Appendix I

Regional Membership of OIE Member Countries

AFRICA

ALGERIA
ANGOLA
BENIN
BOTSWANA
BURKINA FASO
BURUNDI
CAMEROON
CENTRAL AFRICAN REP.
CHAD
COMOROS
CONGO
CONGO (DEM. REP. OF THE)
COTE D'IVOIRE
DJIBOUTI
EGYPT
EQUATORIAL GUINEA
ERITREA
ETHIOPIA
GABON
GHANA
GUINEA
GUINEA-BISSAU
KENYA
LESOTHO
LIBYA
MADAGASCAR
MALAWI
MALI
MAURITANIA
MAURITIUS
MOROCCO
MOZAMBIQUE
NAMIBIA
NIGER
NIGERIA
RWANDA
SAO TOME AND PRINCIPE
SENEGAL
SIERRA LEONE
SOMALIA
SOUTH AFRICA
SUDAN
SWAZILAND
TANZANIA
TOGO
TUNISIA
UGANDA
ZAMBIA
ZIMBABWE

AMERICAS

ARGENTINA
BARBADOS
BELIZE
BOLIVIA
BRAZIL
CANADA
CHILE
COLOMBIA
COSTA RICA
CUBA
DOMINICAN (REP.)
ECUADOR
EL SALVADOR
GUATEMALA
GUYANA
HAITI
HONDURAS
JAMAICA
MEXICO
NICARAGUA
PANAMA
PARAGUAY
PERU
SURINAM
TRINIDAD AND TOBAGO
UNITED STATES OF AMERICA
URUGUAY
VENEZUELA

MIDDLE EAST

AFGHANISTAN
BAHRAIN
IRAN
IRAQ
JORDAN
KUWAIT
LEBANON
OMAN
QATAR
SAUDI ARABIA
SYRIA
TURKEY
UNITED ARAB EMIRATES
YEMEN

ASIA

AUSTRALIA
BANGLADESH
BHUTAN
BRUNEI
CAMBODIA
CHINA (PEOPLE'S REP. OF)
INDIA
INDONESIA
JAPAN
KOREA (REPUBLIC OF)
KOREA (DEM. PEOPLE'S REPUBLIC OF)
LAOS
MALAYSIA
MONGOLIA
MYANMAR
NEPAL
NEW CALEDONIA
NEW ZEALAND
PAKISTAN
PHILIPPINES
SINGAPORE
SRI LANKA
TAIPEI CHINA
THAILAND
VANUATU
VIETNAM

EUROPE

ALBANIA
ANDORRA
ARMENIA
AUSTRIA
AZERBAIJAN
BELARUS
BELGIUM
BOSNIA AND HERZEGOVINA
BULGARIA
CROATIA
CYPRUS
CZECH REPUBLIC
DENMARK
ESTONIA
FORMER YUG. REP. OF MACEDONIA
FINLAND
FRANCE
GEORGIA
GERMANY
GREECE
HUNGARY
ICELAND
IRELAND
ISRAEL
ITALY
KAZAKHSTAN
KIRGHIZISTAN
LATVIA
LITHUANIA
LUXEMBOURG
MALTA
MOLDAVIA
NORWAY
POLAND
PORTUGAL
ROMANIA
RUSSIA
SERBIA AND MONTENEGRO
SLOVAKIA
SLOVENIA
SPAIN
SWEDEN
SWITZERLAND
TADJIKISTAN
THE NETHERLANDS
TURKMENISTAN
UKRAINE
UNITED KINGDOM
UZBEKISTAN

Do you agree with these proposed definitions as applicable to livestock biotechnology?

Proposed Definitions:

1

A) "biotechnology" means the application of science and engineering in the direct or indirect use of living organisms or parts or products of living organisms in their natural or modified forms.

B) "living modified organism" means any living organism that possesses a novel combination of genetic material obtained through the use of:
(i) in vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles; or
(ii) techniques involving the fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.

	Global		Africa		America		Asia		Europe		Middle East	
Yes	81	89%	23	96%	15	88%	12	86%	29	85%	2	100%
No	9	10%	1	4%	2	12%	2	14%	4	12%	0	0%
Did Not Respond (DNR)	1	1%	0		0	0%	0	0%	1	3%	0	0%

If no – suggest an acceptable definition

Specify	10		1		3		3		3		0	

Key consideration

2 *Please score the following considerations as they pertain to the application of genetic engineering to animals. For each topic listed below circle a score on a scale of 1 to 5, where 1 indicates unimportant considerations, and 5 indicates very important considerations.*

	Global		Africa		America		Asia		Europe		Middle East	
	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average
Animal welfare	303	3,33	66	2,75	65	3,82	41	2,93	124	3,65	7	3,50
Economic aspects	334	3,67	99	4,13	68	4,00	51	3,64	109	3,21	7	3,50
Food safety	365	4,01	88	3,67	72	4,24	53	3,79	142	4,18	10	5,00
Environmental impact	353	3,88	87	3,63	74	4,35	47	3,36	137	4,03	8	4,00
Traceability	348	3,82	91	3,79	73	4,29	49	3,50	125	3,68	10	5,00
Nanotechnology	248	2,73	60	2,50	55	3,24	34	2,43	90	2,65	9	4,50
Human health (other than food)	362	3,98	98	4,08	72	4,24	46	3,29	136	4,00	10	5,00
Animal health	384	4,22	106	4,42	81	4,76	51	3,64	138	4,06	8	4,00
Regulatory controls	351	3,86	92	3,83	74	4,35	52	3,71	127	3,74	6	3,00
Xenotransplantation	308	3,38	66	2,75	69	4,06	43	3,07	123	3,62	7	3,50

3 *Do the animal health regulatory administrations and/or agencies in your country have the capability to conduct risk analysis (risk assessment, risk communication, risk management) on biotechnology derived livestock and biotechnology products?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	36	40%	4	17%	6	35%	5	36%	20	59%	1	50%
No	53	58%	20	83%	11	65%	8	57%	13	38%	1	50%
DNR	2	2%	0	0%	0	0%	1	7%	1	3%	0	0%

If yes, has a National framework for conducting risk analysis on biotechnology derived livestock and biotechnology products been developed?

Yes	23	64%	1	25%	4	66%	5	100%	13	65%	0	0%
No	12	33%	3	75%	1	17%	0	0%	7	35%	1	100%
DNR	1	3%	0	0%	1	17%	0	0%	0	0%	0	0%

If no, what are the reasons for not performing risk analysis for decision-making process pertaining to biotechnology derived livestock and biotechnology products?

Lack of knowledge	22	26%	6	27%	2	13%	6	50%	6	27%	2	50%
Training	44	53%	10	46%	9	56%	5	42%	10	46%	2	50%
Others (specify):	18	21%	6	27%	5	31%	1	8%	6	27%	0	0%

4 *Do the animal health authorities in your country have a dedicated unit that conducts risk analysis pertaining to biotechnology derived livestock and biotechnology products?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	14	15%	2	8%	3	18%	3	21%	6	18%	0	0%
No	75	83%	22	92%	14	82%	10	72%	27	79%	2	100%
DNR	2	2%	0	0%	0	0%	1	7%	1	3%	0	0%

If no, which unit is conducting risk analysis?

Import-Export unit	19	23%	6	26%	3	20%	4	45%	5	15%	1	50%
Epidemiology and Surveillance unit	24	29%	7	31%	4	27%	1	10%	11	33%	1	50%
External consultant	9	11%	3	13%	1	7%	0	0%	5	15%	0	0%
Others (specify)	30	37%	7	30%	7	46%	4	45%	12	37%	0	0%

5 *What factors are taken into consideration when determining risk associated with biotechnology derived livestock and biotechnology products?*

	Global		Africa		America		Asia		Europe		Middle East	
Animal Health	66	26%	18	25%	11	25%	9	22%	26	28%	2	34%
Food Safety	69	26%	20	29%	10	23%	10	24%	27	29%	2	33%
Environmental impact	58	23%	15	21%	8	19%	9	22%	24	25%	2	33%
Economic consideration	27	11%	11	15%	2	5%	6	15%	8	8%	0	0%
Others (specify)	24	9%	4	6%	10	23%	5	12%	5	5%	0	0%
DNR	12	5%	3	4%	2	5%	2	5%	5	5%	0	0%

6 *Have the animal health authorities conducted (or received a request to conduct) a risk analysis on biotechnology derived livestock or biotechnology products?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	23	25%	3	13%	7	41%	4	29%	9	26%	0	0%
No	66	73%	20	83%	10	59%	10	71%	24	71%	2	100%
DNR	2	2%	1	4%	0	0%	0	0%	1	4%	0	0%

If yes, specify what commodity

Not able to disclose	3	9%	1	33%	1	8%	1	20%	0	0%	0	0%
Cloned animal	3	9%	0	0%	2	15%	0	0%	1	20%	0	0%
Transgenic animal	7	21%	0	0%	3	23%	1	20%	3	60%	0	0%
Biotechnology products (specify)	17	52%	2	67%	6	46%	2	40%	0	0%	0	0%
Others (specify)	3	9%	0	0%	1	8%	1	20%	1	20%	0	0%

7 *Do the animal health authorities in your country make their risk analysis document available for peer review or for public consultation?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	25	27%	6	25%	7	41%	4	29%	8	24%	0	0%
No	60	66%	16	67%	10	59%	10	71%	23	67%	1	50%
DNR	6	7%	2	8%	0	0%	0	0%	3	9%	1	50%

If yes, what means of dissemination are used:

Official government publication	14	38%	4	66%	3	23%	3	42%	4	37%	0	0%
Electronic version	10	27%	1	17%	3	23%	2	29%	4	36%	0	0%
Others (specify)	13	35%	1	17%	7	54%	2	29%	3	27%	0	0%

and who conducts the peer review:

Internally within the Veterinary Services	18	45%	5	72%	6	40%	3	43%	4	37%	0	0%
External reviewers	10	25%	1	14%	4	27%	1	14%	4	36%	0	0%
Others (specify)	12	30%	1	14%	5	33%	3	43%	3	27%	0	0%

8 *Do you consider the "Guidelines for risk analysis" contained in the OIE Terrestrial Animal Health Code, adequate to help carry out an import risk analysis on biotechnology-derived animals or biotechnology-derived products?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	63	69%	19	79%	8	47%	9	65%	26	76%	1	50%
No	18	20%	3	13%	8	47%	3	21%	4	12%	0	0%
DNR	10	11%	2	8%	1	6%	2	14%	4	12%	1	50%

If no, how can it be improved?

Specify	18		3		8		3		4		0	

9 *Has your country produced biotechnology-derived animals or biotechnology-derived products for use on animals?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	31	34%	5	21%	6	35%	6	43%	14	41%	0	0%
No	58	64%	19	79%	11	65%	8	57%	18	53%	2	100%
DNR	2	2%	0	0%	0	0%	0	0%	2	6%	0	0%

10 *Do you have the following capabilities in your country?*

	Global		Africa		America		Asia		Europe		Middle East	
Cloning	23	17%	1	4%	6	23%	6	23%	10	18%	0	0%
Transgenic production	27	20%	2	8%	4	15%	6	23%	15	26%	0	0%
Products of biotechnology for use in animals (e.g. vaccines and/or drugs)	38	28%	6	23%	5	19%	9	35%	18	31%	0	0%
DNR	49	35%	17	66%	11	43%	5	19%	14	25%	2	100%

11 *Do you have a regulatory framework in place to govern the use of the above?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	44	48%	6	25%	9	53%	8	43%	21	62%	0	0%
No	45	50%	18	75%	8	47%	6	57%	11	32%	2	100%
DNR	2	2%	0	0%	0	0%	0	0%	2	6%	0	0%

If yes, briefly please describe the framework and list the Administrations and/or Agencies and pertinent legislation(s) involved

Specify	39		5		8		7		19		0	

12 *Is research being conducted in your country into biotechnology-derived animals and products including vaccines and drugs?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	43	47%	6	25%	7	41%	9	64%	20	59%	1	50%
No	46	51%	17	71%	10	59%	5	36%	13	38%	1	50%
DNR	2	2%	1	4%	0	0%	0	0%	1	3%	0	0%

13 *Do you produce or use any animal vaccines in your country that are biotechnology-derived?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	40	44%	4	17%	7	41%	7	50%	21	62%	1	50%
No	49	54%	19	79%	10	59%	7	50%	12	35%	1	50%
DNR	2	2%	1	4%	0	0%	0	0%	1	3%	0	0%

If yes, what types of biotechnology-derived animal vaccines are available?

Viral vectored vaccines which include antigen(s) from unrelated organisms	26	27%	2	50%	5	28%	4	19%	15	29%	0	0%
Bacterial vectored vaccines which include antigen(s) from unrelated organisms	16	16%	1	25%	2	11%	5	24%	8	15%	0	0%
Vaccines which have deleted antigen(s) to differentiate infected animals from vaccinates (DIVA)	22	23%	1	25%	3	17%	3	14%	14	26%	1	100%
Vaccines which include recombinant proteins	26	27%	0	0%	6	33%	6	28%	14	26%	0	0%
DNA vaccines	6	6%	0	0%	2	11%	2	10%	2	4%	0	0%
Other	1	1%	0	0%	0	0%	1	5%	0	0%	0	0%

14 *How are biotechnology-derived vaccines and/or drugs generally perceived by the public in your country?*

	Global		Africa		America		Asia		Europe		Middle East	
Safe	12	13%	4	17%	1	6%	3	21%	4	11%	0	0%
Controversial	25	27%	5	21%	5	28%	4	29%	10	29%	1	50%
Public mostly unaware	39	41%	11	46%	7	38%	6	43%	15	43%	0	0%
Others (specify)	11	12%	2	8%	5	28%	0	0%	2	6%	1	50%
DNR	7	7%	2	8%	0	0%	1	7%	4	11%	0	0%

15 *Do you have livestock cloning and/or transgenic animal production facilities in your country?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	28	31%	0	0%	5	29%	6	43%	17	50%	0	0%
No	60	66%	22	92%	12	71%	8	57%	16	47%	2	100%
DNR	3	3%	2	8%	0	0%	0	0%	1	3%	0	0%

16 *Are biotechnology-derived animals or their products permitted in the food or feed supply in your country?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	22	24%	5	21%	4	24%	6	43%	7	21%	0	0%
No	64	72%	17	71%	13	76%	6	43%	26	79%	2	100%
DNR	4	4%	2	8%	0	0%	2	14%	0	0%	0	0%

17 *Is there a public support for cloning of animals?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	11	12%	0	0%	2	12%	4	29%	5	15%	0	0%
No	72	79%	22	92%	13	76%	7	50%	28	82%	2	100%
DNR	8	9%	2	8%	2	12%	3	21%	1	3%	0	0%

If Yes, would there be a support for cloning for

Rescue of endangered species	7	39%	0	0%	2	33%	2	33%	3	50%	0	0%
Generating stem cells	7	39%	0	0%	2	33%	2	33%	3	50%	0	0%
Pet cloning	2	11%	0	0%	1	17%	1	17%	0	0%	0	0%
Food product homogeneity	2	11%	0	0%	1	17%	1	17%	0	0%	0	0%

18 *Are there transgenic animals present in your country?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	22	24%	0	0%	3	18%	4	29%	15	44%	0	0%
No	67	74%	24	100%	14	82%	10	71%	17	50%	2	100%
DNR	2	2%	0	0%	0	0%	0	0%	2	6%	0	0%

If Yes, what purpose are they generated for

Altered Nutrient Content	4	13%	0	0%	1	14%	2	22%	1	53%	0	0%
Biopharmaceuticals	14	45%	0	0%	3	43%	3	34%	8	33%	0	0%
Disease resistance	9	29%	0	0%	1	14%	3	33%	5	7%	0	0%
Environmental benefits	4	13%	0	0%	2	29%	1	11%	1	7%	0	0%

19 *Does your country have the laboratory capacity to identify and detect transgenes in the food/feed supply?*

	Global		Africa		America		Asia		Europe		Middle East	
Yes	38	42%	2	8%	6	35%	7	50%	22	65%	1	50%
No	51	56%	22	92%	11	65%	6	43%	11	32%	1	50%
DNR	2	2%	0	0%	0	0%	1	7%	1	3%	0	0%

20 *How are biotechnology-derived animals generally perceived by the public in your country?*

	Global		Africa		America		Asia		Europe		Middle East	
Safe	2	2%	1	4%	0	0%	0	0%	1	2%	0	0%
Controversial	53	52%	10	41%	10	50%	8	53%	24	59%	1	50%
Public generally unaware	30	29%	9	38%	5	25%	5	33%	11	27%	0	0%
Others (specify	14	14%	4	17%	5	25%	1	7%	3	7%	1	50%
DNR	3	3%	0	0%	0	0%	1	7%	2	5%	0	0%

	Global		Africa		America		Asia		Europe		Middle East	
English	61	67%	12	50%	6	35%	13	93%	28	82%	2	100%
French	18	20%	12	50%	0	0%	1	7%	5	15%	0	0%
Spanish	11	12%	0	0%	11	65%	0	0%	0	0%	0	0%
Other	1	1%	0	0%	0	0%	0	0%	1	3%	0	0%
Country Questionnaire Received	91	54%	24	49%	17	61%	14	54%	34	69%	2	15%
Member Countries	*165*		*49*		*28*		*26*		*49*		*13*	

Resolutions

adopted by the International Committee of the OIE
during its 73rd General Session

22 – 27 May 2005

Appendix III

RESOLUTION No. XXVIII

Applications of Genetic Engineering for Livestock and Biotechnology Products

CONSIDERING THAT

The development of animal health applications for biotechnology is accelerating at a rapid pace and has the potential for significant advances in animal and veterinary public health.

A survey of the OIE 167 Member Countries conducted in 2005 identified a number of potentially beneficial applications of biotechnology and noted the absence of uniform guidance or international standards for assessment.

Responses received from this survey of OIE Member Countries indicated broad consensus that comprehensive regulatory controls are required and that ethical issues and societal concerns will need to be addressed in order to ensure responsible introduction and social acceptance of these technologies.

The maximising of benefits and minimising of negative consequences are best achieved through transparency and an international engagement to ensure that science-based standards are developed to direct the application of emerging technologies and to protect animal and public health.

THE COMMITTEE

RESOLVES THAT

OIE continue to provide scientific advice and support to enable countries to develop harmonised technical standards for regulation of biotechnology-derived animal health products, and genetically modified production animals through:

- The constitution of an Ad hoc Group on Biotechnology to support the work of OIE Specialist Commissions and related Working Groups.
- Maintaining and expanding collaboration with other international organisations including, but not limited to, the FAO, WHO, VICH, and IETS.
- Facilitating international collaboration among regulatory agencies.
- The standardisation of the techniques of assessment of bioengineered animals or products and training Member Countries to conduct risk analysis through the recognition of international collaborating centre(s).

These objectives will be reached by the OIE taking into account the following priorities:

1. Development and adoption of standards and guidelines for research on the use of live attenuated vaccines in animal health.
2. Development of recommendations and guidelines for use of DNA vaccines.

3. Development of guidelines and recommendations for the animal health risks linked with somatic cell nuclear transfer cloning.

4. Develop objective criteria for assessing the health of embryos and production animals derived from cloning, and associated safety of cloned production animals and their products.

5. Develop policy guidelines for exclusion of unapproved animals and products from the livestock population, and segregation from the feed and food supply.

6. Develop identification, testing, and certification guidelines for international trade in production animals and their products for which biotechnology procedures have been employed.

7. Development of guidelines relevant to the application of Nanoscience/Nanotechnology as it relates to animal health

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(Adopted by the International Committee of the OIE on 26 May 2005)