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Chile

AGRICULTURAL BIOTECHNOLOGY ANNUAL

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Report Highlights:

Presidential election year in Chile, the three main candidates showed their intentions on transgenic crops.

Sebasrtian Piñera is in favor of reviewing the proposed rule to solve the problems of using GMO products for animal feed and to give farmers the same advantage of neighbor's countries to compete.

Eduardo Frei is to work on the regulatory framework; he was one of the sponsors of the regulation being studied in Congress currently

Marco Enriquez-Ominami, wants to stop the extension of land used for GMO crops from growing, he is against the internal consumption of GMO due to the risk of contamination of the organic and conventional agriculture.

Source: Revista del Campo, June 29, 2009.

Section I. Executive Summary:

Chile can only import transgenic seeds for reproduction which have to be re-exported. In food products, the Ministry of Health requires all events to be registered, and the product must be label only if substantially different from their

conventional counterpart.

Despite of the two bills introduced in Congress to regulate biotechnology, one of them requiring mandatory labeling and the other to creating a biotechnology framework, the Bachelet administration, which ends this year, did not move forward to adopt this technology.

2009 is election year in Chile and there are three main candidates, The three main candidates have made their biotechnology intentions known. Eduardo Frei, former president of Chile, was one of the sponsors of the biotech framework that is being discussed in Congress probably if elected will move forward with the legislation. Marco Enríquez-Ominami has publicly opposed transgenic product, he likely will try to regulate imposing barriers to trade or not regulate at all. Sebastian Piñera is in favor of reviewing the current proposed rule in Congress.

Commercially, Chile could be a consumer of transgenic sugar beets, corn, alfalfa, and soybeans (if the salmon industry were to lift its self-imposed ban on the use of biotech feeds), to name a few crops. Although not widely publicized, Chile has begun to do landmark research in “orphan” crops (non-bulk commodities), such as salmon, pine, stone fruit, apples, and grapes. As part of the government’s efforts to increase research and development using funds received from copper mining royalties, Conicyt/FIA/Corfo manage the funds and establish consortiums to do biotech research.

As with many developing countries, the majority of research funds come from the public sector. Last year the Government announced a number of programs and affiliations with different universities in the U.S., Australia, Canada to favor technology transfer and postgraduate degrees with the purpose of increasing research and develop the country.

However, the agricultural export sector also remains concerned about the trade implications of this technology. They view the issue from the perspective of how will the uses of transgenic affect Chile’s “natural” image. They argue that currently there are few benefits for the products in which Chile has a competitive advantage (horticultural crops, salmon and forestry). As Chile is an agricultural export based economy, with agricultural exports accounting for 15% of GDP, these reservations have prompted Chile to take a cautionary approach on biotech issues and play a muted role in international fora such as APEC, MERCOSUR, and OAS, as well as UN and WTO organizations such as FAO, CODEX, and the International Plant Protection Convention (IPPC). Chile signed the Cartagena Protocol on Biosafety, but has not ratified it yet. Nor has Chile established an adventitious presence level for imports yet. However, with a strong regulatory system and a greater investment in the technology, Chile could become an important developing country spokesman in the above-mentioned venues.

Section II. Biotechnology Trade and Production:

- Does Chile commercially produce any biotechnology crops? Chile does not produce any crops for sale domestically. However, Chile has produced transgenic seeds under strict field controls for re-export for more than a decade, during 2007, and for the first time Chile planted two thousand hectares of soybean and is expected to increase that number to ten thousands during 2008, this is a project run by Monsanto. See Section VI. Reference Materials, Appendix A. Table of Approved Biotechnology Products.
- Are there any biotechnology crops under development in your country that will be on the market in the coming year? Appendix A shows the field trials and seeds being propagated in Chile. Additional research is being conducted on such crops as citrus, stone fruits, grape vines, pine, and salmon. However, none of these crops are scheduled for commercial release domestically within the next year.
- Does the country import biotechnology crops/products? Yes. See Appendix A. The main crops are corn, soybeans, canola, tomatoes and sugar beets. Chile also imports processed food products containing transgenic ingredients from many countries including Canada, the US, Brazil, Mexico, Argentina, and the European Union.
- Is Chile a food aid recipient or likely to be a food aid recipient in the near future? No
- Does Chile produce any biotechnology crops that were developed outside of the United States and have not

passed through the US regulatory system? Crops from other countries have been approved for field trials in Chile, however the events have been approved in the United States as well.

Section V. Marketing:

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Section VI. Capacity Building and Outreach:

- a. U.S. Government or USDA funded capacity building or outreach activities.

Past biotechnology activities in Chile include:

With the participation of two U.S. speakers, post organized a biotechnology workshop focused on the international regulatory framework putting emphasis on the regulations in the U.S. This workshop was intended for law makers, universities government and research centers.

Interact with the centers of biotechnology of the University of Talca, the Catholic University and University of Concepcion.

Every year USDA funds the participation of several Chilean government officials to different APEC Agricultural Biotechnology related activities.

Funded the participation of Dr. Ralph Scorza as speaker at the Red Bio Agricultural biotechnology Conference organized in Viña del Mar, Chile in October, 2007.

Organized a biotechnology/IPR seminar with the participation of high level government officials and agencies, June 7,2007, that included the participation of Clive James (ISAA) and Karen Hauda (U.S. Patent and Trade Mark Office) as main speakers. Sponsor the participation of the one member of the Chilean delegation to the APEC High Level Policy Dialogue on Agricultural Biotechnology (HLPDAB) held in Canberra, Australia, 2007. Embassy Science Fellowship program with the participation of a USDA/ARS scientist for two months in Chile from May-July 2006. Ministry of Agriculture Official was sent to a training course in the Philippines in June 2006 on Commercializing biotech crops. The U.S. Government participated in the Tenth APEC Research, Development and Extension of Agricultural Biotechnology (RDEAB) hosted by Chile in November 2005, we organized a reverse CODEL to the U.S. to be learn about the U.S. regulatory System for Biotech products in July 2005; We sponsored a Chilean expert to attend the APEC Seminar: "Creating a Positive Investment Environment for Agricultural Biotechnology", in Malaysia in Dec 04; we organized a panel of experts to address the Chilean Agriculture and Health Committees in Oct 04; we sent the President of the Small

Farmers Cooperative Confederation to a farmer-to-farmer training program in Honduras in Aug-Sept 04; we sponsored two participants to attend the Michigan State biotechnology short course in August 2004; we hosted a visit to the U.S. of a team of Ministry of Health officials tasked with gathering information about other countries biotech regulations in Mar-Apr 04; we coordinated between the Einstein Institute for Science, Health and the Courts (EINSHAC) and the Chilean Judicial Institute to provide technical training to the judiciary regarding biotechnology in civil, criminal and family cases in Mar 04; we organized the HLPDAB in Chile, in Feb 04 and funded the participation of 22 representatives from APEC emerging markets to attend, as well as nine speakers.

- b. Country specific needs or strategies for Chile.
 - Post's strategies on biotechnology have focused in two main areas over the past 5 years; one of them is the regulatory aspect of the issue and the other is the science base information.

The main objective regarding regulation is to have Chile adopt a framework that is science base and that does not impose trade barriers; to accomplish this goal we have taken congressmen to the U.S. so they can get knowledge in situ of the regulatory process of biotechnology in the U.S. they met with all the regulatory agencies ONG and growers to have a better understanding of the benefits of this technology so they can better regulate in Chile. One of the participants of the group was one of senators that drafted the framework that is being discussed in Congress, draft that was shared with post and therefore with USDA and DOS before it was introduced to Congress.

The idea of the workshop that was done this year had the purpose of giving them a more science base knowledge to regulate accordingly, unfortunately they did not participate.

We will continue focusing on the necessity that Chile adopts a science base regulatory framework as this is the key stone to begin trade.

We have organized and, we will continue organize biotechnology seminars with universities and researches with the participation of U.S. scientist and speakers; we believe that the more information we provide, the better the public will be informed, and fears about biotech products will be eliminated.

Section VII. Author Defined:

Appendix A

List of approved field trial 2008-2009

SPECIE	EVENT
RICE	508-73
CANOLA	ACS-BN003-6
CANOLA	ACS-BN005-8
CANOLA	MON-0073-7
CANOLA	PV-BNAP/HT5868
CANOLA	PV-BNHT2672
CANOLA	PV-ZMAP7236
SAFFLOWER	CT01-4119-2
SAFFLOWER	PSBS4501
SAFFLOWER	PSBS4642
SAFFLOWER	PSBS4643
BARLEY	p607
CORN	3272
CORN	MON-89034-3 X MON-00603-6

CORN	327 x SYN-BT011-1 X SYN-IR604-5
CORN	3272 x MON-00021-9
CORN	3272 x SYN-BT011-1 X MON-00021-9
CORN	3272 X SYN-BTØ11-1
CORN	3272 X SYN-IR604-5
CORN	DAS-01507-1 X DAS-59122-7
CORN	DAS-01507-1 X DP-098140-6 (PHP24279)
CORN	DAS-01507-1 X DP-098140-6 X MON-00810-6
CORN	DAS-01507-1 X DP-32138-1 X DP-098140-6
CORN	DAS-01507-1 X MON-88017-3 X MON-00603+-6
CORN	DAS-01507-1 X MON-88017-3 X MON-89034-3
CORN	DAS-01507-1 X MON-89034-3 X MON-00603-6
CORN	DP-098140-6 X DAS-59122-7
CORN	DP-098140-6 X MIR162
CORN	DP-098140-6 X MN-00810-6 X TC-01507-1 X DAS-59122-7
CORN	DP-098140-6 X MON-00810-6
CORN	DP-098140-6 X TC-01507-1 X DAS-59122-7
CORN	DP-32138-1 X MON-00603-6
CORN	DP-98140-6 X MON-00603-6
CORN	MIR162
CORN	MIR162 X MON-00021-9
CORN	MIR162 X MON-00021-9 X SYN-IR6Ø4-5
CORN	MIR162 X SYN-BTØ11-1
CORN	MIR162 X SYN-BTØ11-1 X MON-00021-9
CORN	MIR162 X SYN-BTØ11-1 X SYN-IR604-5
CORN	MIR162 X SYN-BTØ11-1 X SYN-IR604-5 X MON- 00021-9
CORN	MIR162 X TC-01507-1
CORN	MON-00021-9
CORN	MON-00603-6
CORN	MON-00603-6 X DAS-01507-1 X PHP24597
CORN	MON-00603-6 X MIR162
CORN	MON-00810-6
CORN	MON-88017-3
CORN	MON-88017-3 X MON-00810-6
CORN	MON-88017-3 X MON-89034-3
CORN	MON89034
CORN	MON89034 X MON-00603-6
CORN	MON-89034 X MON88017-3
CORN	MON89034 X MON-88017-3 X DAS-01507-1 X DAS-59122-7 X PV-ZMAP595
CORN	MON-89034-3
CORN	mon-89034-3 x das-01507-1 x mon-00603-7
CORN	mon-89034-3 x das-01507-1 x mon-88017-3 x

	das-59122-7
CORN	MON-89034-3 X MON-00603-6
CORN	MONM-89034 X MON-880017 X DAS-01507-1
CORN	p00178
CORN	p00179
CORN	p00180
CORN	p00181
CORN	p00182
CORN	P00183
CORN	P00184
CORN	P00185
CORN	P00186
CORN	P00187
CORN	P00190
CORN	P00191
CORN	P00222
CORN	P00223
CORN	p3149 (5217 y 5224)
CORN	PHP24279
CORN	PHP24279 X DAS-01507-1
CORN	PHP24279 X DAS-01507-1 X DAS-59122-7
CORN	PHP24279 X DAS-01507-1 X MON-00810-6
CORN	PHP24279 X DAS-59122-7
CORN	PHP24279 X DAS-59122-7 X MON-00810-6
CORN	PHP24279 X ACS-ZMØØ3-2
CORN	PHP24279 X MON-00810-6
CORN	PHP24597
CORN	PHP27111 x DAS-01507-1
CORN	PHP27118
CORN	PHP27118 X MIR162
CORN	PHP27118 X MON-00603-6
CORN	PHP27118 X PHP24279
CORN	PHP27118 X PHP27347
CORN	PHP27118 X PHP29012
CORN	PHP27118 X PHP29021
CORN	PHP27118 x PHP30935
CORN	PHP27347
CORN	PHP27347 X DAS-59122-7 X DAS-01507-1
CORN	PHP27347 X PHP24279
CORN	PHP27347 X PHP29012
CORN	PHP27347 X PHP29021
CORN	php29012
CORN	PHP29012 X DAS-01507-1
CORN	PHP29012 X DAS-59122-7
CORN	PHP29012 X MIR162

CORN	PHP29012 X MON-00810-6
CORN	PHP29012 X TC-01507-1 X DAS-59122-7
CORN	PHP29021
CORN	PHP29021 X DAS-01507-1
CORN	PHP29021 X DAS-01507-1 X DAS-59122-7
CORN	PHP29021 X DAS-59122-7
CORN	PHP29021 X MIR162
CORN	PHP29021 X MON-00810-6
CORN	PHP29067 x MON-00810-6
CORN	PHP29214 x MON-00810-6
CORN	PHP29221 x MON-00810-6
CORN	PHP29871
CORN	PHP29871 x DAS-01507-1
CORN	PHP29871 x DAS-01507-1 x DAS-59122-7
CORN	PHP29871 x DAS-59122-7
CORN	PHP29871 x MON-00810-6
CORN	PHP29983 x DAS-01507-1
CORN	PHP29984 x DAS-01507-1
CORN	PHP29994
CORN	PHP30935
CORN	PHP30935 x DAS-59122-7 x DAS-01507-1
CORN	PHP30935 x PHP29012
CORN	PHP30935 x PHP29021
CORN	PHP30976 x MON-00810-6
CORN	PHP31235 x MON-00810-6
CORN	PHP31379 x DAS-01507-1
CORN	PHP31506
CORN	PHP31541 x MON-00810-6
CORN	PHP31956 x MON-00810-6
CORN	PHP32100 x DAS-01507-1
CORN	PHP32101 x DAS-01507-1
CORN	PHP32372 x DAS-01507-1
CORN	PV-ZMAP3284
CORN	PV-ZMAP3292
CORN	PV-ZMAP5714
CORN	PV-ZMAP595
CORN	PV-ZMAP7451
CORN	PV-ZMAP7453
CORN	PV-ZMAP7583
CORN	PV-ZMIR6927
CORN	PV-ZMIR6928
CORN	PV-ZMIR6929
CORN	PV-ZMIR6930
CORN	PV-ZMIR7495
CORN	PV-ZMIR8370

CORN	REN-00038-3
CORN	SYN-BR011-1 X ACS-ZM0003-2
CORN	SYN-BR011-1 X ACS-ZM0003-2 x SYN-IR604-5
CORN	ACS-ZM003-2
CORN	ACS-ZM003-2
CORN	ACS-ZM003-2
CORN	ACS-ZM003-2 X MON-00603-6
CORN	DAS-01507-1
CORN	DAS-01507-1 X DAS-59122-7
CORN	DAS-01507-1 X DAS-59122-7 X MON-00603-6
CORN	DAS-01507-1 X MON-00603-6 X MON-00810-6
CORN	DAS-01507-1 X MON00810-6
CORN	DAS-01507-1 X NK604
CORN	DAS-01507-2 x T25 X MON-00603-6
CORN	DAS-59122-7
CORN	DAS-59122-7 X MON-00603-7
CORN	DAS-59122-7 X MON-00810-6
CORN	DAS-59122-7 X MON-00810-6 X MON-00603-6
CORN	MON-00021-9
CORN	MON-00021-9 X SYN-BR011-1 X ACS-ZM003-2 X SYN-IR604-5
CORN	MON-00021-9 X SYN-BT011-1
CORN	MON-00021-9 X SYN-IR604-5
CORN	MON-0021-9
CORN	MON-0021-9 X SYN-IR604-5 X SYN-BT011-1
CORN	MON-00603-6
CORN	MON-00603-6
CORN	MON-00603-6
CORN	MON-00603-6 X MON-00810-6
CORN	MON-00603-6 X MON-00810-6
CORN	MON-00603-6 X MON-00810-6 X DAS-59122-7
CORN	MON-00603-6 X MON-00810-6 X DAS-59122-8 X TC-01507-1
CORN	MON-00603-6 X MON-00810-6 X MON-00863-5
CORN	MON-00603-6 X MON-00810-6 X TC-01507-1
CORN	MON-00810-6
CORN	MON-00810-6 X MON-00603-6
CORN	MON-00810-6 X MON-00603-6 X MON-00863-5
CORN	MON-00810-6 X MON-00863-5
CORN	MON-00810-6 X MON-88017-3
CORN	MON-00863-5
CORN	MON-008636-6 X MON-00603-6
CORN	MON-88017-3
CORN	MON-88017-3 X MON-00810-6
CORN	MON-88017-3

CORN	SYN-BT011-1
CORN	SYN-BT011-1 X MON-00021-9
CORN	SYN-BT011-1 X SYN-IR604-5
CORN	SYN-BT011-1 X SYN-IR604-5 X MON-00021-9
CORN	SYN-BT011-1X SYN-IR604-5 X MON-00021-9
CORN	SYN-IR604-5
CORN	SYN-IR604-5 X MON-00021-9
CORN	SYN-IR604-5 X SYN-BT011-1
CORN	TC-01507-1 X SYN-IR604-5
CORN	TC-01507-1 X DAS-59122-7 X SYN-IR604-5
SUGAR BEET	H7-1
SOYBEAN	AX2 p000194-P00244
SOYBEAN	DP-305423-1 X 40-3-2
SOYBEAN	DP-305423-1 X DP-356043-5
SOYBEAN	DP-3054231 X DP-356043-5 X MON-04032-6
SOYBEAN	DP-356043-5
SOYBEAN	DP-356043-5 X 40-3-2
SOYBEAN	MON-4032-6
SOYBEAN	MON-8978788-1 X MON-04032-6
SOYBEAN	MON89788 X PV-GMIR9
SOYBEAN	MON89788 X PV-GMIR9
SOYBEAN	MON89788 X PV-GMPQ1972
SOYBEAN	MON89788 X PV-GMPQ296
SOYBEAN	MON89788 X PV-GMPQHT4355
SOYBEAN	MON89788 X PV-GMPQHT4404
SOYBEAN	MON-89788-1
SOYBEAN	PHP29252A & PHP19031A
SOYBEAN	PHP29882A & PHP29959A
SOYBEAN	PSF10
SOYBEAN	PV-GMHT4355
SOYBEAN	PV-GMIR9
SOYBEAN	PV-GMPQ/HT4404
SOYBEAN	TG GM 17
SOYBEAN	TG GM 17
SOYBEAN	TG GM 19
SOYBEAN	TG GM 20
SOYBEAN	TG GM 20
SOYBEAN	TG GM 22
SOYBEAN	TG GM 22
SOYBEAN	TG GM 24
SOYBEAN	TG GM 24
SOYBEAN	TG GM 28
SOYBEAN	TG GM 28
SOYBEAN	TG GM12
SOYBEAN	TG GM18

SOYBEAN	TG GM18
SOYBEAN	TG GM19
SOYBEAN	TG GM6
SOYBEAN	TG GM6
SOYBEAN	TG GM8
TOMATO	5345
TOMATO	G
TOMATO	K
SQUASH	CZW-3
SQUASH	CZW-3 X ZW-20
SQUASH	ZW20

Source: SAG.