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KOREAN GAP TRENDS FOCUSED ON ENVIRONMENTALLY AND CONSUMER FRIENDLY FOOD PRODUCTION

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ABSTRACT

Korean GAP certification system plays an important role in the consumer-friendly and eco-friendly development of Korean agriculture. It was established in 2006. Since then the number of certified farms has been continuously increased. In 2017, it exceeded 86,000, which is approximately 8.3% of the total Korean farms. The certified area exceeded 100,000 ha. A well-organized cooperative structure is one of the keys to successful growth. MAFRA (Ministry of Agriculture, Food and Rural Affairs) is in charge of implementation of the Korean GAP certification system, and NAPQMS (National Agricultural Products Quality Management Service), which is affiliated with MAFRA, manages the operation of the system. RDA (Rural Development Administration) provides GAP standards, which consist of 12 categories. They deal with farm owner's responsibility for food safety, environment and workers. Currently, the full implementation of PLS (Positive List System of pesticide) is a food safety issue of farmer's greatest concern.

Keywords: GAP, Good Agricultural Practices, Food safety

INTRODUCTION

Just like any other countries, Korean consumers want safe food. They want their agricultural products safely grown by reliable farmers. The activation of GAP certification system might be a way to satisfy such consumers. So the government is supporting the development of Korean GAP, which plays an important role in the consumer-friendly development of Korean agriculture.

However, GAP's purpose is not only limited to solve food safety issues. Korean GAP also deals with farm owner's responsibility for the environment. Agricultural and Fishery Products Quality Control Act stipulates that GAP is aimed at preserving the environment as well as ensuring the safety of agricultural products. In addition, Korean GAP standards specify considerations for farm workers, too.

Although Korean GAP certification system so far has developed rapidly and successfully, there are still many consumers and farmers who are not interested in it. It is important to gain their trust in order to further develop the system. To do so, RDA (Rural Development Administration) has been trying to provide scientific basis of Korean GAP.

DEVELOPMENT OF KOREAN GAP AND THE CURRENT SITUATION

Korean government started to consider introducing GAP certification system since 2002. The government carried out three-year pilot project from 2003 to 2005. Only nine farms joined the project at first, but the number of participating farms rapidly increased to 965.

A legal basis of Korean GAP was established in August 2005, and enforcement decree and rules were enacted in January 2006. The GAP standards were also prepared in 2006 by reference to various information including Codex Code of Hygienic Practice for Fresh Fruit and Vegetables. Since then the number of certified farms has been continuously increased (Table 1). In 2017, the number of certified farms exceeded 86,000, which is approximately 8.3% of total Korean farm. The certified area exceeded 100,000 ha. The goal of MAFRA (Ministry of Agriculture, Food and Rural Affairs) is to extend the ratio of certified farms to 25% by 2022.

Table 1. Statistics about Korean GAP[a]

Year	# certified product	# certification agency	# certification case	# certified farm	certified area (ha)
2006	45	21	220	3,659	1,373
2007	50	31	364	16,796	24,754
2008	59	39	1,053	25,158	37,129
2009	59	43	1,233	28,562	40,081
2010	86	45	1,459	34,421	46,701
2011	89	49	1,756	37,146	49,548
2012	110	51	1,969	40,215	55,215
2013	129	48	2,499	46,000	58,703
2014	136	44	2,689	46,323	58,763
2015	153	44	4,019	53,583	65,410
2016	174	46	6,059	74,973	88,859
2017	223	52	6,909	86,091	103,270

[a]Data can be found on the homepage of GAP Information System (www.gap.go.kr)

CERTIFICATION SYSTEM

Korean GAP is regulated by Agricultural and Aquatic Products Quality Control Act. According to the act, MAFRA is in charge of implementing the GAP system. NAPQMS (National Agricultural Products Quality Management Service), which is affiliated with MAFRA, manages the operation of the GAP system. The certification authorities are private agencies designated by NAPQMS. For the designation, GAP certification agencies must have at least five inspectors.

Farmers are required to submit applications with two annexes: a GAP education certificate and a hazard management plan. The inspection is carried out in accordance with pre-agreed schedule between the farmers and the GAP certification agency concerned. The agency conducts both document screening and on-site evaluation. All the inspection process should follow the guidelines officially provided by NAPQMS. Results come out within 40 days and the certified agricultural products can be marked as certified. After that, a follow-up inspection is also taken by the same GAP certification agency at least once a year. NAPQMS oversees all activities of GAP certification agencies. And it also conducts follow-up checks on agricultural products in the market.

KOREAN GAP STANDARDS IN BRIEF

With the scientific support of NAAS (National Institute of Agricultural Sciences), Korean GAP standards are provided by RDA. The standards specify what farmers should do to get a GAP certificate. Current GAP standards consist of 12 categories, which contain 51 paragraphs and 80 subparagraphs. And they can be briefly summarized as follows: (the following are not official English translations)

Traceability

It should be able to trace the agricultural production process. All information related to traceability must be recorded. And the records should be kept for at least a year. If any safety problem arises, the agricultural products should be recalled.

Seeds (including seedlings)

It is desirable to use reliable seeds guaranteed under the Seed Industry Act. If farmers produce their own seeds, they must record all information related to traceability. It is recommended that seeds be kept out of contact with various potential contaminants.

Soil

The soil should not be contaminated by heavy metals and hazardous materials. Farming in contaminated soil is strictly prohibited. In order to reduce soil pests, it is recommended to apply crop rotation, resistant varieties, soil solarization and so on. To use pesticides to control soil pests, farmers have to follow guidelines for the safe use of pesticides. It is recommended to prevent soil erosion by applying sod culture etc.

Fertilizer

It is desirable to use reliable fertilizer guaranteed under the Fertilizer Control Act. If farmers want to produce their own fertilizer, they must use materials permitted by law. Fertilizers should be kept out of contact with agricultural products, seeds, packing materials, pesticides and so on. To prevent excessive use of fertilizers, farmers need to draw up fertilizer utilization plans based on scientific evidence. It is desirable to record all information related to fertilizer application.

Water

Only clean and safe water should be used for growing agricultural products. It is desirable to record all information related to water utilization and water quality analysis.

Pest management and pesticides

All pesticide applications must be in accordance with relevant laws. Farmers should follow guidelines for the safe use of pesticides. All information related to pesticide application must be kept for at least one year after the shipment of agricultural products. It is strictly prohibited to distribute agricultural products exceeding the standard of pesticide residue. To prevent excessive use of pesticides, it is desirable to implement IPM (Integrated Pest Management). All pesticides should be stored safely and any access to pesticides should be restricted. And the leftover pesticide should be thoroughly managed. It is necessary to prepare pesticide spill and poisoning accidents.

Harvest and storage

Agricultural products should be treated hygienically. In particular, worker's personal hygiene should be checked thoroughly. To prevent contamination by chemical and biological hazards, agricultural products should be kept out of contact with any potential contaminants including wild animals, livestock and hygiene insects.

Post-harvest

In principle, it is desirable to do post-harvest management at GAP facilities. Farmers and agricultural cooperatives can use their own facility only if it meets the essential sanitary requirements. In any case, each facility should have its own sanitary guidelines for workers.

Preventing pollution and preserving agro-ecosystem

Farm owners should prevent environmental pollution caused by farm wastes and any agricultural materials used in the farm. It is good to contribute increasing biodiversity and protecting significant habitats.

Worker's health, safety and welfare

To ensure the health and safety of workers, farm owners and managers should prevent workers from being exposed to any hazards including pesticide poisoning. A safety manual is recommended to be prepared in response to accidents that may occur. The rights of workers should be respected.

Training

Those who want to be certified are required to receive training once every two years. They have to complete the training course provided by educational facilities, which are designated by RDA and NAPQMS.

Internal audit

In the case of group certification, it is recommended to conduct internal audit at least once every two years.

GAP TECHNICAL COMMITTEE

In Korea, there are many kinds of crops that grow in various environments. The post-harvest processing is also different for each crop. Therefore, sometimes, it is very difficult to determine whether farmer's particular action conforms to GAP standards or not. Such situation is likely to trigger debate over the validly of GAP standards. To solve the problem, RDA runs the GAP Technical Committee held twice a year. The main purpose of the committee is to win the trust of stakeholders, consumers and farmers and so on. And the role of NAAS is to provide scientific information to promote reasonable discussion.

CURRENT ISSUES

PLS (Positive List System of pesticide) is the biggest concern for farmers in Korea. The PLS has been fully implemented since 1 January 2019. A particular pesticide can be used only if it is registered in that crop. In this case, the residual standard for each pesticide is set separately for each crop. Otherwise the pesticide residue should not exceed 0.01ppm. As mentioned above, the distribution of agricultural products exceeding the standard is strictly prohibited. So farmers should follow guidelines for the safe use of pesticides.

CONCLUSION

As seen above, more and more farmers are participating in the Korean GAP certification system. So, the influence of GAP is expected to extend continuously. Perhaps GAP will greatly contribute to the consumer friendly and eco-friendly development of Korean agriculture.

However, conflicts between stakeholders should be managed properly. In order to gain trust of all stakeholders, the GAP certification system should be constantly improved by reasonable social consensus and scientific decision making.

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