

MAFF's Intellectual Property Strategy 2020

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(http://www.maff.go.jp/j/kanbo/tizai/brand/b_senryaku/pdf/tizai_senryaku_2020.pdf)

RECOGNITION OF CURRENT SITUATION

The need to revise the intellectual property strategy

The food industry including agriculture, forestry and fisheries and related industries (hereinafter referred to as “food industry”), through the production activities for a long time, has created a variety of intellectual property, and now shall be positioned as “knowledge industry and information industry”.

On the other hand, in the general industrial sector, there is a situation where the importance of the business model and intellectual property management to support it has been recognized again. This is because there exist businesses suffering from conflict with those of developed countries and catch up with those of emerging countries, due to lack of ingenuity of the association of business models and intellectual property management. And also because there are problems such as leakage of technology outflow and trade secrets even for companies with a competitive technology.

In the food industry, there a similar situation is also taking place. So it is necessary to recognize that the various competition of intellectual property influence the national interest. And we should recognize that the results of research and development of world-class level have been targeted from the world.

There has been interest in the world to Japan's food culture due to recognition of “Japanese traditional food culture of the Japanese people” by UNESCO as an Intangible Cultural Heritage in December 2013 and the exhibitors to the Milan Expo 2015. Food culture is an important intellectual property, and shall contribute to the promotion of the food industry and regional revitalization by being properly protected and utilized.

Against this backdrop, the government intends to capture the global “food market” (expand to 1 trillion yen in 2020) by the spread of Japanese food culture, overseas expansion of Japanese food industry, and export promotion of agriculture, forestry and fishery products and food of Japan. The government has also set the target of 20 million foreign tourists visiting Japan in 2020 as the promotion of further tourism-oriented country with the great opportunity of holding the “Olympic and Paralympic Tokyo Conference 2020”.

As the legal system is related to the food industry, the Act on Protection of the Names of Specific Agricultural, Forestry and Fishery Products and Foodstuffs (2014 law No. 84, known as “geographical indications Act”) was established in June 2014 and enforced in June 2015, in order to establish a geographical indication protection system where the names of products with quality and social assessment of other established properties with the production area shall be protected as intellectual property. In addition, under the Food Labeling Act (2013 Law No. 70) which came into effect in May 2015, the system of “Foods with Function

Claims” was created in order to make it possible to display the functionality of food with the purpose of a particular health.

MAFF has been promoting the strategic intellectual property-related measures with establishing “MAFF’s Intellectual Property Strategy” in March 2007, and “New MAFF’s Intellectual Property Strategy” as its successor in March 2010. Strategy in 2010 was intended to strengthen the international industrial competitiveness and local revitalization by the tradition and utilization of technology and know-how of agriculture, forestry and fisheries fields, promotion of local brand and food culture, and improvement of the brand value of Japanese food and ingredients. However, in recent years, due to the globalization of the food industry, there is a need for rapid and accurate response to sophisticated counterfeit goods, technology outflow, and leakage of trade secrets. Regarding effective use of intellectual property, there is a need to respond in light of the enforcement of geographical indications act. Further new challenges of the utilization of intellectual property rights with the aim to increase profits have been actualized.

Taking into account these situation changes and the current situation where the degree of attention to and interest in food industry has become much higher, appropriate protection and utilization of intellectual property is an issue to be further addressed aggressively, in order to lift Japanese food industry to the higher world-class level, and create a new value. And there is a need for a new strategy in order to strongly promote relating policy measures.

History of strategy revision

Strategy in 2010 was formulated in mind five years until 2014. During this time, “Plan to Create Dynamism through Agriculture, Forestry and Fisheries and Local Communities” (decided by Headquarters on Creating Dynamism through Agriculture, Forestry and Fisheries and Local Communities in December 2013, and revised in June 2014) was formulated towards global expansion of the sixth industrialization of the food industry. This plan aims at both the industrial and regional policies, and includes the overall utilization of intellectual property as a direction of policy development.

And, it was decided that “from the viewpoint of promoting measures related to intellectual property effectively and efficiently, a new MAFF’s Intellectual Property Strategy shall be formulated until May 2015” under the “Basic Plan for Food, Agriculture, and Rural Areas” (decided by the Cabinet on 31st March 2015. hereinafter referred to as “Basic Plan”).

In light of these circumstances, under the “MAFF Intellectual Property Strategy Review Committee” with outside experts, efforts of the current strategy had been verified from a broad perspective, and this “MAFF Intellectual Property Strategy” was formulated with the cooperation of relevant ministries for comprehensive examination.

Implementation period of the strategy

From the viewpoint of consistency with the Basic Plan’s review cycle (reviewed and revised around every five years with evaluation of changes in the situation and the effect of measures concerning the food, agriculture and rural areas), implementation period of the strategy shall be around five years until 2019, as well as the current strategy in 2010.

CREATION OF NEW VALUE THROUGH THE USE OF INTELLECTUAL PROPERTY

In order to aim at the creation of new value by taking advantage of the intellectual property,

first of all, there is a need for the creation of value for the consumer. It is important to devise business models and an intellectual property management to support it, so that this shall lead the value for the business. In addition, it is important to spread awareness to the entire nation for the creation, protection, acquisition of rights, and utilization of intellectual property.

The creation of a new consumer value

In order to create new consumer value by taking advantage of the intellectual property, the following techniques are effective;

- To clarify the appeal of products at the consumer point of view, to suggest properly, and to create a purchasing environment where such products are likely to come to the consumer; and
- To create consumer value, based on the characteristics of the product, by taking advantage of a variety of intellectual property, in particular the brand such as Japan brand, regional and local brand, manufacturer brand, store brand, item and product brand.

The creation of new value by constructing the business model and utilizing the intellectual property management to support it

It is possible to grant intellectual property to others after acquiring right, and use it as “coordinated power” to create a new market by making the standards publicly known. On the other hand, it can also be used as the “competitiveness” by properly combining concealing and acquiring rights. And an intellectual property management shall be able to properly perform a combination of both.

With this in mind, there is a need to properly perform the intellectual property management to maximize profitability of products in developing a business model that connects the consumer value to business value.

For this reason, it is important to carry out the systematization and dissemination of relevant knowledge, so that business people can plan and implement appropriate business model, and intellectual property management to support it.

Promotion of strategic intellectual property management

Overseas, business movement enclosing all the value chain from the upstream to downstream is a reality, as such that large agribusiness companies would vertically integrate seeds, fertilizers, and pesticides with advanced biotechnology, and sell those packages. Against this trend, the policy shall support countermeasure of Japan's food industry so as not to be dominated the entire market by foreign companies, also in cooperation with foreign companies in certain areas.

In addition, with respect to the movement that makes full use of state-of-the-art technology such as biotechnology, ICT, artificial intelligence, food industry needs to redeem the situation where it is behind that in the world. For promotion of the site, the policy would promote the appropriate and aggressive utilization of business models and intellectual property management to support it.

In Japan, there are two types of agriculture: forestry and fishery products and food; some are “agricultural craft products and food craft products”, small-scale but enhancing Japan’s brand value; and others are “agro-industry products and food industry products” with big industry size. While classifying and combining these, the policy will support to create an

environment to promote appropriate business models and intellectual property management to support it in accordance with the respective characteristics.

In addition, there is a need to disseminate the knowledge related to intellectual property to the public in general, including producers, businesses, researchers, and consumers. And it is also necessary to foster a sense of ethics to respect the intellectual property. In the agricultural sector, as a “public goods”, the information has been provided free of charge. However, there are two types of the information; some are “public goods” which should be widely shared; and others are “private goods” and “regional goods” which should be treated as their property. As a general rule, the economically valuable information should not be disclosed at no charge. Also for the side that receives the information, it is important to foster a sense that a legitimate fee should be paid in acquiring such information.

SPECIFIC CORRESPONDING DIRECTION

Counter-measure for technology spill and promotion of brand management

With regard to countermeasure for technology spill, it is important to consider damage experiences and their counter-measures of spills, counterfeit goods and pirated goods in the areas such as the food industry including the agricultural products as well as general industry areas. Moreover it is important to learn the business model and intellectual property management to support it together with the various food industry related stakeholders, and to actively participate in the existing initiatives in the general industrial sector.

Regarding brand management, it is important to further advance the use of regional collective trademarks, and also to improve the brand by taking advantage of a combination of the new system of foods with function claims and the intellectual property system such as trademark rights, patent rights, breeder's rights, geographical indications. Therefore, the brand utilization shall be promoted by spreading public awareness using “strategic intellectual property utilization manual¹”.

In this case, although the technology and brand management are different matters, we would consider the way on how to further exert Japan's strengths by combining them both.

In addition, the market for so-called health foods is to be expanded. The close link among R&D, business models, and intellectual property management should be educated to the food industry businesses so that it can actively promote the industrial development of functional foods as an opportunity of new system of foods with function claims.

OVERSEAS MARKET DEVELOPMENT BY THE PROTECTION AND UTILIZATION OF INTELLECTUAL PROPERTY

Promotion of utilization of intellectual property with the aim of profit increase

Toward the strategic acquisition of the “food market” in the world that doubling is expected in the next 10 years, integrated public-private partnership efforts should be promoted such as; “Made FROM Japan” promoting the use of Japanese food in the world culinary field; “Made BY Japan” expanding Japanese food culture and food industry abroad; and “Made IN Japan” exporting agricultural, forestry and fisheries products and food of Japan. In addition, it is to promote the public awareness of the use of intellectual property rights, etc. with the aim to expand the royalty income from overseas.

¹ Released by MAFF Food Industry Affairs Bureau in April 2014.

In the overseas market, since it is important to build a unified brand as a nation, following the world popular industrial products of “Made in Japan” and the contents of the “Cool Japan” such as Kawaii, the construction of the third Japan brand appealing “Japan’s agriculture and food” should be planned and promoted, and the efforts to produce the agricultural, forestry and fisheries products and food brand in the all-Japan shall be supported.

At that time, since the logo mark for foreign transmission is extremely important in order to establish a brand, utilization of the unified marks established for wagyu beef and fruits, etc. and export promotion logo (oishii mark) shall be continued to promote.

In addition, in order to transmit the appeal of Japanese food and food culture, the creation of a system of Japanese food spread goodwill ambassador, Japanese food culture supporter system, and education and qualification system shall be executed under “Action Plan 10 for spreading charm information of Japanese food²”.

Actualized counterfeit goods via the third country and their countermeasures

Overseas, the distribution of counterfeit goods of Japan’s agricultural, forestry and fisheries products and food has been increasing, and the issue has been becoming serious. Mark of the registered trademark, is printed on the packaging in the country in which trademark registration has not been made, and it has been exported to a third country. In order to respond quickly and accurately to such counterfeit goods to be extremely sophisticated, there is a need for cooperation with related organizations such as the Ministry of Economy, Trade and Industry, diplomatic missions, and JETRO. In addition, through “Agriculture, Forestry and Fisheries and Food intellectual property protection consortium” of public-private partnership (hereinafter referred to as “the consortium”), we shall strengthen a survey in the overseas markets and support for business operators against the infringement. More specifically, we shall promote the monitoring of infringement with utilizing the network of local Japanese, and the utilization of consultation services for each country by professionals of the intellectual property law who retired from overseas operating companies.

Furthermore, in order to strengthen the efforts of intellectual property protection in foreign countries, we shall take advantage of the provisions relating to intellectual property of the EPA effectively that Japan has concluded, and also consider their revision if necessary.

Measures against trademark registration of the place name

From the point of view that “place names are property”, it is first important to disseminate that the name of the place, as a brand, can be protected by intellectual property by taking advantage of the geographical indication protection systems and regional collective trademark system.

On top of that, for the problems that the name of the place is applied for trademark registration by a third party in foreign countries, we shall strengthen the correspondence through cooperation with related organizations and the consortium.

Strategic use of the international standard

Improvement of reliability by utilizing a standard, etc.

In order to promote a significant export expansion of Japan’s agricultural, forestry and fishery

² Formulated on 9th February 2015.

products and food, first of all, it is necessary to ensure the reliability in the safety and the quality, if this is achieved, then those could become internationally trusted brand.

For this reason, along with enlightening these ideas, we shall improve the safety by disseminating guidelines such as HACCP in Japan and international standards such as GLOBALG.AP. Through those efforts, we shall strengthen the foundation of internationally trusted brand for Japan's agriculture, forestry and fishery products and food.

Also, in order to improve the safety of our food on the basis of the scientific evidence, we shall take advantage of regulatory science³. In addition, in cooperation with other countries and regions, we shall promote to reflect our country's actual situation in consideration of the Sanitary and Phytosanitary (SPS) related international standards.

The development of internationally accepted standards

While the major countries gradually mandate HACCP, in order to ensure the competitiveness in the international trade of Japan's food industry operators, and to provide a safer food to consumers, it is necessary to strive for the spread of voluntary hygiene management based on the HACCP by businesses, and to create an environment in which the efforts are evaluated from abroad.

Standards and certification system for the Japanese operators in terms of language and cost has been demanded.

For this reason, we shall enhance the support system for spreading HACCP in our country, such as the implementation of training on HACCP. And we also promote by public-private cooperation, to build an original Japanese system of standards and certification for food safety management on the basis of HACCP, and to spread it abroad so that it can be internationally accepted.

The creation of new businesses by taking advantage of the traditions and regional brands

The geographical indication protection system also has the ability to maintain and inherit the food culture. In order to ensure consumer confidence and ensure the benefit which producers should originally obtain, by promoting the efforts of the appropriate branding for the agriculture, forestry and fishery products and food, we shall promote the following measures.

Promotion of branding through the use of geographical indication protection system

For geographical indication protection system to be newly introduced, we plan to thoroughly disseminate the system, and also, promote the use of the system by introducing the way for taking advantage of the system such as the selection and combination of the trademark system in accordance with the brand strategy of the region.

In order to ensure the reliability of the system, we will implement a quick and fair registration examination, and implement guidance and supervision for a thorough quality control after the registration, and the appropriate crackdown on unauthorized use of the geographical indication.

In addition, we shall publicize the system and registered products in cooperation with producers so that the value of the products that have been registered would be appropriately transmitted to the consumers.

³ Science areas to bridge between scientific knowledge and the administrative measures such as regulations. It includes both research obtaining the scientific knowledge that is available to the study of administrative measures, and the government to determine the policy measures on the basis of scientific knowledge.

Furthermore, we shall make the international market recognize that it is a *bona fide* specialty products of Japan by taking advantage of the geographical indication mark. Also, by advancing the frameworks towards the appropriate protection with the countries that have introduced the geographical indication protection system, we will create an environment for export promotion.

Promotion of Japanese food and food culture by utilizing regional ingredients such as traditional vegetables

In Japan, unique vegetables used to be produced across the country. During the era of mass production, because F1 hybrid varieties have been spread due to the need for stable production of uniform vegetables meeting the standard, it enables the stable supply all over the country without shortage. On the other hand, since the variety became homogeneous, traditional varieties would face extinction. However, addition of “Washoku, traditional dietary cultures of the Japanese” to UNESCO Intangible Cultural Heritage list, and the needs of the consumers to find the diversity would have been creating a flow to review the presence and charm of traditional vegetables. Traditional vegetables, even in small amounts can contribute to the local economy due to their being value-added. Therefore, it is the effective revitalization of local agriculture through the promotion of traditional vegetables, by constructing a circulation where the concerned stakeholders would inherit the tradition and connects to the consumer. In doing so, along with promoting the brand that utilize intellectual property such as a geographical indication, we need to disseminate information about the characteristics of the products to reach producers, processors, distributors and consumers.

And we would honor the excellent active cooks who contribute to the spread and development of the “food” and “food culture” of Japan, and “cooperate” with producers and food companies.

In addition, we would promote the public awareness of rice menu and disseminate the charm of Washoku with a focus on rice. We would also create the new demand of rice by developing and supplying the new rice products and services with rice processing technology such as rice flour.

As for the flower industry, variety of flowers and production technology of Japan would be at a high level. And the world-class rich tradition and culture on the flowers is deeply rooted in people’s lives. On the other hand, Since the strengthening of international competitiveness has become a pressing issue, on the basis of the law on the promotion of flowers (2014 Law No. 102), we shall properly protect and utilize intellectual property, and promote the flower industry and the culture of flowers.

For other agricultural products, we would respond appropriately to the needs of consumers and actual demand the person by using superior varieties, and advanced production technology, which are Japan's strengths.

Utilizing local resources such as landscape and traditional culture

We shall comprehensively promote coexistence and convection of city and rural areas and activation of the local economy, to promote agriculture, forestry and fisheries and rural areas as its foundation. By supporting local efforts utilizing local resources such as landscape, traditional culture, rich nature and “food”, and their branding, we can protect and inherit the local resources such as landscape and traditional culture.

In addition, the local food and rural landscape that produces it cannot be separated. For even in farm work, there is a case such as “flower planting of Mibu” which is registered

under UNESCO's intangible cultural heritage. Since their combined effect is to shape the image of the products and increase its being value-added, referring to foreign cases such as the French "scenic spots of taste"⁴, we would consider our measures such as "scenic area of food and agriculture", in cooperation with relevant ministries.

Protection of genetic resources of livestock and the promotion of breeding improvement

Japan's Wagyu is the result of breeding improvement where public institutions and producers have been involved for many years. It is important to ensure the appropriate protection and utilization.

Therefore, from the viewpoint of the efficient breeding improvement, we would promote genetic ability evaluation utilizing SNP (single nucleotide polymorphism) information. We would also promote to ensure the diversity of genetic resources.

In addition, we continue to promote also efforts for the proper management of Wagyu semen such as use of bar code. Regarding the label of "Wagyu", we would encourage voluntary efforts of meat sales retailers according to the guidelines so that consumers could understand easily imported beef as well as domestic beef. Furthermore, in overseas, we would promote the brand of beef produced in Japan by utilizing the Wagyu unified mark, in order to compete with foreign beef.

Creation of new business by extraction and property of knowledge of agriculture, forestry and fisheries through ICT, and taking advantage of them

Expansion and promotion of the use of ICT in agriculture, forestry and fisheries sector

While aging and labor shortages are proceeding, in order to achieve further scale-up of core-farmers, labor saving and lowering costs, various efforts have been promoted toward the realization of new agriculture such as ultra-labor-saving production utilizing robot technology and ICT, high-quality production.

Regarding technology and know-how (master craftsmanship) based on experience of skilled farmers, we would collect data, integrate and analyze them utilizing ICT, then feedback the results to farmers, and also promote their utilization as a tool to inherit technology and know-how to the new farmers smoothly. In addition, we would support the utilization for agriculture related industries in order to contribute to improve profitability of the entire food industry.

And various agriculture-related data, not limited to skilled farmers' technology, could be used as intellectual property with a big data by taking advantage of ICT. So we would promote educational activities in this regard.

Promotion of preventive response to the outflow of the data relating to agricultural production

While expanding and promoting the use of ICT in agriculture, forestry and fisheries sector, there is a concern that trouble might occur in promoting ICT in the agricultural sector,

⁴ The system to register the region meeting the four requirements (1) the presence of traditional and characteristic agricultural products, 2) the presence of a characteristic heritage (such as nature and cultural heritage) associated with building, landscape, and the products, 3) acceptance readiness of tourist such as stay facility, promenade, 4) organization of concerned parties of the region) as the "scenic area of taste", then promote agriculture and tourism in the registered region.

because there are no appropriate rules for the handling of on the intellectual property of agricultural production data. Therefore, it is necessary to consider the way to adequately protect the data obtained by the introduction of ICT. Furthermore, it is necessary to also consider granting incentives to allocate revenue according to the contribution of intellectual property, for the farmers who provided the know-how.

For these reasons, we would formulate guidelines on the handling of the intellectual property of the data generated by the introduction of ICT in the agricultural sector, and promote the public awareness.

Strengthening of the competitiveness of the seed industry

For new plant species, international harmony and steady promotion of the variety registration review, strengthening the protection of rights, the protection of the legitimate interests of the right holder, would contribute to the development of new varieties promotion, domestic agriculture and seed industry.

In particular, in order to promote exports and direct investments in the agricultural products and seedlings to overseas such as the East Asian countries, it is important to promote a level-up and review cooperation of variety protection system of the partner countries, and it is necessary to strengthen these efforts.

For the Seed Act, we would investigate the actual situation of the production sites and seed industry for each type of plant, relating to the seedlings of self-proliferation by farmers that the efficacy of the breeder's right is not inferior in principle to breeder's in-house growth, and also consider the expansion of the plant range that spans the efficacy of rights.

In addition, taking into account the fact that there is a movement such as the rights of patent including the production method in recent years, for example, for new plant species with characteristics such as pest resistance and functionality, we would accelerate the consideration of strengthening the competitiveness of the seed industry.

Strengthening the protection of new plant species

International harmonization of variety registration examination and its steady implementation

In order to promote the development of good new plant species that are internationally competitive, it is important to develop the friendly environment that the breeders can acquire the breeder's rights at home and abroad.

For this reason, we would participate, as a core member of UPOV, in creating the test guidelines of the International Union for the Protection of New Varieties of Plants (UPOV) which defines the international standard of the screening criteria for each plant type. In order to promote the international mutual use of the appraisal results, we would carry out a technical study for the effects of differences in the cultivation environment of the EU on the characteristics of the plant. Through these, we would promote international harmonization of examination.

And we would establish a screening criteria corresponding to new plants which are increasing in recent years, new properties such as high temperature resistant, long shelf life, which will contribute to strengthening the international competitiveness and branding of Japan's agriculture, forestry and fisheries products. We would also implement appropriate examination that corresponds to the increase of the existing registered variety. Through these, we would steadily promote the variety registration examination of more than 1,000 per year.

Strengthening of the rights infringement measures

Strengthen support services of right infringement measures

In order to support the exercise of rights by the breeders, the National Center for Seeds and Seedlings (Incorporated Administrative Agency) aims; to promote the use of the variety protection “G-Men” (carry out consultation and support for the rights infringement response to a request from the breeders); to implement a variety identification by DNA analysis in accordance with the request from the breeders; to work with external organizations; to collect and organize information about the infringement and use of the breeder's rights both at home and abroad; and to provide appropriate information.

Development of DNA breed identification technology

In the case of suspected infringement of the breeder's rights for agricultural products to export to overseas and agricultural products to be a concern reverse imports from overseas, it is important to confirm the facts of infringement of the overseas by right's holders, and to take appropriate and rapid border measures.

Therefore, we would support the right protection by developing variety identification technology at the DNA level. We would also support the validation and documentation of the development of technology so as to be available of the developed DNA identification technology to the border measures in customs. And in order to properly respond to the issues that varieties could be taken out abroad without the permission of the breeders and be reimported, we would support the development of technology to determine the produced origin of agricultural products based on the scientific basis. We would strategically protect and utilize these developed technology.

In addition, to strengthen the storage system of the newly filed plants such as varieties, promote the proper maintenance of the system that can deal with infringement cases.

Furthermore, we would strengthen the storage system of plant bodies of newly applied varieties, and promote the proper maintenance of the system that can deal with infringement cases.

Promoting the use of border enforcement system

In order to protect the rights of breeders' right holders, we shall notify the border control system of customs to the breeders' right holders and the trade business operators, that can stop the import and export of breeders' right infringing variety. We will also encourage them to utilize the control system. In addition, we would strengthen cooperation with customs and publicize the Seeds and Seedlings Act and the Customs Law to prevent unintentional infringement.

Active promotion of East Asia Plant Variety Protection Forum

The East Asian region is a promising market where sustained economic growth can be expected in the future, whereas many countries have not developed a plant variety protection system. We would strategically develop the “East Asia Plant Variety Protection Forum” established by 13 countries of ASEAN + Japan, China and Korea in Japan's initiative. Then we would develop an environment in which varieties, the intellectual property of our country, shall be appropriately protected abroad.

Specifically, we shall actively promote; training in Japan and expert dispatch to improve the capacity of human resources development and examination in participating countries; activities toward harmonization of examination techniques (expert meeting for harmonization of examination criteria); operation of the homepage for information sharing and transmission; awareness raising of key persons; and support for improvement of legislation necessary for accession to UPOV.

Promotion of encouragement of improving and expanding variety protection system

In order to promote aggressive overseas expansion of the seed and seed industry of our country, we continue to encourage improving and expanding variety protection system and concluding UPOV 91, by taking advantage of every occasion such as bilateral consultations with, dispatch of joint government and private missions to, negotiations on EPA with, seminars sponsored by the Secretariat of UPOV Treaty with, countries that do not have variety protection system and do not conclude UPOV 91.

Establishment of a stable supply system for seed and seedlings and securing genetic resources abroad

Establishment of a stable supply system for seed and seedlings

While properly protecting intellectual property, it is important to ensure the stable supply of excellent seeds and seedlings according to the situation of each crop.

In the case of product development, there are demands for innovative varieties and competitive varieties in the overseas markets, so we shall develop new breeding technology by combining various techniques such as decoding genomic information, DNA marker selection breeding technology, genome editing technology, omics analysis techniques⁵.

Production of seeds and seedlings of vegetables in our country is undertaken by seed and seedlings companies which individuals coexist with diverse entities with small-scale business, so the production system is weakening due to difficulty to secure isolated fields in the country and aging of seed and seed producers. We are then trying to promote the development of the necessary environment to strengthen the production base for new variety breeding and high quality seed and seedlings, towards developing a comprehensive system that makes it possible to solve common problems such as difficulty in securing genetic resources, intensifying breeding competition, globalization of business. In particular, we shall look at technological trends of overseas major bio industry companies trying to enclose all of the business value chain not only from business perspective but also from the viewpoint of consumer's taste, and consider countermeasures against it.

In order to stably supply seeds and seeds to producers for rice, wheat, and soybean, prefectures have been growing seeds and seedlings in Japan based on the original prototype. For potatoes and sugar cane, the National Center for Seeds and Seedlings, Incorporated Administrative Agency, has been growing as well. For fruit trees, research institutes have been growing seedlings in Japan based on the mother trees of cultivars developed in each research institute. In addition to such seed supply which is now mainstream, for example, in order to respond to the diversifying needs of rice, we would promote seed supply from various actors, such as development and dissemination of F1 hybrid rice varieties linked to food service companies by chemical manufacturers.

⁵ A research method to comprehensively understand life phenomena by comprehensively analyzing fluctuations of genes, mRNAs, proteins, etc. in the cells of living organisms as opposed to conventional methods by analyzing individually.

For forestry seedlings, we will promote the development of seedlings that are excellent in growth and cedars without pollen, and promote the stable supply of these excellent seedlings.

Securing genetic resources abroad

Excellent varieties are the origin of the value chain of Japanese food industry, and introduction of new genetic resources is indispensable to nurture superior new varieties in the future. We would hence promote measures to secure genetic resources based on the international framework such as the Nagoya Protocol of the Convention on Biological Diversity and international treaties on plant genetic resources for food and agriculture. In addition, by promoting bilateral collaborative research (PGRAsia) with Asian countries on plant genetic resources, we would improve the environment for acquiring overseas genetic resources.

Promotion of strategic intellectual property management in R&D

In promoting future R&D, under the basic idea that “it is not research result unless it is utilized at the site of agriculture, forestry and fisheries”, we would promote R&D effectively and efficiently. In doing so we would draw intellectual property strategies effective for commercialization, from the planning stage of R&D, by asking who should be the users of this research results, how intellectual property should be transferred to users.

Regarding the utilization of research results, considering various options such as the right of privatization, secretization, publicization at the time of invention, opening of patents after the right, exclusive licensing, we would instruct and support the review of intellectual property management at each research institution so that the most appropriate method shall be adopted from the viewpoint of accelerating social return through business success.

Furthermore, in addition to enhancing the organization of intellectual property departments in the competent National Research and Development Agency, we would newly establish a special department to promote collaboration between industry, academia and government in each regional agricultural research center, and we would actively promote coordination on utilization of intellectual property rights such as publicizing owned intellectual property and licensing; collaboration with talented persons of external technologies and experts of business models and intellectual property management; joint research with private companies tackling commercialization by utilizing intellectual property; and collaboration with venture capital.

Enlightenment and human resource development on intellectual property strategy

Promotion of awareness on the protection and utilization of intellectual property in agriculture, forestry and fisheries

Until now, we have raised the importance of various enlightenment for stakeholders and the public as a whole in each item ranging from present situation recognition to countermeasure direction. Under such circumstances, despite the fact that technology related to agricultural production could become intellectual property, we have a strong concern that production sites are unprotected to intellectual property and indifferent about its utilization. It is necessary for farmers to be conscious of being able to regard their own know-how as intellectual property. Most people in agriculture including extension organizations, tend to think that farmers' know-how are public goods and should be released, but they need to change this mindset.

Based on these, we would educate agricultural persons such as farmers and agricultural leaders about the protection and utilization of intellectual property, and promote the dissemination and awareness about business models and strategic intellectual property management to support them.

In addition, since knowledge of the business model and strategic intellectual property management to support it and flexible thinking are indispensable in implementing various policy measures and projects, we would continue to train staff of the Ministry of Agriculture, Forestry and Fisheries.

On the other hand, there are situations where the actual status of agricultural management are exposed to unprotected so that stakeholders of government, universities, research institutes, organizations could identify its individual corporations. It is necessary to reconsider the cultures themselves that all agricultural data should be open, and promote enlightenment to recognize this.

Human resources development

In the past, the necessity of human resources capable of appreciating technological prospects has been emphasized in Japanese industry, but in order to implement this strategy, there should be:

- practical human resources staff who can understand and use business models and intellectual property management to support them
- human resources who can explain business models and intellectual property management to support them more easily to consumers

shall be required. We will thus promote the training of such human resources by providing learning opportunities.

In order to secure local experts with certain knowledge and skills when food industry enterprises would enter overseas market, we would set up donation courses among major agriculture and food-related universities with high education standards in ASEAN countries, and provide lectures on practical knowledge and technology on food value chains in general from seeds to food processing, distribution and consumption by dispatching experts from Japanese private companies.

PROMOTION OF STRATEGY

Although the implementation period of the strategy shall be roughly five years until 2019, we have been facing changes in the structure of the economic society that has never been experienced and are reaching a major turning point now, hence we need to implement an effective PDCA cycle in order to implement the strategy steadily and powerfully.

Therefore, we would periodically verify the implementation status of the strategy with the participation of external experts, review their strategies, policies and measures, and correct the trajectory as necessary.

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