

**DECISION No. 14/2007/QĐ-TTg OF
JANUARY 25, 2007, APPROVING THE
SCHEME ON BIOTECHNOLOGY
DEVELOPMENT AND APPLICATION IN
THE PROCESSING INDUSTRY UP TO 2020**

THE PRIME MINISTER

*Pursuant to the December 25, 2001 Law on
Organization of the Government;*

*Pursuant to Directive No. 50-CT/TW of March
4, 2005, of the Party Central Committee's Secretariat
on accelerating biotechnology development and
application in service of national industrialization
and modernization;*

*Pursuant to the Prime Minister's Decision No.
188/2005/QĐ-TTg of July 22, 2005, promulgating
the Government's program of action for the
implementation of Directive No. 50-CT/TW of
March 4, 2005, of the Party Central Committee's
Secretariat on accelerating biotechnology
development and application in service of national
industrialization and modernization;*

At the proposal of the Minister of Industry,

DECIDES:

Article 1.- To approve the Scheme on
biotechnology development and application in the
processing industry up to 2020 (hereinafter referred
to as the Scheme for short), with the following
principal contents:

I. OBJECTIVES

1. General objectives

To research into and create advanced
biotechnologies in the country in combination with
importing modern biotechnologies from foreign
countries for wide and effective application to food

processing and consumer goods production in order to raise the quality and competitiveness of processed products and better meet the domestic consumption and export demands.

2. Specific objectives:

a/ From now to 2010:

- To conduct researches into and create advanced biotechnologies in the country in combination with importing and mastering foreign modern biotechnologies in the processing industry which are suitable to our production conditions; to widely and effectively apply these technologies to production in order to turn out processed products of high quality and high competitiveness on the market.

- To turn out on an industrial scale enzyme products (including recombinant enzymes), proteins, organic acids, amino acids, microbiological preparations (including genetically modified products), bioactive substances, additives and biofuels which meet development requirements of the processing industry and better serve other industries, agriculture, fisheries and healthcare;

- To create and strongly develop biotechnologies in the processing industry in order to turn out on an industrial scale processed foodstuff and consumer goods of high quality and high competitiveness, meeting the domestic consumption and export demands;

- To strongly develop potentials for biotechnology research, development and application in the processing industry, including training human resources of high qualifications and technicians for biotechnology development and application in production and processing establishments; selecting and accrediting a unit to take charge of and building a key laboratory for microbiological technology, and completing the building of and putting into effective use a key laboratory for enzyme and protein technology; making intensive investment to upgrade techno-material foundations of, and expand and modernize, biotechnological laboratories in the

processing industry.

b/ The 2011-2015 period:

- To widely apply modern biotechnologies in the processing industry; to approach, master and quickly develop modern biotechnologies in order to create new strains of microorganisms of high quality, high fermentation rates and stability for industrial production; to produce assorted recombinant enzymes; and to elevate our biotechnology in the processing industry to the regional advanced level;

- To strongly and sustainably develop biotechnologies for the processing industry; to create a favorable market for accelerating the production of and trading in, and provision of services related to, key products and goods turned out by biotechnologies of the processing industry, meeting the domestic consumption and export demands;

- To make an important step in developing potentials, including training of human resources and building of techno-material foundations for biotechnology development and application in the processing industry;

- Biotechnologies will make contributions representing 20-25% of the total contribution of science and technology to the processing industry's added value.

c/ Vision toward 2020:

- To elevate our biotechnology in the processing industry to the level of advanced regional countries and, in some domains, to the level of developed countries in the world;

- Biotechnologies will make contributions representing more than 40% of the total contribution of science and technology to the processing industry's added value.

II. MAJOR TASKS

1. Basic research, applied research, scientific research and technology development (R-D) and pilot production (P) in service of biotechnology

development in the processing industry

a/ Microbiological technology

- To research into, create and perfect technological processes and equipment for microbiological fermentation on a small or medium scale in order to produce and process foodstuffs (beer, alcohol, sauces, beverages, meat, fish and other agricultural, forestry and aquatic products), animal feeds, additives, chemicals, pharmaco-chemical materials, biofuels and consumer goods of stable quality and high competitiveness on the market;

- To research into and apply biotechnologies for pilot and industrial production of microbiological preparations (microorganic biomass, preservatives, additives, food colors, organic acids, amino acids, unicellular and polycellular proteins) in service of the processing of foodstuffs, animal feeds, additives, chemicals and pharmaco-chemical materials, biofuels and consumer goods; to control the quality of raw materials, products and goods turned out by genetic modification technology in the processing industry;

- To research into and apply modern biotechnologies in order to single out and create new strains of microorganism of high quality and high fermentation rates so as to strongly develop the processing industry;

- To widely and effectively apply local or imported microbiological technologies in order to diversify, and raise the quality and competitiveness of, products, meeting the domestic consumption and export demands and contributing to boosting the development of the processing industry.

b/ Enzyme and protein technology:

- To research into, create and perfect technological processes and equipment for the application of enzyme technology to small- and medium-scale production and processing of foodstuff (assorted hydrocarbons, starches, beer, alcohol, sauces, beverages and other agricultural, forestry and aquatic products), animal feeds, additives, chemicals and

pharmaco-chemical materials, biofuels and consumer goods of stable quality and high competitiveness on the market;

- To research into and apply biotechnologies for pilot and industrial production of enzyme and protein products in service of food processing and production of animal feeds, additives, chemicals, pharmaco-chemical materials, biofuels and consumer goods;

- To research into and apply modern biotechnologies for pilot production of some types of recombinant enzymes in service of the processing industry;

- To research into and manufacture small- and medium-sized complete equipment chains using enzymes and proteins in the processing industry;

- To widely and effectively apply local or imported enzyme and protein technologies in order to diversify and raise the quality and competitiveness of products, meeting the consumption and export demands and boosting the development of the processing industry.

2. Forming and developing a bio-industry to accelerate the production of and trading in, and provision of services related to, key products and goods of the processing industry

- To establish and encourage enterprises of all economic sectors to increase their investment in receiving and transferring biotechnologies for the sustainable development of the processing industry; to widely and effectively apply technical advances and new technologies to the production of and trading in, and provision of services related to, key products and goods turned out biotechnology in the processing industry, meeting the consumption and export demands;

- To form and strongly develop a bio-industry in service of the processing industry, create a favorable and open market to encourage enterprises to invest in projects on production of and trading in, and

provision of services related to, processed products.

3. Developing potentials for biotechnology development and application in the processing industry

a/ Training of human resources:

- To send scientists and technologists who have a master's or doctor's degree to countries with a developed biotechnological level for short-term training of between 6-12 months;

- To send research students to countries with a developed biotechnological level for master or doctorate training according to the Scheme's research contents.

- To train technological engineers in Vietnam; to conduct master and doctorate training in biotechnology in the processing industry according to the Scheme's contents;

- To train skilled technicians in biotechnology in the processing industry for the implementation of the Scheme's contents in enterprises and localities;

- To re-train cadres of ministries, branches, localities and enterprises in order to improve their qualifications and knowledge on biotechnology development and application in the processing industry;

- By 2015, 20-30 officials will be provided with short-term training to improve their professional qualifications; 30-40 doctors, 50-60 masters, 200-250 practicing engineers and 400-500 technicians will be trained under the plan on the training of human resources in biotechnology in the processing industry.

b/ Building techno-material foundations and modernizing machinery and devices

- To make intensive investment to upgrade and modernize establishments researching into or providing training in biotechnology in the processing industry; to further supply and modernize techno-material foundations, machinery and devices for laboratories within the above system in order to enhance their research capacity and effectively apply

research results to practical production.

- To build and invest in a key microbiological laboratory located at the Foodstuff Industry Institute, the Industry Ministry, and key a enzyme- and protein-technology laboratory for the southern region (from Da Nang city southward);

- To build and run a website with a national database on biotechnology in the processing industry in order to promptly and fully supply and share the most basic and latest information on biotechnology in the processing industry to concerned units and individuals.

4. Performing international cooperation for biotechnology development in the processing industry

- To take the initiative in receiving, mastering and transferring new and modern biotechnologies in the world for effective application to production activities of the processing industry in Vietnam;

- To carry out about 30 schemes and projects in cooperation with foreign scientific organizations or scientists for development and effective application of biotechnology in the processing industry in Vietnam.

III. MAJOR SOLUTIONS:

1. Accelerating the application of research results to production, encouraging technology transfer, creating a favorable investment environment for, and strongly developing, the bio-industry in the processing industry

- To accelerate basic research, applied research, scientific research and technological development (R-D) in order to create new technologies, execute pilot production projects (P projects), international cooperation projects and projects on industrial production of key products and goods in the processing industry.

- To encourage the application of scientific research and technological development results to production; accelerate technology transfer within the

country and the import of new, advanced and modern biotechnologies in the processing industry to boost the production of and trading in, and provision of services related to, key products and goods of the processing industry.

- To create a favorable market for biotechnology development, boost the establishment of enterprises of all economic sectors and encourage them to invest in the application of biotechnologies to the processing industry. The State shall adopt preferential policies regarding credit capital, taxes and land use rights for enterprises that invest in biotechnology development and application in the processing industry.

2. Intensifying investment in and diversifying capital sources for the effective implementation of the Scheme

a/ The total fund for the implementation of the Scheme shall be determined on the basis of the fund for each specific scheme, project and tasks approved by competent authorities. Annually, the State shall gradually increase investment capital allocated from the budget for the implementation of the Scheme. Investment capital shall be increased and diversified for biotechnology development and application in the processing industry from such sources as domestic as well as foreign enterprises, organizations and individuals, foreign capital (ODA, FDI) and related international cooperation capital sources;

b/ The total state budget capital for the implementation of the scheme in the period up to 2015 is estimated at about VND 500 billion (an average of VND 50 billion for each year). The state budget shall be spent on basic research and applied research; scientific research and technological development (R-D); technological research and renewal to raise productivity, quality and competitiveness of products; support of pilot production (P projects are entitled to the retrieval rate of 60% of their total funds); support of technology transfer for industrial production of key products and goods (econo-technical projects); intensive investment in building techno-material foundations for laboratories and modernizing

machinery and equipment; training of human resources; international cooperation and some other contents of the Scheme.

The Industry Ministry shall elaborate long-term and annual plans on state budget capital for the implementation of the Scheme and send these plans to the Investment and Planning Ministry and the Finance Ministry for synthesis and submission to the Government for approval.

c/ Enterprises shall contribute investment capital for development of the processing industry based on the application of biotechnologies to the production of key products and goods of high quality and competitiveness on the market, meeting the consumption and export demands.

3. Developing potentials for biotechnology in the processing industry in terms of techno-material foundations and human resource training

- To accelerate the building of techno-material foundations and modernization of equipment and machinery for laboratories and agencies engaged in biotechnological research and application in the processing industry;

- To make a planning on establishments in the processing industry along the line of sustainable development, and engagement in all stages from variety research, cultivation techniques, formation of concentrated raw material areas, organization of production and processing activities to services and trading of products;

- To accelerate the training of high-quality human resources of postgraduate and graduate level, technological engineers and technicians, who meet the requirements for effective management and implementation of the Scheme and, at the same time, well serve the sustainable development of the processing industry in Vietnam.

4. Accelerating the formulation and perfection of mechanisms, policies and legal documents on biotechnology development and application in the processing industry

- To accelerate the elaboration, promulgation and perfection of mechanisms, policies and legal documents on biotechnology development and application in the processing industry. Research institutes, universities, enterprises, scientists, technologists, entrepreneurs and other organizations and individuals engaged in biotechnology development and application in the processing industry are entitled to the highest preferences in terms of loans, credits, taxes payable to the state budget, land use right, demand-pulling policies and other relevant policies in accordance with current provisions of law.

- To fully and strictly abide by intellectual property regulations on the protection of copyright and industrial property rights of microorganic strains, technological processes, machines, equipments, inventions and innovations concerning biological technologies in the processing industry.

5. Expanding and enhancing international cooperation in order to learn experience on biotechnology development and application in the processing industry

To enhance bilateral cooperation and expand multilateral cooperation with countries with an advanced biotechnological level as well as foreign organizations and individuals with rich potential to learn their experience on biotechnology development and application in the processing industry. To take the initiative in formulating and implementing programs, schemes and projects on international cooperation, especially with countries with an advanced biotechnological level in order to make the fullest use of their assistance in terms of experience, intellectual and financial resources and investment for biotechnology development and application in the processing industry in Vietnam.

IV. ORGANIZATION OF IMPLEMENTATION

1. The Industry Ministry shall assume the prime responsibility for, and coordinate with the Science

and Technology Ministry, concerned ministries, branches and localities in, organizing the effective implementation of the Scheme, and annually report the results to the Prime Minister.

The Industry Minister shall set up an Executive Board for the Scheme on biotechnology development and application in the processing industry (hereinafter referred to as the Scheme Executive Board for short), with the Industry Minister as its head, a Vice Minister of Industry in charge of the domain as its deputy head, and a representative of leadership of the Science and Technology Department as its secretary. Remaining members of the Executive Board are representatives of functional agencies under the Industry Ministry and departmental-level representatives of some concerned ministries, branches and localities (the Government Office, the Ministries of Science and Technology; Agriculture and Rural Development; Planning and Investment; Finance; Training and Education; Fisheries; and Health, and the People's Committees of Hanoi and Ho Chi Minh cities). The Scheme Executive Board shall work under its operation regulation promulgated by the Industry Minister, who is also its head.

The Industry Minister shall approve or decide on the level of investment support for schemes, projects and tasks under the Scheme on the basis of the request of the Scheme Executive Board and evaluation and appraisal opinions of the Scientific and Technological Advisory Council. The selection, implementation, evaluation and pre-acceptance test of these schemes, projects and tasks shall be conducted according to current provisions of law on scientific and technological activities.

2. The Planning and Investment Ministry and the Finance Ministry shall arrange and allocate enough capital under long-term and annual plans for the Industry Ministry to organize the implementation of the Scheme in an effective manner as scheduled.

3. The Science and Technology Ministry shall

coordinate with the Industry Ministry in building and developing techno-material foundations, machinery and equipment for establishments engaged in biotechnology research, development and application in the processing industry; elaborate *preferential mechanisms and policies* for biotechnology transfer, development and application in the processing industry.

4. The Agriculture and Rural Development Ministry, the Fisheries Ministry and the Health Ministry shall coordinate with the Industry Ministry in planning and organizing the implementation of schemes, projects and tasks on biotechnology development and application in the processing industry under their respective line management.

5. The Education and Training Ministry shall assume the prime responsibility for, and coordinate with the Industry Ministry and Finance Ministry in, allocating capital and training human resources in biotechnology in the processing industry under the Scheme.

6. Ministries, branches, localities and enterprises that wish to participate in the implementation of the Scheme's contents which are related to their functions, tasks and powers shall register with the Industry Ministry and the Scheme Executive Board.

Article 2.- This Decision takes effect 15 days after its publication in "CONG BAO."

Article 3.- The Industry Minister, ministers, heads of ministerial-level agencies and government-attached agencies, presidents of provincial/municipal People's Committees, and concerned organizations and individuals shall implement this Decision.

Prime Minister
NGUYEN TAN DUNG