



Workshop to determine the demands of Biotechnologies in the MERCOSUR

BIOTECH – ALA – 2005-017-350 – 1b

REGIONAL SEMINAR REPORT

BOVINE MEAT CHAIN

Biotechnology Development Support Program in
MERCOSUR

European Union – MERCOSUR Cooperation

BIOTECH

INDEX

ABBREVIATIONS	2
1. Place, Date and Duration	2
2. Participants.....	2
3. Working Program	3
4. Outline of Developed Subjects	3
5. Determination of Regional Demands	3
6. Conclusions.....	9
7. Annexes	10

ABBREVIATIONS

UG: Management Unit of the Program for the support to the development of Biotechnologies in MERCOSUR

BIOTECH: BIOTECH Program for the support to the development of Biotechnologies in MERCOSUR

CADB: Commission for the Support to the Development of Biotechnology

1. PLACE, DATE AND DURATION

COUNTRY: Uruguay

DATE: March 25, 2008.

PLACE: MERCOSUR Building, Montevideo

PRODUCTIVE CHAIN: Beef cattle

2. PARTICIPANTS

Participants: Annex 1

Represented Institutions: Annex 1

Coordinator: Ing. Agr. PhD., Fabio Montossi, Director of the National Program for beef and wool, INIA Uruguay

Moderator: Lic. Gonzalo Fuentes Coiana

3. WORKING PROGRAM

Annex 2

4. OUTLINE OF DEVELOPED SUBJECTS

Once the presentation of the Project “Support to the development of Biotechnologies in MERCOSUR – Biotech” was made by Fabián Capdevielle, CADB Uruguay focal point, Lic Gonzalo Fuentes, facilitator of the event, explained the methodology to be used in the seminar.

Once Mr. Fuentes finished, the representatives of each participant country presented their corresponding national reports - Argentina, Brazil, Paraguay and Uruguay – see Annex 4 - Those reports reflected the importance of the beef chain for each country as well as the identification of problems, opportunities or characteristics that determine priorities for its biotechnological development. At the end, biotechnological demands identified in the national workshops were highlighted.

Before selecting the regional demands, the Biotech Programme was publicly presented by the CADB Uruguay focal point, through a brief presentation of the programme and the advances already done. In this event were also present and participated Juan Victor Monfort Business Manager of the European Union Delegation and Dr. Amílcar Davyt Director of Innovation, Science and Technology of the Ministry of Education and Culture of Uruguay.

5. DETERMINATION OF REGIONAL DEMANDS

5.1. SELECTION OF DEMANDS

The selection of biotechnologies regional demands was made in three consecutive stages. First the plenary presentation and analysis of the prioritized demands in each country reaching consensus on the most important subjects and applications of possible regional interest. Second, working groups, conformed by pre-defined subjects in order to arrive to a more precise definition of subjects and biotechnological applications as well as the ideas to be considered in future summons. Finally a new plenary session for the validation and final consensus on subjects and selected applications, in order to define the regional demand and therefore, the options menu to be prioritized in summons for research projects.

5.2. PLENARY WORK

In the first stage, the representative of the International technical assistance of the Program for the support to the development of Biotechnologies in MERCOSUR, Dr. Marcelo Regúnaga, presented a matrix with a summary of the results of the national workshops. This led to a joint analysis of results and to an enriched group discussion (see Table 1).

The objective of the analysis was the identification of some subjects and applications to suggest to the CADB for its prioritization in the guide for the evaluation of projects of the “pilot” project (four prioritized chains by MERCOSUR). It was considered convenient the identification of other prioritized lines to be taken into account in the execution of the next project which crosses productive chains.

It was clearly stated that the preparation of the guide for project presentation is also being carried out. Thus the evaluation will not only consider the relative importance of each subject but also the quality of the projects and other aspects such as innovation and active participation of the largest number of countries.

It is interesting to remember that the plenary included an exchange of different criteria and considerations about the importance of sustainability and its possible explicitness in the guides that are being elaborated for the presentation and evaluation of research projects. At the end, it was understood sustainability as a “dimension” that crosses all the projects and as so, it should be considered in its evaluation (filter or plus). The importance of considering future studies of biotechnology as a tool for environmental sustainability was also stated.

The matrix analysis was done at two levels: one with subjects and sub subjects (plenary work) and the other detailing applications and specifications (working groups).

The matrix shows consensus on four or five subjects, each one with various sub subjects and applications, which were all prioritized in the national workshops. The main ones, animal health and meat quality, were prioritized by all the countries. Traceability is also considered of high importance although some countries, Argentina and Uruguay, considered it mainly as an instrument or application that may be used for research in animal health and quality and not as a goal as itself.

Animal health, meat quality and traceability were selected by general consensus for its prioritization. When considering sub subjects and applications in animal health the exchange of ideas was related to each sanitary situation and main problems in each country. It was agreed to complete the analysis in working groups.

Nutrition and reproduction were considered of less importance in terms of research related to biotechnology. Only Paraguay prioritized reproduction. All the rest considered more important to do extension work related to reproduction more than working in research.

At the end, there was a consensus on giving priority to animal health, quality and traceability, including the analysis of forages genetic improvement (nutrition) and some aspects related to reproduction for the following stage (working groups).

As a result of these consensuses, four working groups were stated in order to analyze each subject which would be the second stage of the work. Each group was integrated by at least one representative of each one of the participant countries (Annex 3).

TABLE 1. NATIONAL WORKSHOPS: SUBJECTS PRIORITIZED FOR RESEARCH IN THE BIOTECHNOLOGICAL AREA FOR THE BEEF CHAIN

BIOTECHNOLOGICAL SUBJECTS AND APPLIATIONS	ARGENTINA			BRAZIL			PARAGUAY			URUGUAY		
	Priority	Feasibility	Impact	Priority	Feasibility	Impact	Priority	Feasibility	Impact	Priority	Feasibility	Impact
Animal health	5			5			4,8			5		
- Diagnosis	5	3-4,5	4-5	5	4-4,5	4,5-5	4,8	4	5	5	4-5	3-5
- Epidemiology	5	3-4,5	4-5	5	4-4,5	4,5-5	4,8	4	5	5	4-5	3-5
- Vaccines	5	3-4,5	4-5	5	4-4,5	4,5-5	4,8	3	5	4,7	4-5	5
MEAT QUALITY	4			4,5			4,9			5		
- Selection assisted by markers	4	4	4	4,5	5	5	4,9	2	4	5	3-4,7	4-5
Traceability	s/i			5	4	5	4,5	2	4	4,7	3-5	4-5
Nutrition	5			4								
FORAGE IMPROVEMENT GENETIC	5	2,5	4	4	4,5	4,5	3,8	2	4	3,7	4	4
- pre biotics, and additives	2,5	3	3	3	4	3	3,8			3,7	3	3
- Ruminant biology	3	2	4	2,5	4	2	4,3			3,3		
REPRODUCTION	2,5			3								
- Semen sexing	1,5	2	3,5	3	5	3	3			4	3-4	3-4
- Embryo transplants	3	3	3	3,5	4,5	3,5	4,4	3	3	3,7	3-4	3-4
- Artificial insemination , hormonal control	2	4	4				4,3	5	4	4-5	4-5	4-5

Working groups stated by subjects were:

1. animal health and safety
2. quality meat and traceability
3. nutrition and forages genetic improvement
4. "Others" (reproductive efficiency, genetic improvement, etc)

Groups were asked for an adequate way of articulation and topic expression for the request of proposals for each subject of common interest.

5.3. RESULTS

Animal Health and Safety group

Two lists of diseases are detailed. Working group prioritized the first.

Diseases List: Foot and mouth disease, tuberculosis, paratuberculosis, brucellosis.

- Subjects
- vaccines
 - markers, DIVA
 - process engineering development
 - alternative potency methods development
 - differential diagnosis
 - epidemiology and molecular characterization

Diseases List 2:

- Bovine Spongiform Encephalopathy
- Genotypic analysis PRNP, resistant bovine's lineages.
- Development of Molecular epidemiological tools.
- Identification of ruminants' proteins in food.

E. coli 0157 and Salmonella spp

- Diagnosis and prevention methods
- Vaccine development.

Comments: It is a list of "maximum priority" diseases (there are others very important too)

It is relevant to count on infrastructure of AAA level of security for biotechnological research.

It is explained the importance of constituting consortiums to facilitate the use of the countries installed capacity.

The project allows each consortium the initiative of formulating a proposal for managing the intellectual property of the results (that may become royalties).

Meat Quality and Traceability group

Molecular markers exploration associated with carcass and meat quality

1. Validation of candidate genes polymorphism associated with meat and carcass quality
2. Analysis, development and application of methodologies for molecular markers application with the objective of improving meat and carcass quality characteristics.
3. Molecular tools development for traceability associated with meat and carcass quality.
4. Beef Genetic improvement: research and validation of molecular markers in different production systems.

Comments: stages of the same process are being considered (sequence 1 to 4)

Attributes are not mentioned because they depend on the countries and the cases. Therefore, it is possible a larger possibility of alliances among countries, in subjects with consensus related to quality.

Nutrition And Forages Genetic Improvement

This group focuses on the prioritized topic in terms of “Expansion and re-distribution of livestock production”, as a result of cropping and forest increase in the region. This lead to the need of improving beef production competitiveness in agro-ecological marginal production systems as well as working in finding complementarities with those growing sectors and with bigger differentiation and a larger added value.

The sub subjects prioritized were:

Forages species selection

- adapted to biotic and abiotic stresses
- for environmental impact diminution
- of high nutritional, nutraceutical and phytotherapeutic value

Ruminal activity manipulation

- for environmental impact diminution
- of high nutraceutical and phytotherapeutic value

“Other Subjects” Group

Genetic improvement: research and validation of molecular markers for the meat chain. Rearing phase was specially emphasized, conversion efficiency, residual consumption, fertility and disease resistance.

Reproductive biotechnologies that improve male and female fertility.

5.4. VALIDATION PLENARY

With the statements and explanations of the groups the plenary validated the regional prioritization of the selection done related to sub-subjects and biotechnological applications.

At the same time the plenary received contributions related to: i) in addition to training the need of promoting in all countries a direct participation in research tasks, ii) the convenience of promoting the use of the infrastructure and existing capacities and the building of new capacities, iii) the importance of considering aspects such as priorities, quality, originality and participation of the four countries in the projects evaluation presented when requested.

6. CONCLUSIONS

Participants arrived to a consensus of subjects, sub subjects and biotechnological applications of regional interest, through plenary and working groups, to be suggested to the Project Management Unit for the research projects request preparation. This was the objective of the seminar.

At the same time additional suggestions to be considered in the evaluation of projects and the necessary security measures for the biotechnological research were raised.

Details of these results are collected in section 4 of this report (summary of selected topics).

7. ANNEXES

Annex 1. List of participants

COUNTRY	NAME	INSTITUCIÓN
URUGUAY	Lautaro Pérez	MARFRI 4 URUGUAY
	Fabio Montossi	INIA
	Lucía Kelly	INIA
	Ana Meikle	Facultad de Veterinaria
	Raquel Pérez	Facultad de Agronomía
	Andrés Gil	Facultad de Veterinaria
	Leticia Packe	INAC
	Luis Claudio Ballestrino	INAC
	Jacqueline Maisonave	Facultad de Veterinaria
ARGENTINA	Daniel Rearte	INTA
	Mario Poli	INTA
	Susana Levy	Biogénesis - Bagó
	Eduardo Palma	RIIDFA
	Juan José Grigera Naón	IPCVA
BRAZIL	Maria Stella E. Damha	Damha Pecuária
	Paulo Péret	Ministerio de Ciencia y Tecnología
	Alexandre Rodrigues Caetano	EMBRAPA - CENARGEN
	Cleber Oliveira Soares	EMBRAPA Gado de Corte
PARAGUAY	Marcos Medina	Asociación Rural del Paraguay
	Antonio Rodriguez	CEDIVEP S.R.L.
	José Luis Laneri	Ministerio de Industria y Comercio - REDIEX
	María Teresa Rovira	Universidad Nacional de Asunción
	Pedro Luis Paniagua Alcaraz	Facultad de Ciencias Agrarias - Universidad Nacional de Asunción
	Bernardo Rubén Caballero Rodríguez	Ministerio de Ganadería
MANAGEMENT UNIT	Marcelo Regúnaga	Proyecto BIOTECH
	Inés Dorrego	BIOTECH
CADB	Alejandro Mentaberry	CADB
	Fabián Capdevielle	CADB Uruguay
	Graciela Morelli	CADB
	Gabriela Ciocca	CADB

Annex 2. Program



PROGRAM REGIONAL SEMINAR OF THE BEEF CHAIN March 25, 2008 – Montevideo, Uruguay

- 08:30** Participants accreditation.
- 09:00** Explanation of the Activity objectives
Responsible: Biotechnology Development Support Commission Focal Point (CADB) Uruguay
- 09:15** Explanation of the methodology to be used and personal presentation of the participants.
Responsible: Moderator
- 10:00** Presentation of the chain and demands from Argentina
Responsible: Argentina Chaín representant
- 10:30** Presentation of the chain and demands from Brazil
Responsible: Brasil Chaín representant
- 11:00** coffee break
- 11:15** Presentation of the chain and demands from Paraguay
Responsible: Paraguay Chaín representant
- 11:45** Presentation of the chain and demands from Uruguay
Responsible: Uruguay Chaín representant
- 12:15** Break
- 12:30** Program BIOTECH launching act with national authorities and press.
Responsible: CADB focal point.
- 13:30** Lunch
- 14:30** Explanation of the final demands selection procedure.
Responsible: : CADB representant
- 15:00** Presentation of demands matrix given priority
Responsible: MERCOSUR – BIOTECH Biotechnologies support program international technical assistance representative.
- 15:30** Analysis in plenary of the presented matrix
Responsible: Moderator
- 16:00** Groups work to write down a conceptual explanation of the topics given priority
Responsible: Moderator
- 17:30** coffee break
- 18:00** Final plenary: validation of prioritized subjects
- 19:30** End of workshop
- 21:00** Good fellowship dinner. Hotel NH Columbia, Restaurant

**MERCOSUR BUILDING– Conferences Room
(ground floor)**

LUIS P. PIERA 1992

Annex 3. Working Groups Integration

GROUP 1: ANIMAL HEALTH

Name	Country	Sector
Andrés Gil	Uruguay	Academic/Public
Eduardo Palma	Argentina	Academic
Bernardo R. Caballero	Paraguay	Public
Antonio Rodríguez	Paraguay	Private
Cléber Oliveira Soares	Brazil	Public
Susana Levy	Argentina	Private

GROUP 2: MEAT QUALITY AND TRACEABILITY

Name	Country	Sector
Fabio Montossi	Uruguay	Public
Leticia Packe	Uruguay	Private
Luis Ballestrino	Uruguay	Public
Lucy Kelly	Uruguay	Public
Mario Poli	Argentina	Public
JuanGrigera Naón	Argentina	Private
Lautaro Pérez	Uruguay	Private
Ma. Teresa Rovira	Paraguay	Academic
José L. Laneri M.	Paraguay	Public
Alexandre Rodríguez Caetano	Brazil	Public

GRUPO 3: ANIMAL NUTRITION (PASTURES)

Name	Country	Sector
Raquel Pérez Clariget	Uruguay	Academic
Daniel Rearte	Argentina	Public
Pedro Paniagua	Paraguay	Academic
Fabián Capdevielle	Uruguay	Public
Ma. Stella Danita	Brazil	Private

GRUPO 4: REPRODUCCIÓN BIOTECHNOLOGIES

Name	Country	Sector
Marcos Medina	Paraguay	Private
Paulo Péret	Brazil	Public
Ana Meikle	Uruguay	Academic