Foreign Agricultural Service
GAIN Report
Global Agriculture Information Network

Voluntary Report - public distribution

Date: 11/8/2000

GAIN Report #JA0128

Japan

Biotechnology

Agricultural Biotechnology in Japan

2000

Approved by:
George Pope
U.S. Embassy
Prepared by:
George Pope

Report Highlights: This report provides a survey of the agricultural biotechnology situation in Japan as of October 31, 2000. It covers Government regulations and approval requirements, biotech research, labeling, CODEX, marketing issues, consumer reactions and offers several useful websites.

Includes PSD changes: No
Includes Trade Matrix: No
Unscheduled Report
Tokyo[JA1], JA

TABLE OF CONTENTS

[**Note to Reviewers**–I had hoped to complete this study before the inevitable "biotechnology time-bomb" exploded in Japan. Unfortunately, this was not to be. Rather than continually revising this paper to try and keep up with the ever-changing dynamic situation in Japan, I am closing it off as of end October. I hope the information presented will be useful.–gp]

I. Summary

In Japan, the development and acceptance of Genetically Modified Organisms (GMO's) is a major Government, food processing industry and consumer issue.

The Government of Japan (GOJ) has, to date, followed a "sound science" policy in the review and approval of GMO's. However, the GOJ, as well as the food, feed, industrial processing industry, is extremely concerned over the issue of "non-approved"(in Japan) GMO's.

On April 1, 2001, Japan will adopt mandatory labeling requirements for certain GMO products. As a result, numerous Japanese food and beverage processors, as well as some industrial users, have announced a GMO-free policy only to discover the difficulty involved with substantiating such claims as well as the increased cost implications.

Also on April 1, 2001, the review and approval of GMO's for food safety by the Ministry of Health and Welfare (MHW) will become mandatory. The Ministry of Agriculture, Forestry and Fisheries (MAFF) review of GMO's for animal feed safety and environmental issues is still "voluntary, but could soon become "mandatory" as well.

Published opinion polls indicate a high degree of consumer "concern" over GMO's. Other unpublished polls indicate that these "concerns" are significantly reduced when consumers learn of the environmental benefits of GMO's and that the MHW has tested and approved any products which are sold in Japan. Industry campaigns to educate consumers are still in the planning stages.

II. Government Regulation

In Japan, the use of biotechnology for the production of agricultural and food products is regulated by the Science and Technology Agency (STA), the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Ministry of Health and Welfare (MHW).

--STA is charged with overseeing laboratory and experimental tests under the "Experimental Guidelines for DNA in GMO Products,"

--MAFF is responsible for overseeing developments in the agricultural sector which include animal feed safety, environmental aspects and field testing under the "Guidelines for GMO Utilization in the Agricultural and Fisheries Sector,"

--MHW is responsible for determining the safety of products developed through biotechnology which are destined for the human food supply under the "Safety Assessment Guidelines for Foods and Food Additives Produced by Recombinant DNA Technology".

Japan follows the principle of "substantive equivalency". The Japanese government holds that a product developed through the use of biotechnology is substantively equivalent to a product developed through traditional breeding

practices if no difference in chemical composition and biological characteristics is found to exist between the products.

The Government of Japan has consistently taken the public position that GMO products approved by the MHW and MAFF are "safe". This position is stated in public fora and is contained in official written documents and Ministry websites/home pages. Unfortunately, most consumers probably don't spend much time reading Food Safety Council reports or surfing MHW/MAFF websites.

Despite the strong "sound science" position of the GOJ, there are those in the bureaucracy who would like to adopt a more negative policy towards GMO's. This faction reportedly argues that Japan doesn't have any GMO crops and that rallying consumers against GMO's would encourage consumers to eat more Japanese food, a stated goal of the MAFF. The "sound science" faction has so far successfully countered that this view is shortsighted. They think that within a few years, Japan will have a GMO rice that is more disease resistant and that will need less chemicals. The last thing they need is to create a consumer backlash that would keep Japanese farmers from taking advantage of this, or other new technologies, when they become available. They further argue that the "sound science" approach is defensible and desirable, especially in light of the fact that Japan imports some 60 percent of its food. They are slowly but surely realizing that Food Security, a major goal of Japan, and biotechnology are inseparable.

Nevertheless, in this ever-changing debate, it is still to be determined which side will prevail. The current "StarLink" situation doesn't help.

A. MHW Review for Food Safety

MHW's Safety Assessment Guidelines are implemented by a Food Sanitation Research Council task force which examines biological characteristics and performs a risk analysis of the potential impact on public health.

Currently, the MHW regulatory review of GMO's for food safety is done on a "voluntary" basis. However on April 1, 2001, the MHW review and approval will become mandatory. Although MHW is expected to follow basically the same approval guidelines, MHW has confirmed that they will require additional information, for monitoring purposes, on DNA sequencing, plant genome data, unexpected protein production and seed storage data. MHW has also requested the above information for products already approved so that they may be re-examined and "re-approved".

Between 1996 and 1999, 29 food and 6 food additives involving recombinant biotechnology were approved by the MHW. Biotech products approved include soybeans, rapeseed, potatoes, corn, cotton, tomatoes and sugar beets. Of the 35 approved products, 16 are from U.S. companies, 8 from Belgian companies, 4 from German companies, 3 from Danish companies, 2 from Canadian companies and 1 each from companies in the Netherlands and Switzerland.

B. MAFF Review for Animal Feed, Environmental Factors and Field Testing

Between 1992 and 1999, 37 products developed through the use of biotechnology were approved by MAFF. Biotech products approved include soybeans, corn, rapeseed, cotton, tomatoes, rice, petunia, melon and carnations. Of the 37 products, 14 are from U.S. companies, 2 collaboratively from a U.S. and Japanese companies, 13 from Japanese companies, 3 from Canadian companies and 5 collaboratively from joint Australian and Japanese companies.

The MAFF review process is, at the moment, voluntary. However, a task force commissioned by MAFF is expected

to recommend, and MAFF is expected to adopt, a mandatory process for review of environmental aspects, and possibly for assessment of animal feed safety, of GMO's.

C. MAFF and Biotech Research

Agricultural biotechnology research has been for many years intensively undertaken in MAFF laboratories (See GAIN Report JA9038). Along with the Rice Genome Project, MAFF labs conduct a wide range of research in plant biotechnology. A top priority is to create a "super rice" which will be resistant to pests and diseases.

Private sector involvement in GMO agricultural biotechnology is limited. Most large corporations might be expected to engage in GMO research and development have reportedly been frightened by fear of consumer backlash. Three of the six Japanese companies approved by the MAFF to conduct field research of GMO's recently announced they will abandon, or sharply reduce, their GM research programs citing consumer concerns and lack of progress. The six companies, and the status of their work are:

Company	Type of Work	Status
Japan Tobacco Group	Rice plant development	Work continuing
Mitsubishi Chemical Group	Rice plant development	Reduced research program
Mitsui Chemical Group	Rice plant development to reduce protein levels	Program stopped
Kirin Beer Corp	Long shelf life tomato	Rice Program stopped, New project on flowers
Kagome Corp	Long shelf life tomato	Program stopped
Takii Seeds Corp	Cauliflower	Reduced research program

D. Labeling

On April 1, 2001 mandatory labeling of some foods containing GMO's will be required under the Food Sanitation Law administered by MHW and the Japan Agricultural Standards Law administered by MAFF. (See GAIN Report JA9154). Although two government agencies have announced identical labeling regulations, each will demand their own separate compliance. Both the MAFF and the MHW have filed WTO notices on their new labeling schemes.

Briefly, labeling will be required for covered products where novel(GMO) DNA or protein is present and detectable. Covered products are found in 24 categories including soybean tofu and flour, corn flour, snacks, starch and grits, and processed foods where these products are one of the three major ingredients with over five percent of total weight. Products such as soybean oil where no DNA or protein are detected are not subject to labeling.

The new requirements will recognize three categories of product: GMO free, Contains GMO's, or "not-segregated" (may contain).

As of this point in time, it appears that both Ministries are leaning towards the adoption of a duel monitoring system utilizing both testing and an "Identity Preserved" audit paper trail. A key unanswered question on the mandatory labeling program is, what happens if, in the future, the two Ministries have different interpretations of their labeling requirements.

E. Codex

Japan is an active participant in the Codex Alimentarius Commission, an intergovernmental agency which develops international standards, including safety standards, for food products. Japan is the chair of the Ad Hoc Intergovernmental Task Force on Food Derived from Biotechnology, a committee to develop standards, guidelines or recommendations for food derived from biotechnology. The task force is expected to complete its work by July 2003. The next scheduled meeting is March, 2001.

III. Marketing Issues

Immediately after the MAFF announcement of a mandatory labeling requirement, many Japanese food processors, both those affected by the new labeling requirement (especially corn based snacks and tofu) and those which were not (beer), announced with great fanfare that they would be moving to a non-GMO policy. As a result, an active, but unstructured, market for GMO free and/or identify preserved (IP) corn and soybeans has developed. This market is unstructured in that there is no standard contract for 'GMO free'...some importers want zero tolerance while others will accept product with one to five percent GMO's. Further, there is no standard testing mechanism for accurately determining if the product meets contract requirements, whatever they might be. The bottom line is that there has been no reliable "premium" established for GMO-Free or IP products and importers are learning that there is no such thing as guarantee of "zero tolerance".

A specific concern has come from Japanese feed importers, food and beverage processors and industrial users who are concerned that accurate testing be available for both approved and non-approved varieties. While they welcome the GOJ's apparent movement towards a IP "paper trail" compliance system, they fear that consumers would not accept any level of GMO's, whatever the explanation, in any product labeled "GMO Free". There is strong feeling within Japanese industry that the first company "tagged" will be driven into bankruptcy. As a result, there is a growing level of panic and dismay as these companies realize the impossible situation they have led themselves into. While most importers are focusing on the US, some are slowly realizing that their main problems will come from those countries with"less strict" regulatory systems.

Nevertheless, there is a strong possibility that market disruptions will occur, some of which could impact U.S. exports, as Japanese users frantically search for the "silver bullet" of guaranteed GMO free product. [Note: StarLink has made this all too true.–gp/11/07/00]

One thing is clear. Costs of going "GMO-free" are going up and processors are finding that consumers "concerns" over GMO's may not extend to paying a GMO-free premium in the marketplace. In the general processed food products area, data is mostly anecdotal, however supermarket executives indicate that they see no rush by consumers to pay a GMO free premium.

On the cost side, corn starch manufacturers have increased their price of GMO free starch by some 30 percent to $.85 per kg. Some analysts think this will cost the beer industry alone over $1 billion a year. Further, the food/feed industry has not come to grips over the cost implications of any additional sampling/testing requirements that may be included in export contracts a result of the recent USG "Notice to Exporters" or as a result of new GOJ requirements.

IV. Consumer Reaction

It is still to be determined if consumer "concerns" will translate into revised purchasing patterns in the marketplace. There are a number of published polls which indicate that a high percentage of Japanese consumers do claim to know what GMO's are and a high percentage of those express various "concerns". However there is unpublished evidence that indicates that when consumers learn of the environmental and other benefits of GMO's and that GMO's have been extensive tested and declared "safe" by the Japanese MHW, their concerns are significantly reduced.

Several industry groups are preparing to organize and carry out a campaign to present a balanced picture of GMO's to the Japanese consumer. Such a campaign, carefully designed to reflect Japanese customs and concerns, would do much to speed the ultimate acceptance of GMO's in the Japanese marketplace.

A related issue concerning the acceptance of GMO's by the Japanese consumer relates to a series of food safety scares which gripped Japan this summer. In one, over 14,000 consumers were taken ill after consuming contaminated milk products. Ever since, hardly a day passes without another media story of lizards in cans and chips, flies in fries and bottles, pieces of plastic in cartons, funny smells, strange tastes, etc. Although hot weather and food safety scares go together in Japan, observers note that this summer has been especially difficult. This situation was further strengthened by the consumer group announcement of October 25 that StarLink corn had been discovered in Japanese processed corn products.

V. Useful Web Sites

- Useful Web sites for Biotech. Information and Updates in Japan -

For MAFF information: http://ss.s.affrc.go.jp/docs/sentan/index.htm. (Japanese/English)
For MHW information: http://www.mhw.go.jp/topics/idenshi_13/index.html (Japanese/English)
For CODEX information and developments: http://www.mhw.go.jp/english/codex_13/sec05.html (English)