different policies toward genetically modified (GM) food. Our results show that when firms (in this case farmers) lobby policy makers to influence standards and consumers and environmentalists care about the choice of standard, it is possible that increased competition from abroad can lead to strategic incentives to raise standards, not just lower them as shown in earlier models. We show that differences in comparative advantage in the adoption of GM crops may be sufficient to explain the trans-Atlantic difference in GM policies. On the one hand, farmers in a country with a comparative advantage in GM technology can gain a strategic cost advantage by lobbying for lax controls on GM production and usage at home and abroad. On the other hand, when faced with greater competition, the optimal response of farmers in countries with a comparative disadvantage in GM adoption may be to lobby for more-stringent GM standards. Thus it is rational for producers in the EU (whose relatively small farms would enjoy less gains from the new biotechnology than broad-acre American farms) to reject GM technologies if that enables them and/or consumer and environmental lobbyists to argue for restraints on imports from GM-adopting countries. This theoretical proposition is supported by numerical results from a global general equilibrium model of GM adoption in America without and with an EU moratorium. Trade, Standards, and the Political Economy of Genetically Modified Food by Kym Anderson (World Bank, CEPR and University of Adelaide), Richard Damania (University of Adelaide) and Lee Ann Jackson (WTO Secretariat, Geneva), World Bank Policy Research Working Paper 3395, September 2004. Innovations

141) Report Feb. 26, 2007 <http://www.innovations-report.com>

142) Daems W., Demont M., Muška F., Soukup J. a Tollens E.: Potential impact of biotechnology in Eastern Europe: Transgenic maize, sugar beet and oilseed rape in the Czech Republic. Katholieke Universiteit Leuven, Faculty of Applied Bioscience and Engineering, Working Paper 2006/93.

143) Even if you could use all the organic material that you have -- the animal manures, the human waste, the plant residues -- and get them back on the soil, you couldn't feed more than 4 billion people. In addition, if all agriculture were organic, you would have to increase cropland area dramatically, spreading out into marginal areas and cutting down millions of acres of forests. At the present time, approximately 80 million tons of nitrogen nutrients are utilized each year. If you tried to produce this nitrogen organically, you

would require an additional 5 or 6 billion head of cattle to supply the manure. How much wild land would you have to sacrifice just to produce the forage for these cows? There's a lot of nonsense going on here.

- 144) Profesor Norman E. Borlaug se narodil 25. března 1914 ve městě Cresco v Iowě. Pracuje střídavě v Mexiku (CIMMYT) a v Texasu (A&M University, Department of Soil & Crop Sciences).
- 145) Parables: Applied Economics Literature About the Impact of Genetically Engineered Crop Varieties in Developing Economies, Melinda Smale, Patricia Zambrano, José Falck-Zepeda, Guillaume Gruère, Environment and Production Technology Division Discussion Paper 158, October 2006, <http://www.ifpri.org/divs/eptd/dp/papers/eptdp158.pdf>.
- 146) <http://www.nature.com/news/specials/islamandscience/index.html>
- 147) <http://www.scidev.net/news/index.cfm?fuseaction=printarticle&itemid=2542&language=1>
- 148) <http://www.scidev.net/news/index.cfm?fuseaction=printarticle&itemid=1972&language=1>
- 149) Abdulaziz Sachedina, University of Virginia: Cloning and the Qur'an and tradition; Islamic perspectives on human cloning. <http://www.people.virginia.edu/~aas/article/article4.htm>
- 150) New centre to advise Muslim world on science policy. <http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2967&language=1>
- 151) <http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2960&language=1>
- 152) <http://www.scidev.net/news/index.cfm?fuseaction=printarticle&itemid=2850&language=1>
- 153) John Bohannon: Science in Iran: Picking the path between fatwas. Science 313, 5785, pp292-293, 21. July 2006.
- 154) First International Congress on the Dialogue Between Science and Religion, sponsored by Tehran University of Medical Sciences, 1-4 May
- 155) EUROPABIO - http://www.europabio.org/articles/PR_BioFuelsTP_060608.doc

- 156) Váňa J: <http://biom.cz/index.shtml?x=17125#p2>
- 157) The Associated Press - 6/20/2006
- 158) Zemědělství 2005, Ministerstvo zemědělství
- 159) George Gaskell, Nick Allum and Sally Stares (London School of Economics, UK): Eurobarometer 58.0. Europeans and Biotechnology in 2002. A report to the EC Directorate General for Research from the project 'Life Sciences in European Society' QLG7-CT-1999-00286.
- 160) Eurobarometer - kontrakt Komise BI04-CT95-0043.
- 161) Erbas H. :Biotechnology in Turkey. A Technological and Social Overview. Bioforum Europe 12, 2006.
- 162) Gaskell G., Allansdottir A., Allum N., Corchero C., Fischler C., Hampel J., Jackson J., Kronberger N., Mejlgard N., Revuelta G., Schreiner C., Stares S., Torgersen H. and Wagner W.: Europeans and Biotechnology in 2005: Patterns and Trends. Eurobarometer 64.3 - A report to the European Commission's Directorate-General for Research, May 2006.
- 163) Kuchtová, P.: Biozemědělství nepoužívá GMO. Zemědělec 2.5.2006, str. 41.
- 164) Editorial, Nature Biotechnology - 24, 1178; Oct. 2006; Morris, S.H., Nature Biotechnology, Jan. 2007, v. 25, p33.
- 165) Managing the Footprint of Agriculture: Towards a Comparative Assessment of Risks and Benefits for Novel Agricultural Systems" viz <http://www.defra.gov.uk/environment/acre/fsewiderissues/acre-fse-060317draft.pdf>.
- 162) Committee on Agriculture and Rural Development: Draft Report on Biotechnology: Prospects and Challenges for Agriculture in Europe, Provisional (2006/2059(INI)), 6.11.2006.
- The Lisbon Strategy, which aims to make Europe more dynamic and competitive, sets as targets an average economic growth of 3% and the creation of 20 million jobs by 2010 and modern biotechnology could serve as a major contributor to achieving European Union policy goals on growth, competitiveness and job creation,
 - Modern biotechnology is one of the leading new technologies that is likely to develop tremendously over the next few years and has huge economic, commercial, social and environmental implications in Europe and globally,

- Developments in biotechnology have the potential to yield many benefits for agriculture, such as increased yields, reduced use of herbicides and pesticides, less fossil fuel use and reduced soil erosion,
- GM products for use in agriculture necessarily have to pass very stringent assessments and the present authorisation process is slow and bureaucratic, contributing to the EU lagging behind its global competitors,

163) Malý příklad: Postup EU:

Žádost NL kukuřice jako krmivo 3.9.2004, připomínky do 3.12.2004, rozhodnutí EFSA 19.1.2005, schváleno komisí 3.3.2006.

Stát	plodina	podáno	připomínky	EFSA	Rozhodnutí
NL-potr-pěst	kukuřice	3.9.2004	3.12.2004	19.1.2005	3.3.2006
DE-potr	kukuřice	26.11.2004	26.2.2005	8.6.2005	dosud ne
UK-potr.	kukuřice	14.1.2005	14.4.2005	6.7.2005	dosud ne

164) The Committee

- Encourages efforts to develop biotechnology in the EU as one way of improving the economic viability and environmental sustainability of agriculture; considers that the use of biotechnology and genetic engineering should be developed in order to facilitate more sustainable farming practices, better food, increased yield and higher-quality and more diverse products with less use of nitrates and other fertilisers and less use of water;
- Considers it important to acknowledge that biotechnology presents real opportunities in various fields; believes that beyond the traditional agricultural products of food, feed and fibre, entirely novel products for agriculture will emerge, including pharmaceutical products such as oral vaccines, products with higher levels of essential amino acid or vitamins, improved fatty acid content and the removal of allergens and anti-nutrients;

- Is convinced that biotechnology applications can help to reduce the use of pesticides, herbicides and fertilisers in crop cultivation, thus contributing to the protection of the environment and of human health;
 - Considers that the replacement of non-renewable raw materials with new products of fine chemicals and a large variety of degradable materials offers new opportunities;
 - Expects that, in the future, an increased variety of better and healthier food and feedstuffs could be produced also in less favoured areas, in restricted climate conditions, in dry or moist conditions and on harsh soil, and notes that biotechnology is key to these developments;
 - Supports the view that biotechnology can offer attractive alternatives to energy production in rural areas and that biomass, biogas and biofuels could replace increasingly scarce oil reserves for heating, electricity production and traffic fuels, thus increasing income in rural areas;
 - Regrets the current complexity of the approval of new biotechnology products and doubts that practices based on the existing procedure are always justified only by objective scientific criteria and not rather by political positions; points out that other factors than protecting human health and the environment should be clearly identified and separated from other aspects in the approval process;
 - Stresses the decisive importance of protecting human health and the environment in the approval process and underlines the use of objective scientific criteria in this respect; points out that the precautionary principle cannot be used as an excuse to delay the process;
- 165) Calls on the Commission to establish a high level group of the Commission, Council and European Parliament and to plan a strategy on biotechnology for agriculture in the EU;
- 166) <http://www.greenbiotech-manifesto.org/screen-manifesto-900.pdf>.
- 167) Jaroslav Petr: Klonování, hrozba nebo naděje? Paseka, 2003, ISBN 80-7185-469-7
- 168) Zákon 227 Sb. o výzkumu na lidských embryonálních kmenových buňkách a souvisejících činnostech a o změně některých souvisejících zákonů, ze dne 26. dubna 2006.
- 169) L'Osservatore Romano 25. srpna 2000

- 170) Nakl. AV ČR, 2000:
- 12 A věru jsme člověka nejdříve z části nejčistší hlíny stvořili
13 a pak jsme jej kapkou semene v příbytku jistém učinili.
14 Potom jsme z kapky semene hmotu přilnavou stvořili
a z hmoty přilnavé jsme kousek masa učinili;
a z kousku masa jsme kosti stvořili a kosti jsme masem obalili.
A potom jsme mu v dlouhém stvoření vzniknout dali.
Požehnán buď Bůh, nejlepší ze stvořitelů!
- 171) Speech by Peter Mandelson, at the European Biotechnology Info Day
Bavarian Representation, Brussels, 14 June 2007
- 172) Ethical aspects of human stem cell research and use. Opinion of the European
Group of Ethics in Science and New Technologies to the European
Commission No 15, 14 November 2000.
- 173) Ethical aspects of research involving human embryo in the content of 5th
Framework Programme. Opinion of the European Group of Ethics in Science and New
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- 176) International Conference of the Council of Europe on Ethical Issues Arising
from the Application of Biotechnology. Proceedings. Oviedo 16-19 May 1999.
Council of Europe Publishing.
- 177) Draft Recommendation Rec(2002) ..of the Committee of Ministers to member
states on xenotransplantation. 815 Meeting, 30 October 2002.
- 178) Citizens Rights and New Technologies: A European Challenge. Brussels, May
23, 2000. Webová stránka EGE
http://europa.eu.int.comm/secretariat_general/sgc/ethics/en/index.htm
- 179) Stanoviska a další informace lze nalézt na
http://europa.eu.int/comm/european_group_ethics

- 180) The Ethical Aspects of Nanomedicine. Proceedings of the Roundtable Debate organized by the European Group on Ethics. Secretariat of the EGE, March 2006.
- 181) Additional protocol to the convention of human rights and biomedicine concerning biomedical research. Strasbourg, 30 June 2004.
- 182) Uncertainty about societal acceptance has contributed to detract attention in Europe for the factors that determine our capacity for innovation and technology development and uptake. This has stifled our competitive position, weakened our research capability and could limit our policy options in the longer term. A dale: Biotechnology already enables cheaper, safer and more ethical production of a growing number of traditional as well as new drugs and medical services. Biotechnology also has the potential to improve non-food uses of crops as sources of industrial feedstocks or new materials such as biodegradable plastics. Plant-based materials can provide both molecular building blocks and more complex molecules for the manufacturing, and energy and pharmaceutical industries.
- Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee of the Regions - Life sciences and biotechnology – A Strategy for Europe, Brussels, 23.1.2002, COM(2002) 27 final.
- 183) Opinion No 15, Ethical aspects of human stem cell research and use, 14 November 2000.
- 184) Návrh zákona o darování, odběrech a transplantacích tkání a orgánů a o změně některých zákonů.
- 185) ¹ Integrating and strengthening the European Research Area” (2002-2006) (Decision 2002/834/EC), OJ L 294, 29.10.2002, p. 1.
- 186) Viz kapitola Společenská atmosféra lékařských biotechnologií
- 187) Commission staf Working Paper: Report on Human Embryonic Stem Cell Research. SEC (2003) 441, Brussels 3.4.2003.
- 188) Council decision amending decision 2002/834/EC on the specific programme for research, technological development and demonstration: “Integrating and strengthening the European research area” (2002-2006), COM (2003) 390 final, Brussels 7.9.2003.

- 189) Directive 98/44/EC of the European Parliament and of the Council, of 6 July 1998, on the legal protection of biotechnological inventions. Viz kapitola Patentovat či nepatentovat – to je otázka.
- 190) Wisterlund L.: European patents – what needs to be fixed? Europe BIOforum, 10, October 2006, pp.12-13.
- 191) Zákon o výzkumu na lidských embryonálních kmenových buňkách a souvisejících činnostech a o změně některých souvisejících zákonů č. 227/2006, platný od 1.6.2006.
- 192) COM(88) 496 final/SYN 159 of October 1988, OJ No C from 10 to 13.1.1989.
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- 196) Zákon č. 527/1990 Sb., vyhláška č. 550 Sb. o řízení ve věcech vynálezů a průmyslových vzorů, ve znění vyhl. č. 21/2002 Sb.
- 197) www.european-patent-office.org/
- 198) Directive 98/44/EC of 6 July 1998 on the legal protection of biotechnology inventions.
- 199) Opinion No. 16 on ethical aspects of patenting inventions involving human stem cells, EGE, 7 May 2002.
- 200) www.cambia.org; www.cambiaip.org; www.innocentive.com.