FY2022

Summary of the Annual Report on Food, Agriculture and Rural Areas in Japan

May 2023

MAFF

Ministry of Agriculture, Forestry and Fisheries

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FY2022 White paper on Food, Agriculture, and Rural Areas

1 Agriculture has functions of supplying food essential to people’s lives, and rural areas play a role as a foundation for sustainable development of agriculture.

2 On the other hand, Japan’s agriculture and rural areas are facing challenges such as shrinking domestic markets due to population decline, decreasing and aging of the working-age population, rising food security risks due to changes in the global food situation, and the need to address today's challenges such as climate change. Japan is now at a major turning point.

3 For this reason, while strengthening food security by increasing the production of import-dependent wheat, soybeans, and feed crops, MAFF is promoting smart agriculture and working on export promotion of agricultural, forestry, and fishery products and foods to capture the global food market. MAFF aims to make agriculture an attractive industry where young people are motivated and proud to play an active role so that the next generation can take over the agricultural industry.

4 The FY2022 White Paper on Food, Agriculture, and Rural Areas describes trends in food, agriculture, and rural areas in a concise and simple manner, together with a special topic on strengthening food security and six topics, so that the public will further deepen their interest and understanding of food, agriculture, and rural areas in our country.

In doing so, in addition to analyzing and explaining statistical data, introducing case studies of initiatives being developed in various parts of the country, attaching as many photographs as possible to make the content easy to understand. QR codes will also be helpful to link with the MAFF website.

Plane view of the contents in FY2022 White Paper on Food, Agriculture, and Rural Areas

(Arrangement of the relationship with the composition of measures based on the Basic Plan for Food, Agriculture, and Rural Areas)

Topic 1
Exports of agricultural, forestry, and fishery products and food reached record high

○Strategic exploration of the global markets (Chapter 1, Section 5)

○Impact of COVID-19 and food consumption trends (Chapter 1, Section 3)

○Status of International negotiations (Chapter 1, Section 9)

○Establishing comprehensive food security in anticipation of food supply risks (Chapter 1, Section 2)

Topic 4
Measures against highly pathogenic avian influenza (HPAI) and classical swine fever (CSF)

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○Exploration of demand through the creation of new value (Chapter 1, Section 4)

Topic 2
"The Strategy for Sustainable Food Systems, MIDORI" in motion

○Promotion of the Strategy for Sustainable Food Systems, MIDORI (Chapter 2, Section 9)

○Promotion of environmental policy, including responses to climate change (Chapter 2, Section 10)

○Development of agricultural production bases that contribute to the transformation of agriculture into a growth industry and strengthening national resilience (Chapter 2, Section 6)

○Promotion of innovations at agricultural production/distribution sites by utilizing ICT, etc. (Chapter 2, Section 8)

Securing Stable Food Supplies

Development of a national movement

○Food self-sufficiency ratio and food self-sufficiency potential indicator (Chapter 1, Section 1)

Special Topics Toward Strengthening Food Security

Sustainable Development of Agriculture

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Restoration/Reconstruction from Natural Disasters, Disaster Prevention/Reduction, and Strengthening National Resilience

○Restoration/ Reconstruction from the Great East Japan Earthquake (Chapter 4, Section 1)

○Restoration/ Reconstruction from large-scale natural disasters (Chapter 4, Section 2)

○Disaster prevention/reduction, strengthening national resilience and preparedness for large-scale natural disasters (Chapter 4, Section 3)

Topic 6
Measures to ensure access to food for those in need and who feel difficulty in shopping

○Trends of rural population and promotion of rural migration and exchange (Chapter 3, Section 1)

○Promotion of agriculture in hilly and mountainous areas and encouragement of urban agriculture (Chapter 3, Section 3)

○Securing income and employment opportunities in rural areas (Chapter 3 Section 4)

○Improvement of conditions necessary for people to continue to live in rural areas (Chapter 3 Section 5)

Topic 3
Promoting transformation to a growth industry through smart agriculture and Digital Transformation (DX) of agriculture

○Trends of agricultural production (Chapter 2 Section 1)

○Development and securing of business farmers for realizing a strong and sustainable agricultural structure (Chapter 2 Section 2)

○Active participation of diverse human resources and entities that support agricultural sites (Chapter 2 Section 3)

○Agriculture-related organizations supporting agriculture (Chapter 2 Section 11)

○Accumulation and concentration of agricultural land for business farmers, and securing farmland (Chapter 2 Section 4)

○Promotion of initiatives toward stabilization of agricultural management (Chapter 2 Section 5)

○Strengthening of the production bases in response to changes in the demand structure, etc., and streamlining of the distribution/processing structure (Chapter 2, Section 7)

Topic 5
Promoting initiatives based on the Vision for a Digital Garden City Nation

○Promotion of initiatives based on the Vision for a Digital Garden City Nation (Chapter 3 Section 2)

○Promotion of wildlife damage countermeasures and utilization of gibier (Chapter 3 Section 6)

○Promotion of public understanding of multifunctional roles of rural areas (Chapter 3 Section 8)

○Creation of new movements and vitality to support rural areas (Chapter 3, Section 7)

Special Topic

Toward Strengthening Food Security

Our country, which depends on overseas for much of its food supply, has reached a turning point for the future stable food supply due to rising food security risks associated with increased global food demand and destabilization of the international situation.

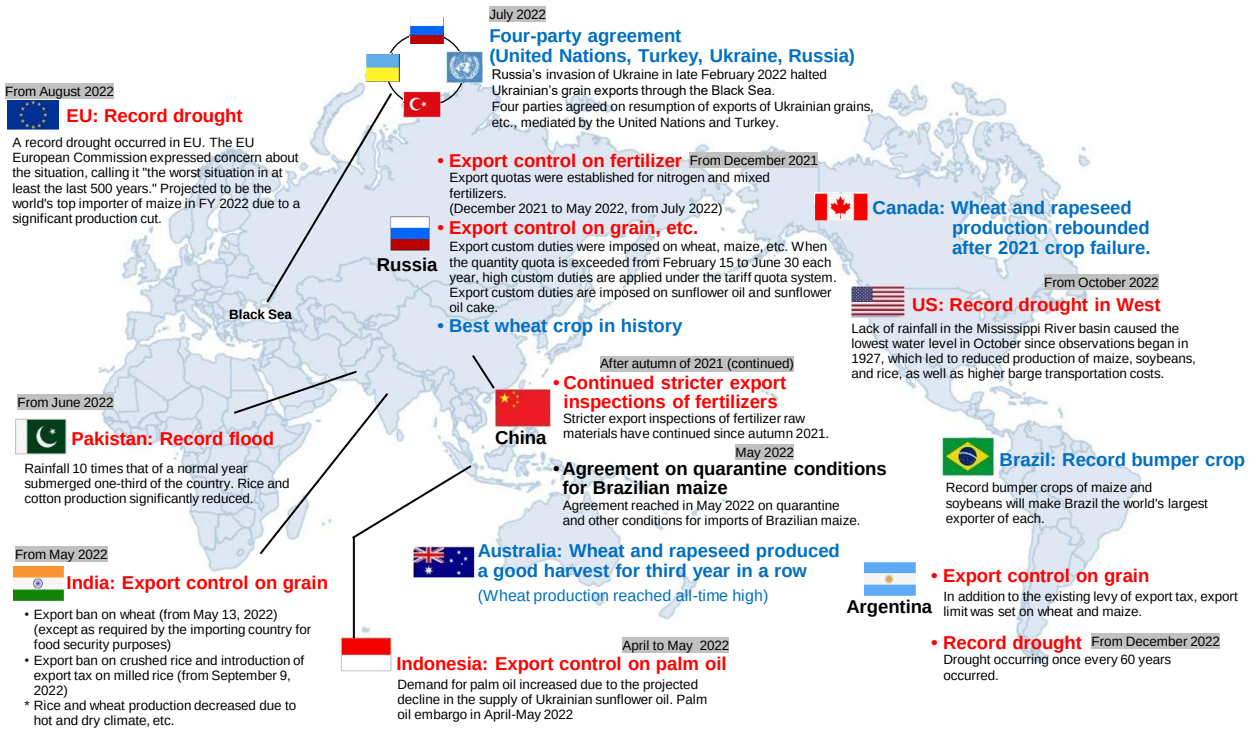
This special topic, therefore, describes the impact of rising prices of foodstuffs and agricultural production materials, and measure to deal with them, as well as the “The Policy Outline to Strengthen Food Security” decided in December 2022.

Increased food security risks due to changes in the global food situation

- While food demand is expected to increase due to global population growth and economic growth in emerging countries, there are concerns that food supply could become tight over the medium- to long-term, as changes in areas where agricultural products can be produced due to climate change and large-scale crop failures due to abnormal weather may affect food supply.

- In addition, due to Russia's invasion of Ukraine in February 2022, the stable supply of grains and agricultural production materials has been threatened by price hikes and stagnation of exports from raw material suppliers. The domestic and international situation surrounding our country’s food supply is changing by the minute, increasing food security risks.

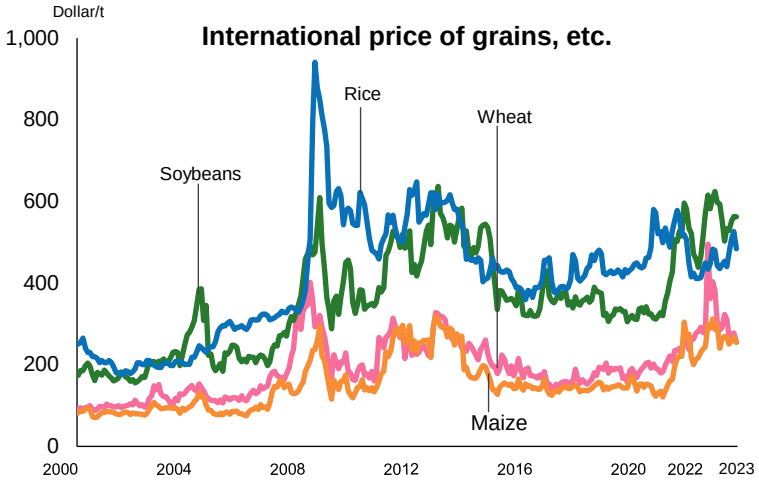
Major developments in other countries in 2022



Source: Prepared by MAFF

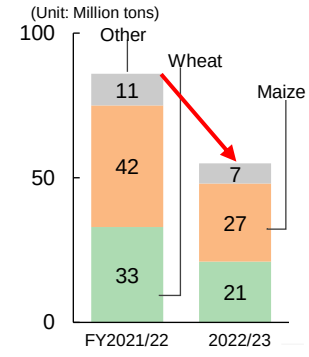
International prices of grains and other commodities, which had been on an upward trend in recent years, have risen sharply since 2021

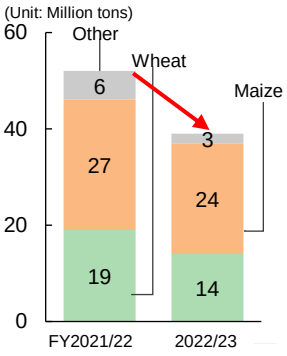
- International price of grains and other commodities have been on an upward trend in recent years due to rising demand from emerging countries for livestock products, increased demand for energy such as biofuels, and the effects of climate change.
- After 2021, international wheat prices reached a record high of $523.7/t in March 2022 due to poor harvests in the U.S. and Canada, growing demand for feed in China, combined with Russia's invasion of Ukraine since 2021. Since January 2023, the price level has generally dropped to the level before the invasion of Ukraine, but remained high.
- International prices of maize and soybeans remain near record highs



<Focus> Ukraine's grain production is expected to fall sharply

- According to the published data from USDA, Ukraine's wheat production volume is expected to decline 36% to 21 million tons in FY 2022/23 due to the impact of the Russia's invasion. Exports are forecast at 13.5 million tons, down 28% from the previous year. In addition, the forecast for maize production volume in 2022/23 is 27 million tons, down 36% from the previous year.
- According to a forecast by the Ministry of Agrarian Policy and Food of Ukraine, the country's crop acreage for grains and pulses in 2023/24 is expected to be 10.24 million ha, a decrease of 1.41 million ha from 2022/23.





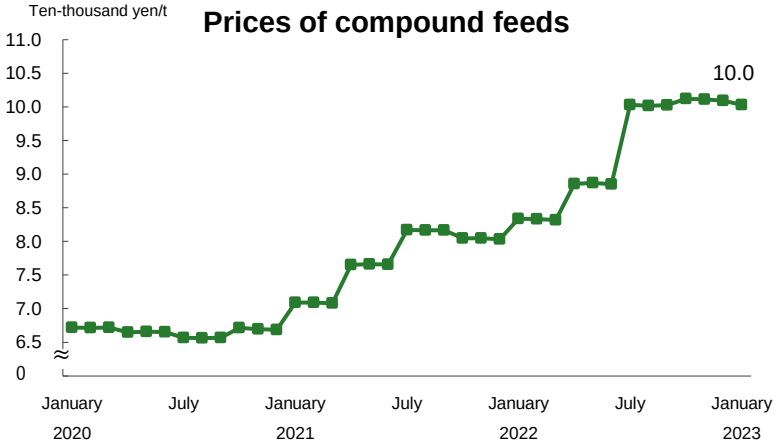
Source: Compiled by MAFF based on the data of USDA, "PS & D" (March 2023)

Prices of compound feeds and fertilizer raw materials have risen significantly since 2021

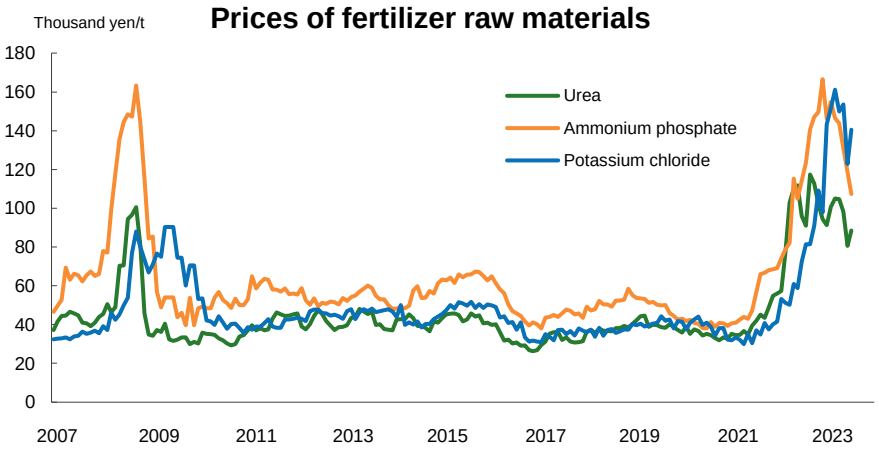
- Approximately 50% of the raw material for compound feed is maize and about 10% is soybean oil cake, and Japan imports most of the feed grains. The ex-factory price of compound feeds increased by 20% to 100,000 yen/t in January 2023 compared to 83,000 yen/t in the same month last year.

- Import prices of fertilizer raw materials have been on an upward trend since 2021. Due to factors such as Russia's invasion of Ukraine, the prices have been fluctuating widely, reaching a record high at one point.
- With reference to measures taken at the time of the price hike in 2008, it is necessary to respond to the impact of changes in the international situation, such as measures to support the fertilizer costs for farmers who are making efforts to reduce the use of chemical fertilizers, and measures for a stable supply of fertilizers, such as stockpile of fertilizer raw materials and expanding the use of fertilizers from domestic resources.

- Increased global demand for grains, rising prices for energy and fertilizer raw materials, and the impact of foreign exchange rates combined to drive up the prices of agricultural production materials in Japan. In February 2023, price of fertilizer increased by 40% and feed increased by 20%, compared to the same month last year.
- In addition to rising global food prices, the impact of rising oil prices and foreign exchange rates, combined with various factors at each stage of the global supply chain, including global shortage of containers, rising ocean freight, and the Russia's invasion of Ukraine, has driven up the import prices of grains, etc.
- Consumer prices in Japan remain on an upward trend.



Source: Compiled by MAFF based on the data of "Monthly Feed Statistics" by Public Interest Incorporated Association for Supply Stabilization of Compound Feeds
Note: Price of compound feeds is the weighted average price of all livestock species ex works.

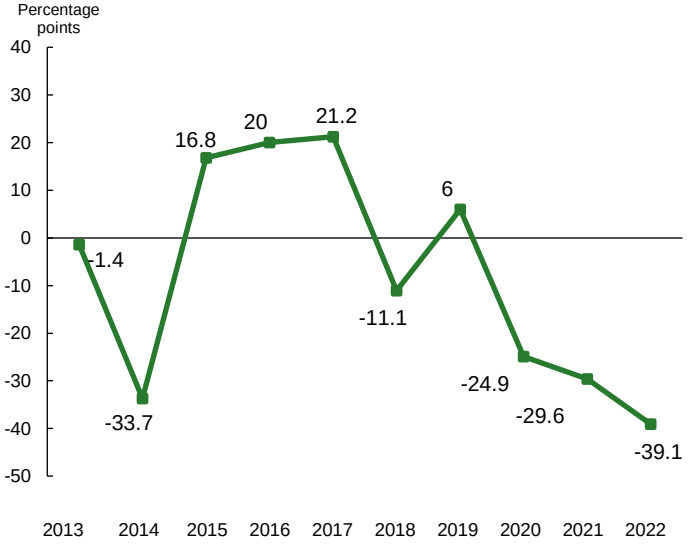


Source: Compiled by MAFF based on the data of the Ministry of Finance's "Trade Statistics"
Note: Prices for the previous month are indicated for months with imports of 5,000 tons or less per month.

<Focus> DI for agricultural business conditions in 2022 is the lowest since the survey began

- According to the survey conducted by Japan Finance Corporation (hereinafter referred to as the "JFC") in January 2023, the DI for agricultural business conditions for the entire agricultural sector fell 9.5 points from the previous year to minus 39.1 points in 2022, the lowest since the survey began in 1996.
- According to the survey released by Tokyo Shoko Research, Ltd. in January 2023, 75 corporate bankruptcies were recorded in the agricultural sector in 2022, the second highest level in the past 10 years.
- In addition to soaring international prices of production materials such as imported raw materials, fertilizers, feed, and fuel oil, the impact of reduced demand for eating-out and inbound travel due to the spread of COVID-19, and the outbreaks of HPAI, classical swine fever (CSF), and other livestock infectious diseases, suggest that agricultural management is in a difficult situation.

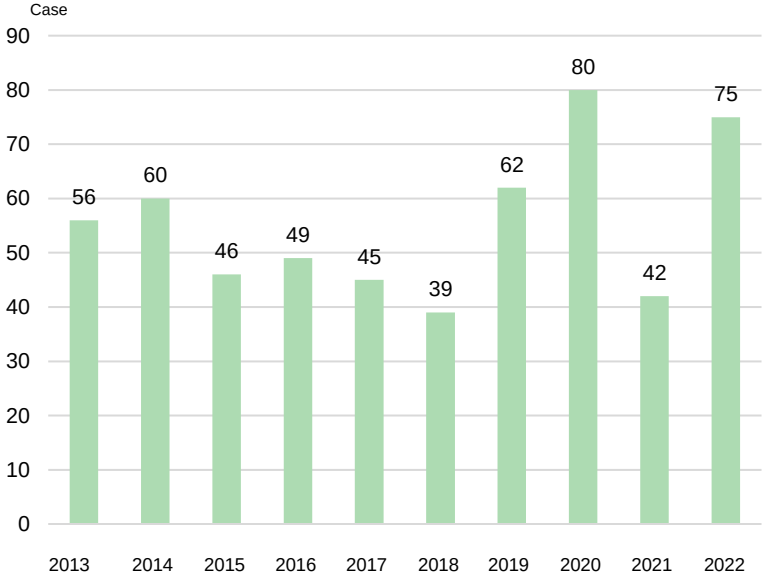
DI for Agricultural Business Conditions



Source: Compiled by MAFF based on the data of Japan Finance Corporation, "Survey of Agricultural Business Conditions" (survey conducted in January each year from 2014 to 2023)

Note: The DI for agricultural business conditions is the composition ratio of business farmers who answered that agricultural management "has improved or will improve" minus the composition ration who answered it "has worsened or will worsen."

Number of corporate bankruptcies in the agricultural sector



Source: Compiled by MAFF based on the data of Tokyo Shoko Research, Ltd., "2022 (January-December) Survey on 'Agricultural Bankruptcy Trends' " (published in January 2023)

The value of agricultural imports in 2022 increased by 31.2% from the previous year. Meanwhile, grain import volume increased slightly. Beef and fruit import volume declined

- In 2022, the value of agricultural imports increased by 31.2% from the previous year to about 9.2 trillion yen, reflecting higher unit prices, especially for food and feed grains, due in part to the impact of exchange rates, while the volume of imports increased slightly.
- On the other hand, beef and fruit import volume declined by 4.2% and 7.5%, respectively, from the previous year, amid rising unit import prices. As the increase in the unit price of imported agricultural products can be an opportunity to expand demand for domestic agricultural products, it is important to increase the supply of domestic agricultural products.

Year-on-year change in Import volume and value of agricultural products (2022)

Item name		Import value	Year-on-year percentage change (%)
Agricultural products		9,240.2 billion yen	31.2
	Farm products	6,760.7 billion yen	33.2
	Livestock products	2,476.9 billion yen	26.3

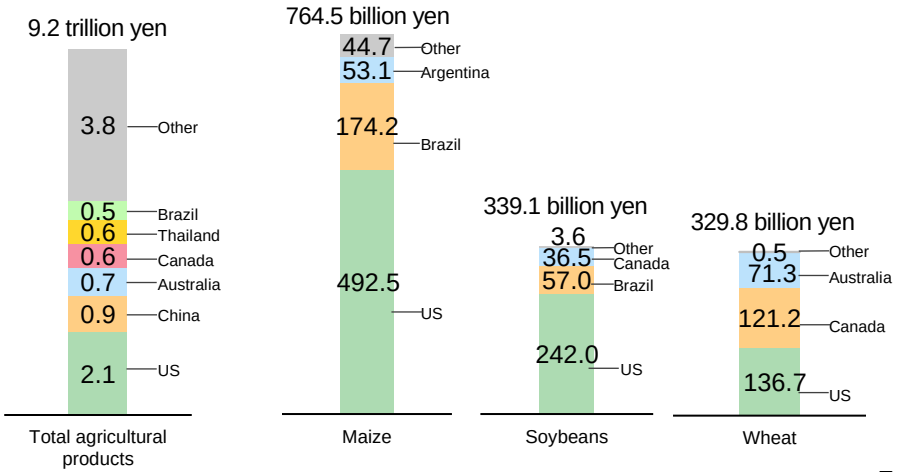
Source: Compiled by MAFF based on the data of the Ministry of Finance's “Trade Statistics”
Note: Fruits refer to “fruits and nuts (fresh, dried)” in "trade statistics."

Item name	Import volume (10,000 tons)	Import value	Year-on-year percentage change (%)		
			import volume	Import value	import unit price
Maize	1,527	764.5 billion yen	0.2	47.0	46.7
Soybeans	350	339.1 billion yen	7.1	48.9	39.0
Wheat	535	329.8 billion yen	4.3	68.4	61.5
Beef	56	492.5 billion yen	-4.2	20.8	26.0
Fruits	177	384.6 billion yen	-7.5	7.4	16.1

Japan‘s main agricultural import structure depends on a small number of specific countries

- The top six importing countries account for about 60% of Japan’s agricultural imports.
- Maize, soybeans, wheat, and beef accounted for 80 to 90% of the total in the top two countries. Wheat is 99.8% dependent on the top three countries, the U.S., Canada, and Australia.
- Pork and fruit are about 50% dependent on the top two countries.
- Japan’s import structure for major agricultural products is highly dependent on a small number of specific countries. It will therefore be important to work toward increasing domestic agricultural production and stabilizing and diversifying imports through the maintenance and strengthening of good relations with the countries from which agricultural products are imported.

Import volume of agricultural products by country (2022)



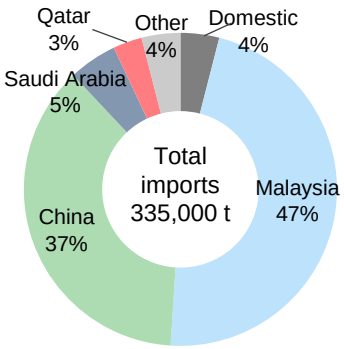
Source: Compiled by MAFF based on the data of the Ministry of Finance's “Trade Statistics”

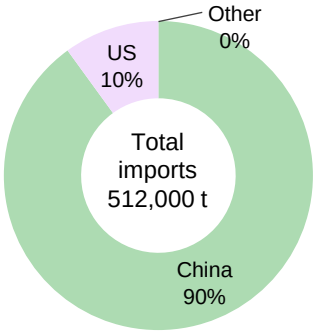
Japan's fertilizer raw materials are also largely dependent on imports from a small number of countries

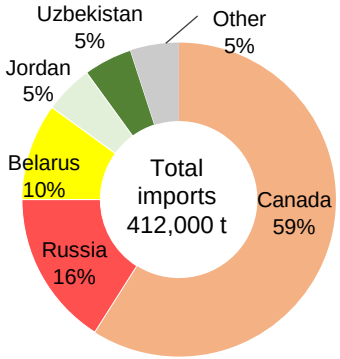
- Japan relies on imports for most of its chemical fertilizer raw materials. While resources for main fertilizer raw materials are unevenly distributed worldwide, almost all of ammonium phosphate and potassium chloride, and 95% of urea are imported from a small number of countries. Since the imports are susceptible to export restrictions and international prices on the part of exporting countries, it is necessary to stabilize and diversify imports and promote the exchange of imported raw materials for domestic resources.
- Since the autumn of 2021, China's stricter export inspections of fertilizer raw materials and Russia's invasion of Ukraine have caused Japan's imports of fertilizer raw materials to stagnate. Meanwhile, there has a greater proportion of ammonium phosphate imported from Morocco, showing a move to procure from alternative countries.

Japan's source of fertilizer raw materials imports

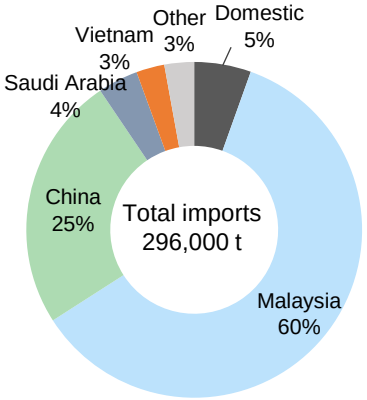
2020 Fertilizer year



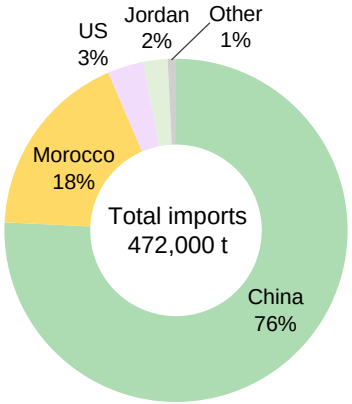




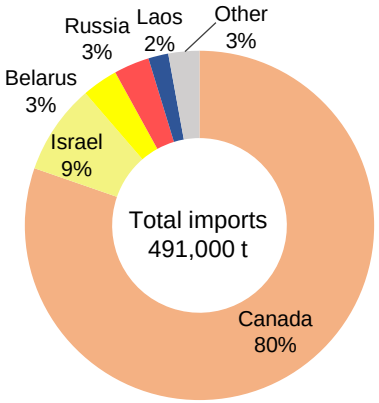
2021 Fertilizer year



Urea



Ammonium phosphate



Potassium chloride

Source: Compiled by MAFF based on the data of the Ministry of Finance's "Trade Statistics" and reports from fertilizer-related organizations
Notes: 1) The fertilizer year is from July of the relevant year to June of the following year.
2) Total imports do not include domestic products.

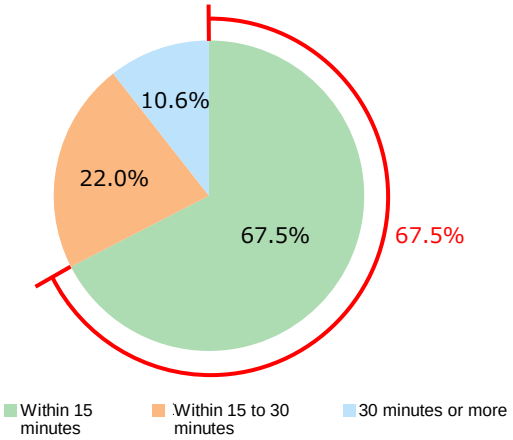
Need to address challenges to ensure food access

- Addressing “The issue of Food Access" is an important issue in our country, where consumers are not able to obtain the foods that they need to lead healthy lives. Initiatives are needed to ensure smooth food access in collaboration with relevant ministries and agencies.

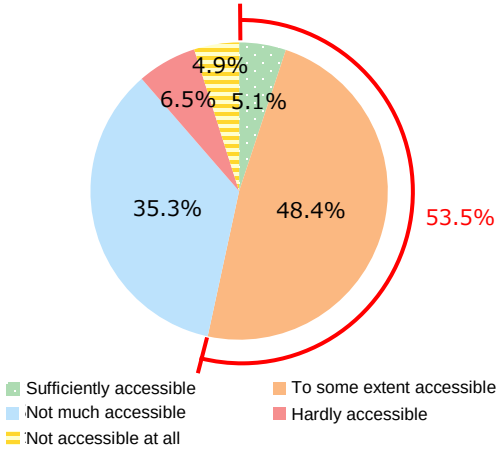
<Focus> A certain number of people do not have sufficient access to food stores, etc.

- According to a survey conducted by JFC in January 2023, 67.5% of respondents answered that they could access a grocery store within 15 minutes by public transportation or on foot, while 32.6% said they could not access one within 15 minutes.
- The survey also found that 53.5% of respondents said they could afford to buy food and drink for a healthy diet, while 46.7% said they were unable to do so. These findings suggest that access to food at the household level is a challenge in Japan even in normal times.

Accessibility to grocery stores



Affordable food and beverage purchases



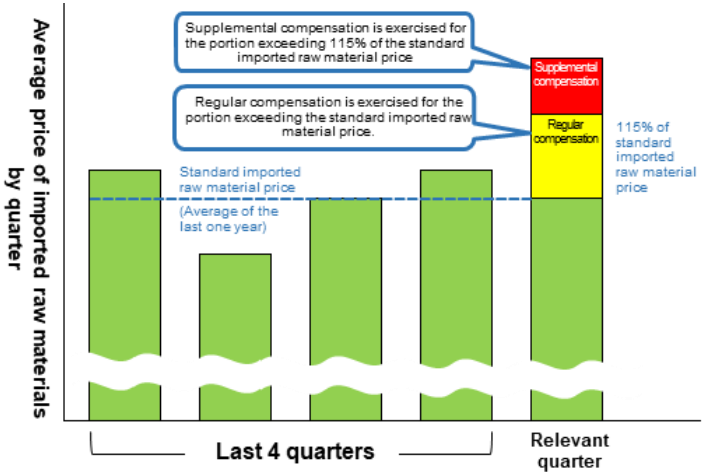
Source: Japan Finance Corporation, “Survey on Consumer Trends (January 2023)”
Note: The sum of "sufficiently accessible" and "to some extent accessible" is defined as "accessible."

- According to the Food Security Report published by the UK in 2021, at least 84% of people in England could access a grocery store within 15 minutes by public transportation or walking in 2019.
- In addition, 92% of UK households in FY 2019/20 answered that they felt they had adequate access to healthy and nutritious food at reasonable prices available and that they were assured of food for their households.
- Although it is not possible to compare the situation in Japan with that in the UK, which has different socioeconomic systems and other conditions, it is necessary for our country to take steps to ensure food access.

Implementing emergency measures in response to rising feed prices

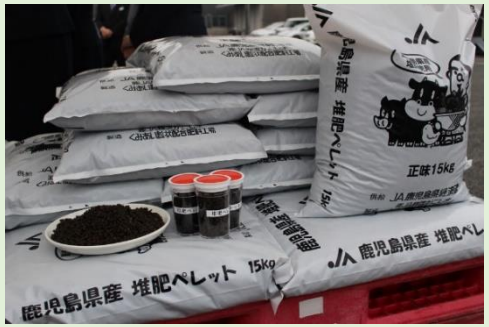
- Feed cost accounted for about 30 to 60% of operating costs in 2021 for livestock farming in Japan.
  - To mitigate the effect of feed price increase on livestock farming, compensation is provided to livestock farmers from the regular and supplemental compensation funds under the compound feed price stabilization system.
- Implementing emergency measures using a contingency fund and supplementary budgets.
  - Providing additional financial resources for the supplemental compensation fund and exceptionally lowering the criteria for triggering the supplemental compensation fund.
  - Taking measures such as providing compensation to livestock farmers who are working to reduce production costs and improve feed self-sufficiency ratio.
- While these emergency measures are making progress in mitigating the impact on livestock farming that are affected by the sharp rise in feed prices, the challenge is to steadily shift the structure that is overly dependent on imports.
- Strengthening support for cultivation and livestock farming collaboration to expand use of domestic feed.

Compound feed price stabilization system



Source: Prepared by MAFF

Case of cultivation and livestock farming collaboration



The Miyagi Prefectural Headquarters of the National Federation of Agricultural Cooperative Associations (ZEN-NOH) and the Kagoshima Prefectural Federation of Economic Agricultural Co-operative Associations have started a wide-area marketing demonstration test to mutually distribute “compost pellets” which are made by molding compost into granules, and “rice straw.”

Source: Miyagi Prefecture Headquarters of the National Federation of Agricultural Cooperative Associations, Kagoshima Prefectural Federation of Economic Agricultural Co-operative Associations

Implementing emergency measures in response to unstable procurement and soaring prices of fertilizer raw materials

- Fertilizer costs account for about 4 to 18% of operating costs in 2021 for agricultural management in Japan.
- Prices of fertilizer raw materials have soared due to unstable procurement in the context of stricter export inspections in China, a major import source, and Russia's invasion of Ukraine.
- Implementation of measures to cope with unstable procurement and price hikes of fertilizer raw materials by utilizing reserve funds and supplementary budgets.
  - Expanded support for efforts to shift from conventional fertilizer application systems to fertilizer cost-reduction systems.
  - Urgent support for additional costs involved in increased costs for procurement from alternative countries, in conjunction with intergovernmental requests.
  - Taking new measures to support farmers who work to reduce the use of chemical fertilizers by covering 70% of the increase in fertilizer and manure costs.
  - Designating fertilizer as a specified critical material under the Economic Security Promotion Act and establishing a fund to support the development of stockpiling and storage facilities for fertilizer raw materials.
  - In order to promote the use of fertilizer such as compost and sewage sludge resources for domestic production of fertilizers, establishing a mechanism to support the collaborative efforts of livestock farm households, sewerage operators, fertilizer manufacturers, crop cultivation farm households, as well as facility development for this purpose.

Develop and market low-cost fertilizer using compost (Kagoshima Prefecture)

Source: Kagoshima Prefectural Federation of Economic Agricultural Cooperative Associations

Develop and market low-cost compost-containing granular compound fertilizers, mixed fertilizer (Miyazaki Prefecture)

Source: Miyazaki Prefectural Federation of Economic Agricultural Cooperative Associations

- While these measures are being taken to mitigate the impact of the current steep rise in fertilizer prices and to ensure a stable supply of fertilizer, the challenge is to stabilize and diversify imports as well as to change the structure of excessive dependence on imports.

In response to rising fuel prices, implementing support measures for facility horticulture farm households

- Fuel costs accounted for about 20 to 30% of operating costs in 2021 for facility horticulture management in Japan.
- As for fuel, crude oil prices rose due to the global recovery in demand and Russia's invasion of Ukraine.
- As a countermeasure against rising fuel prices, MAFF has strengthened the safety net functions for the production areas that are systematically working on conserving energy, and expanded the support framework for the power-up project on production base in the production areas, which supports the introduction of energy-saving equipment.

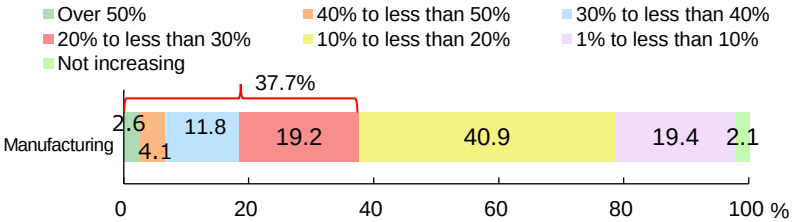
Heat pump heated by electricity (Chiba Prefecture)

Source: Chiba City, Chiba Prefecture

Implementing emergency measures in response to rising prices of food raw materials

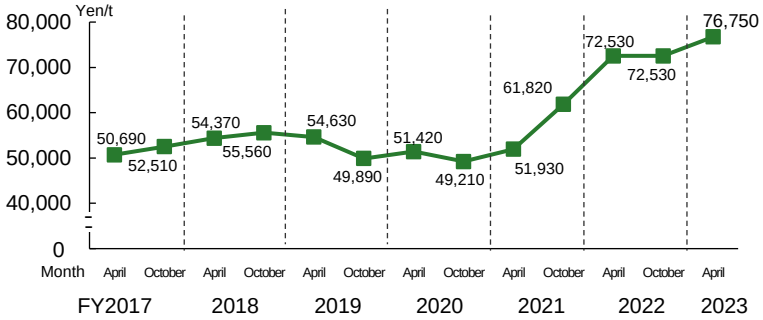
- According to the survey conducted in January 2023, 20 to 38% of food companies answered that their costs increased by 20% or more due to rising raw material prices.
- The government resale price for imported wheat is revised twice a year, in April and October. In the fiscal year ending October 2022, as an emergency measure to mitigate the impact of sharp fluctuations in the purchase price of wheat, the calculation period was extended to one year to equalize the price, effectively keeping the price unchanged at 72,530 yen/t.
- In the fiscal year ending April 2023, the policy for domestic production of wheat and the burden on consumers were comprehensively assessed, and as a measure to mitigate radical changes, the price increase was controlled to a level which reflects the buying price for the most recent 6 months, excluding the period affected by the sharp increase immediately after Russia's invasion of Ukraine, revising the price to 76,750 yen/t.
- Urgent support has been provided for initiatives such as switching raw materials to domestic wheat, rice flour, or other materials, shifting to higher-value-added products to meet the cost pass-through, and controlling raw material costs by upgrading production methods.

Percentage increase in costs due to rising raw material prices in food companies



Source: Compiled by MAFF based on the data of Japan Finance Corporation, "Survey on Food Industry Trends (January 2023)"

Government resale price of imported wheat



Source: Prepared by MAFF

Note: Government resale price (weighted average of five descriptions, including tax).

Providing support to strengthen the stable supply of wheat, soybeans, and other products that are highly dependent on imports

- In order to urgently strengthen the stable supply system for wheat, which is highly dependent on imports, the aggregation of cropping and the introduction of farming techniques and machinery have been supported. On the distribution side, a stable supply system, including temporary storage, has been established.
- For promoting domestic production of wheat, soybeans, feed crops, and vegetables for process/commercial use, production of wheat, soybeans, etc. has been expanded, and conversion of paddy fields into upland fields, etc., have been promoted.

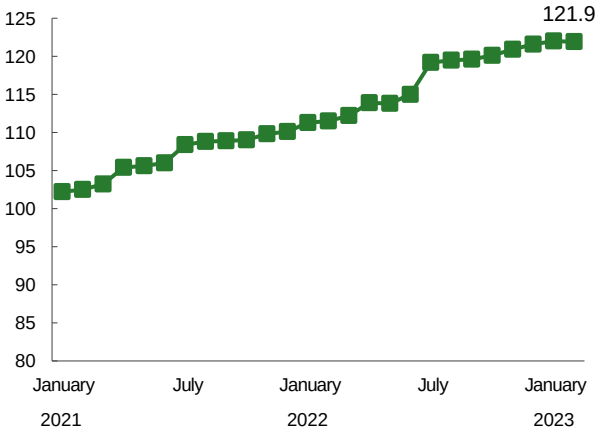
Efficiently increase wheat production by aggregation of diverted paddy fields (Hokkaido)

Source: Farm Shirakura

Price pass-through to agricultural and food products due to rising costs is an issue

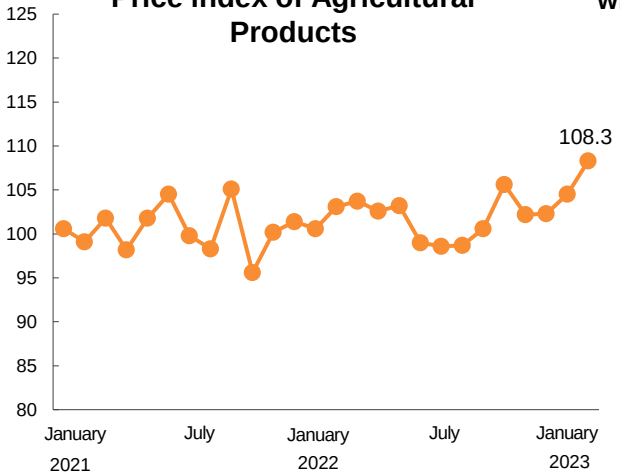
- The rate of increase in the price index of agricultural products remained moderate compared to the rate of increase in the price index of materials for agricultural production.
- In order to stabilize agricultural management and ensure a stable supply of agricultural products in the future, it is important to reflect rising production costs in appropriate prices and create an environment where management can continue is important.
- The prices of agricultural products are basically determined according to the supply and demand situation and quality of each item. It is in a difficult situation to appropriately pass on the rising costs of agricultural production materials to transaction prices, due to various factors, such as severe price competition at the distribution stage.
- Soaring prices of production materials are directly linked to increased management costs for producers, etc., and if it is not properly passed on to the sales price of finished products, the basis for stable food supply may be undermined.
- In a survey of agricultural workers conducted between November and December 2022, 13.5% of respondents said they passed on the cost increase to sales prices. A survey of small and medium-sized enterprises (SMEs) conducted between September and November 2022 found that the ratio of price pass-through to cost increases in the food manufacturing industry was 45.0%.

Price index of material for Agricultural production



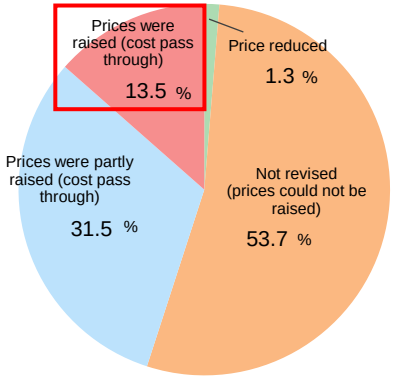
Source: MAFF, "Survey on Agricultural Price Statistics"
Notes: 1) Figures for each month of each year, with an average price of in 2020 as 100.
2) Figures for 2022 and 2023 are approximate.
3) The price index of material for agricultural production is an index of the retail prices of individual materials needed for agricultural production that are purchased by agriculture management entities.

Price index of Agricultural Products



Source: MAFF, "Survey on Agricultural Price Statistics"
Notes: 1) Figures for each month of each year, with an average price of in 2020 as 100.
2) Figures for 2022 and 2023 are approximate.
3) The price index of agricultural products is an index of the retail prices of individual agriculture products that are sold by agriculture management entities.

Implementation status of price pass-through when agricultural workers sell their produce

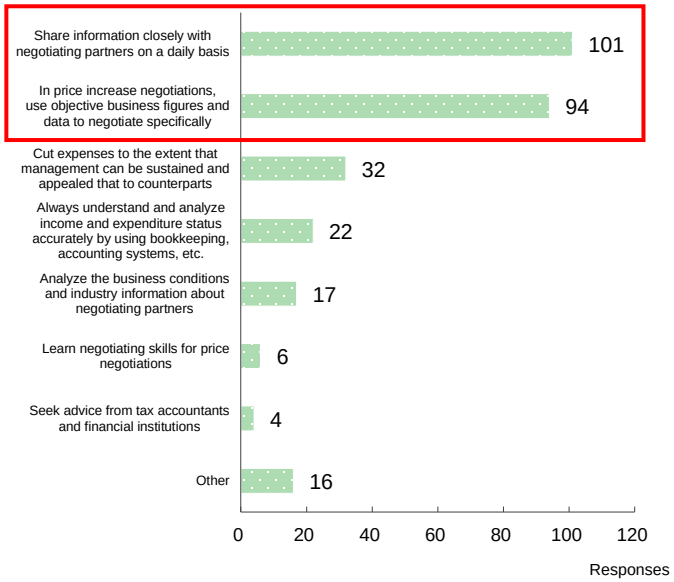


Source: Compiled by MAFF based on the data of "The second Emergency Survey on Rising Costs in Agriculture" by Japan Agricultural Corporations Association (published in December 2022)

Regarding the rising production costs of agricultural and food products, efforts to create an environment for the price pass-through have been implemented, while gaining the understanding of

- In a survey of farmers conducted from November to December 2022, with regard to their initiatives and efforts to realize price increases (fair price formation), many responded that they “share information closely with their negotiating partners on a regular basis" and "concretely negotiate in price hikes using objective business figures and data."
- In order for farmers to appropriately pass on the cost increase to the price of agricultural products, it is important to accurately understand their management, including manufacturing costs, and disclose trends in agricultural expenses to their clients in a timely manner.
- With regard to the rising production costs of agricultural and food products due to the rising prices of production materials and raw materials, initiatives to improve the environment to pass on costs in the entire food chain, including business operators, has been implemented, while gaining the understanding of consumers.

Farmers’ initiatives and efforts to raise prices



Source: Compiled by MAFF based on the data of "The second Emergency Survey on Rising Costs in Agriculture" by Japan Agricultural Corporations Association (published in December 2022)

Posters and flyers for retailers to promote understanding among consumers

<Focus> Proper business relationships between agricultural producers and business partners promoted in France

- In Japan, passing on the increased production costs of domestic agricultural and livestock products has become a challenge amid soaring prices of agricultural production materials, etc., and there is growing interest in France’s effort to promote proper business relationships between agricultural producers and their business partners.
- The French Egalim 2 Law provides: (i) mandatory written contracts between agricultural workers and the first purchaser, (ii) obligation to include in the written contract an automatic price revision method that takes into account the production costs as well as term of the contract, (iii) obligation to include in the written contract when an accredited producer organization negotiates contracts on behalf of farmers and concludes contract framework agreements (as in (ii)), (iv) publication of production cost indicators by an inter-professional organization in which representative organizations at each stage from production to retail are affiliated for each item, and (v) exclusion of agricultural raw material prices from negotiations in distribution after the first purchaser.
- Items subject to the obligation of written contracts between agricultural producers and the first trader include beef, pork, chicken, eggs, and milk and dairy products (the scope is limited based on the opinions of organizations, etc.). Direct sales to consumers, transactions in wholesale markets, etc. are exempted.

The Policy Outline to Strengthen Food Security identifies priority measures for strengthening food security and continuously implements them

- The destabilization of global food production due to climate change and the intensification of procurement competition due to the expansion of global food demand, together with the increasing tension in Ukraine, have caused the prices of imported food raw materials and production materials to rise. The supply of chemical fertilizers, which are more difficult to procure and switch than food due to the uneven distribution of producing countries, has become unstable due to export restrictions and disruptions in international logistics caused by the spread of COVID-19. Strengthening food security is the nation's most urgent and top priority.
- The government took various measures in FY 2022. Especially in view of the sharp rise in stable food supply risks in recent years, it is necessary to realize the enhancement of food security as soon as possible by continuously taking measures to strengthen food security. Therefore, in December 2022, the “Headquarters for Stable Food Supply and Strengthening Agricultural, Forestry, and Fisheries Industries” (headed by the Prime Minister) decided the "Policy Outline to Strengthen Food Security" and clarified the necessary measures and targets to be continuously taken to enhance food security.
- In September 2022, the Minister of Agriculture, Forestry and Fisheries consulted the Council for Food, Agriculture and Rural Area Policies with regard to the verification and review of the Basic Act on Food, Agriculture and Rural Areas, and active discussions has been taken place in the newly established "Verification Subcommittee on the Basic Act," including interviews with experts and verification of measures.

Headquarters for Stable Food Supply and Strengthening Agricultural, Forestry, and Fisheries Industries
Prime Minister summarizing the first meeting
Source: Website of the Prime Minister's Office

The Minister of Agriculture, Forestry and Fisheries hands over a letter of consultation to the President of the Council for Food, Agriculture and Rural Area Policies

KPIs in the Policy Framework for Strengthening Food Security

	Goals
Domestic exchange of production materials	- Reduce the use of chemical fertilizers by 20% by 2030. - Double the use of compost and sewage sludge resources and increase the use of national resources to 40% of the total amount of fertilizers used (based on phosphorus) by 2030 (2021: 25%). - Expand the area of organic farming to 63,000 ha by 2030 (2020: 25,000 ha) - 3.5% reduction and absorption of GHGs in agriculture, forestry, and fisheries by 2030. - Increase in area of feed crops production by 32% by 2030.
Conversion of imported raw materials to domestic production, expansion of production of wheat, soybeans, feed crops, etc., which are highly dependent on overseas production, etc.	- Increase production area by 2030 against 2021. Wheat (+ 9%), soybeans (+ 16%), feed crops (+ 32%), rice flour (+ 188%), etc.
Fair price formation and fostering public understanding	- Halve commercial food loss and waste against FY 2000 (2.73 million tons) by FY 2030.

Source: Prepared by MAFF

Steadily promoting a shift in the structure that is excessively dependent on imports by expanding production of items that are highly dependent on overseas, in order to strengthen food security

- As the quality of domestically produced agricultural, forestry, and fishery products such as wheat, soybeans, and rice flour continues to improve, their increased utilization is expected because of the instability in overseas procurement.
- It is important to establish a supply system required by users, in terms of accessibility in the price, lot size, and stability of quality.
- As for feed, there is a surplus of domestic production and supply capacity, mainly in roughage such as grass, pasture plants, and rice straw. Further expansion of their utilization is expected by reducing labor burden associated with roughage production by livestock farmers, cooperation between crop cultivation farm households as producers and livestock farmers as users, creating a mechanism of wide-area distribution, and providing feed for the convenience of users. Development and extension of domestic feeds such as maize for grain, as alternatives to imports, is expected.
- With regard to fertilizers, there are compost and sewage sludge resources from the livestock industry in Japan, which are expected to be effectively utilized. In addition, efforts to reduce the use of chemical fertilizers and stockpile of fertilizer raw materials that cannot be procured domestically are becoming more important.
- Revising the structure of excessive dependence on imports for both agricultural, forestry, and fishery products and agricultural production materials, promoting domestic exchange and stockpile of production materials, converting imported food materials to domestic production, and further strengthening food security will be promoted, while improving the utilization rate of cultivated land and farmland accumulation rate.
- In addition to fostering public understanding of food, agriculture, forestry, and fisheries, strengthening efforts to reduce food loss and waste, helping food banks that provide food to Kodomo Shokudo (Children's Cafeterias) and other facilities, and supporting shokuiku (food and nutrition education) through meal delivery for children, and providing co-eating spaces will be promoted. Relevant ministries and agencies, led by MAFF, are working together to implement measures for people who have difficulty in accessing food on a daily basis due to rising prices.

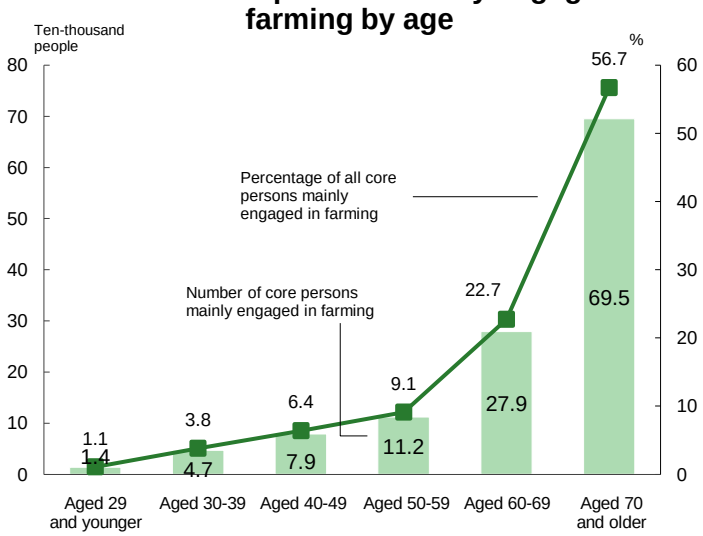
Make fertilizer from sewage sludge resources by high-temperature fermentation (Saga Prefecture)
Source: Saga City Sewage Purification Center

Food companies and agricultural producers collaborate to produce wheat (Saitama Prefecture)
Source: Maeda Foods Co., Ltd

Supporting development of business farmers who support regional agriculture as a source of employment

- With the aging of households engaged in own farming due to the declining birthrate and depopulation, the further decline in the number of farmers is expected. Weakening of the production base including labor shortages will be a serious issue.
- Looking at the age structure of the number of core persons mainly engaged in farming in 2022, those in their 50s or younger account for about 21% of the total (252,000 people). Looking ahead to the next 10 to 20 years, it is expected that the number of core persons mainly engaged in farming will decrease significantly. Thus, a small number of agriculture management entities will have to support agricultural production.
- In the field of agricultural production, model cases have been created in various parts of the country where agriculture management entities have gained the trust of local communities, gradually expanding and upgrading their management while taking over farmlands. Such agriculture management entities have also served as a source of employment and are indispensable for maintenance and development of regional agriculture and rural communities.
- As the population further declines and ages, in order for a smaller number of business farmers to maintain the production base in partnership with diverse management entities that support rural communities, it is necessary to promote the creation of model agriculture management entities and establish a system to support such entities.

Number of core persons mainly engaged in farming by age



Source: Prepared based on MAFF, "Survey on Movement of Agricultural Structure"
Note: The core persons mainly engaged in farming are those who are usually engaged in self-employed agriculture as their work.

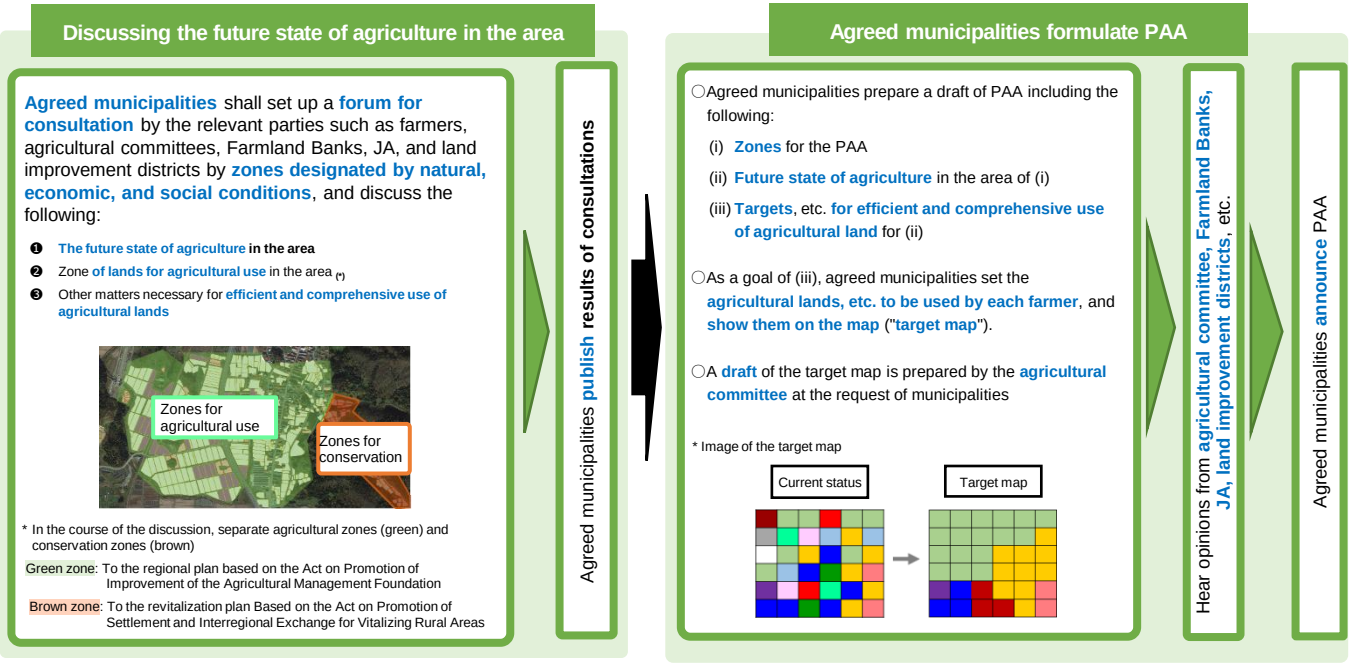
Case study of business development of community-based farm cooperatives

Wakasa no Megumi Corporation is working to establish an efficient production system and secure human resources by expanding the target area of community-based farm cooperatives, leading the regional agriculture (Fukui Prefecture)
Source: Wakasa no Megumi Corporation

Formulate a "PAA" that shows the future use of farmlands through community discussions, and promote farmland intensification utilizing Farmland Banks

- Farmlands need to be secured sustainably into the future as the foundation of food production and the basis of food security.
- Under the Law to Partially Amend the Act on Promotion of improvement of Agricultural Management Foundation enacted in May 2022, municipalities are required to formulate a "Promotion Plan for Improvement of Agricultural Management Foundation in Area (PAA)," including maps that clarify the future state of agriculture and the future use of farmlands (target maps), based on the existing "Farmers and Farmland Plan", and discussions among farmers and others.
- Based on this plan, the accumulation and concentration of agricultural land utilizing cropland intermediary management institutions (Farmland Banks) as well as the systematic conservation and appropriate use of areal farmlands will be implemented in an integrated manner.
- For food security, it is important to shift to production of wheat, soybeans, vegetables, feed, etc., which are required to increase domestic production. In formulating PAA, it is important to promote production that meets demand after considering what agricultural crops should be produced in the area.

"PAA" development process



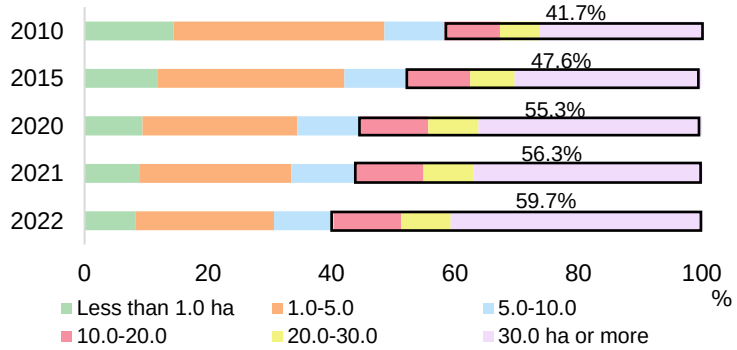
Source: Prepared by MAFF

Note: In promoting optimization activities, the agricultural committee shall define the roles of the members of the farmland utilization optimization promotion committee (hereinafter referred to as the "promotion committee members") and the members of agricultural committee, and the members of both committees will work closely together in line with their roles. - The promotion committee members shall conduct optimization activities in their responsible zones, including grasping of the intentions of farmland providers and recipients. The members of the Agriculture Committee shall understand the implementation status of the optimization activities by the promotion committee members and provide necessary support to the promotion committee members.

<Focus> Changes in agricultural structure in line with progress in accumulation and concentration of agricultural land

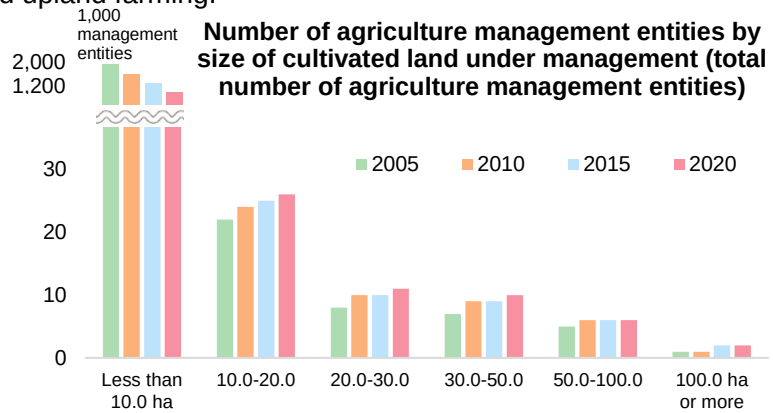
- In terms of the size of the cultivated land under management by agriculture management entities, the area managed by agriculture management entities with less than 10 ha has decreased, while the area managed by agriculture management entities with more than 10 ha has been on an increasing trend, reaching 59.7% in 2022, indicating that the size of the cultivated land under management has expanded.
- Looking at the number of the management entities by the size of the cultivated land under management, the number of management entities with less than 10 ha is on a decreasing trend, while the number of the management entities with 10 ha or more is on an increasing trend.
- As for the agricultural income per management entity by total planted area, agricultural income per management entity tends to increase as the aggregate planted area of crop increases for both paddy field and upland farming.

Area of cultivated land under management by size of cultivated land under management (total number of agriculture management entities)



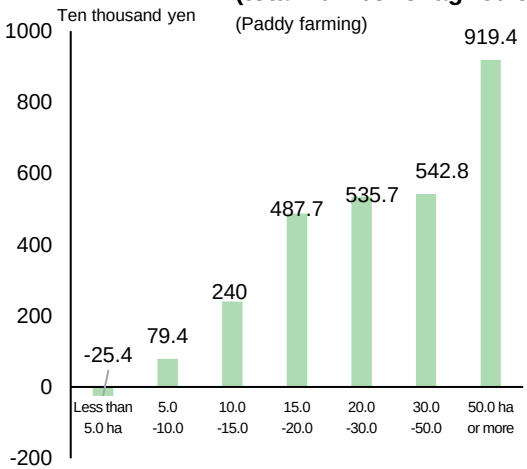
Source: Compiled based on the data of MAFF, "Census of Agriculture and Forestry" and "Survey on Movement of Agricultural Structure"

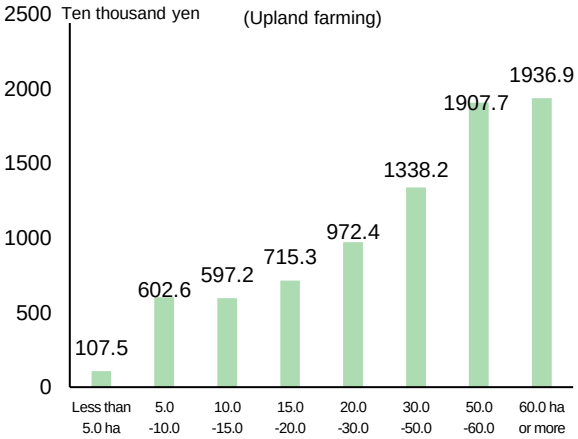
Number of agriculture management entities by size of cultivated land under management (total number of agriculture management entities)



Source: Compiled based on the data of MAFF, "Census of Agriculture and Forestry"
Notes: 1) Figures as of February 1 of each year.
2) The management entities with "no cultivated land under management" are excluded.

Agricultural income per agriculture management entity by the size of total planted area (total number of agriculture management entities, nationwide)





Source: MAFF, "Statistical Survey on Agricultural Management"
Note: Figures are for 2021.

Toward strengthening food security in the future

- Food security risks in Japan have increased due to changes in the international situation and food supply instability. On the other hand, Japan's population decline is preceding in rural areas, and the persons engaged in farming are aging significantly, weakening the production base. In addition, the domestic food market is expected to shrink rapidly due to declining and aging population, which is expected to reduce demand.

- The situation surrounding food, agriculture, and rural areas in Japan has changed significantly due to the increasing food security risks associated with changes in the global food situation. Japan is now at a turning point in maintaining and strengthening the domestic production base and ensuring a stable supply of food for the future.

- Given these circumstances, in recent years, there has been a challenge in the stable imports of food and agricultural production materials. In order to achieve a stable supply of food, it is necessary to efficiently promote the expansion of domestic production of highly overseas-dependent items such as wheat, soybeans, feed crops, vegetables for processing and commercial uses, and agricultural production materials, as well as to work on stabilizing imports and making effective use of stockpiles.

- It is also important for each citizen to establish food security. With the decline in the ability to deliver food, it is important to promote efforts to improve food accessibility for all citizens to have a healthy dietary pattern. In addition, it is essential to gain the understanding of consumers in order to build a food system for fair price formation, in conjunction with efforts by business operators at each stage of the food chain and business management including fair cost monitoring by farmers, etc.

- Moreover, with the expected significant decline in the number of persons engaged in farming, it will be necessary to take on the domestic food supply with considerably fewer agriculture management entities than today . Therefore, it is necessary to play a role in providing food to the people through accumulation and concentration of agricultural land, strengthening the foundation of agricultural management, smart agriculture, and introduction of new varieties, etc., while at the same time developing stable agricultural management and improving productivity.

- In addition, while responding to the growing international debate on climate change and sustainability, it is necessary to shift to an agricultural and food industry that contributes more to reducing environmental impact so that food can be supplied stably and sustainably in the future.

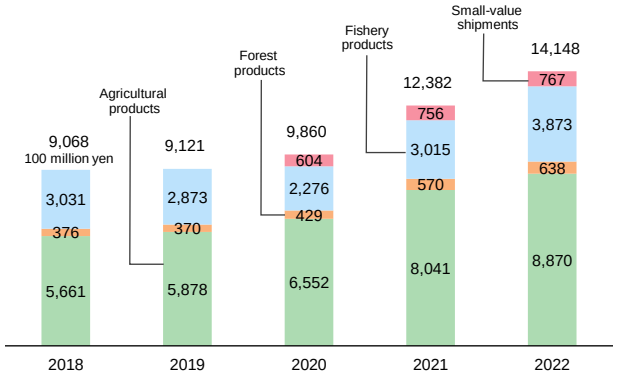
- Based on this, in order to strengthen food security in the future, it is necessary to consider how to respond to unforeseen situations and accurately identify and cope with risks associated with stable food supply from normal times. It is also essential to transform Japan's agriculture and food industry into a risk-resilient structure, steadily promote measures to strengthen food security, and take all possible measures to ensure a stable food supply.

Topic 1 Exports of agricultural, forestry, and fishery products and food reached record high

Exports of agricultural, forestry, and fishery products and food in 2022 reached a new record high of 1,414.8 billion yen, up 14.3% from the previous year

- Export values of agricultural, forestry, and fishery products and food in 2022 increased by 14.3% from the previous year to a record high of 1,414.8 billion yen, due to a recovery in demand for eating-out as well as the impact of foreign exchange rate. Agricultural product values account for 887 billion yen, including non-food items such as flowers (9.1 billion yen).
- In some cases, exports have led to higher income for producers, such as sales at unit prices higher than those for domestic shipments.
- As the domestic food market is shrinking, expanding exports of agricultural, forestry, and fishery products and food is essential for maintaining and expanding the domestic production base, by taking in the global food market as a shipping destination, which is expected to expand significantly in the future.

Export value of agricultural, forestry, and fishery products and food



Source: Compiled by MAFF based on the data of the Ministry of Finance's "Trade Statistics"

Case study: Unit prices are higher for exports

Iwate Chuo Agricultural Co-operatives (Iwate Prefecture)
-Exporting apples to the U.S,, Canada, Vietnam, Thailand, Hong Kong, Taiwan, and other countries and regions. Export value in FY 2022 was 30.28 million yen. -The average unit price for farmers who sort export products in the same year was 302 yen/kg, a difference of 107 yen/kg from the average unit price of 195 yen/kg for farmers who sort products for general use.

Source: Prepared by MAFF

Promoting efforts to expand exports to achieve the target values of 2 trillion yen by 2025 and 5 trillion yen by 2030

- The export strategy was revised in May and December 2022 in light of the revision to the Export Promotion Act to achieve the target values of 2 trillion yen by 2025 and 5 trillion yen by 2030.
- To achieve the targets, all-Japan export promotion with Authorized Export Promotion Organizations at the core, overseas local support through export support platforms, formation of the model production areas for large-lot exports, and protection and utilization of intellectual properties will be strongly promoted.
- In addition to promoting initiatives to make the most of Japan's strengths, the government will support business operators that take on the challenge of exporting based on a market-in approach, and work together to overcome barriers to exporting.

Case study: Wagyu export promotion

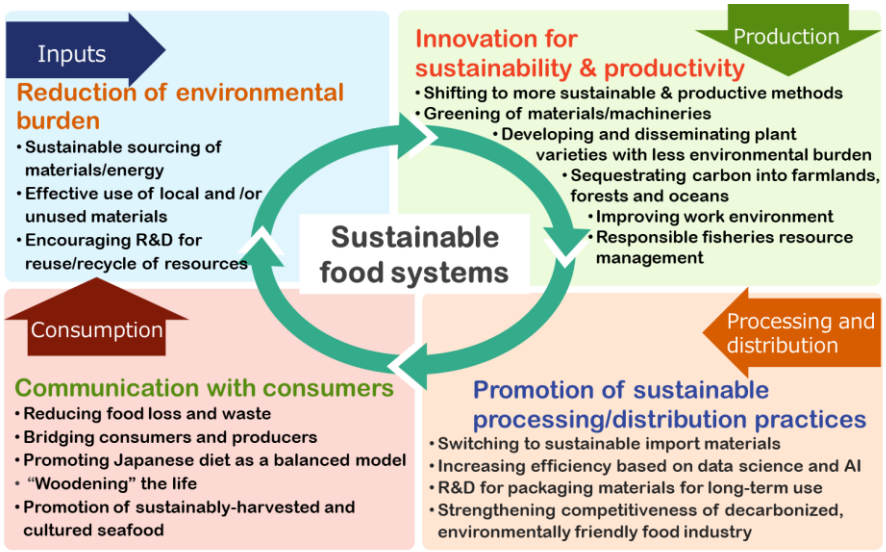
The Hida Meat Agricultural Co-operatives Federation promotes Hida beef exports under advanced sanitary control such as ISO22000, FSSC22000 and others, which contribute to the income increase of the producers (Gifu Prefecture)
Source: Hida Meat Agricultural Co-operative Federation

Setting the KPI Targets for 2030 to realize the Strategy for Sustainable Food Systems, MIDORI

- "The Strategy for Sustainable Food Systems, MIDORI" (the MIDORI Strategy) is a policy to be strategically addressed from a medium- to long-term perspective in order to achieve a balance between productivity potential and sustainability in the agriculture, forestry, fisheries, and food industries through innovation. It presents targets to be achieved by 2050 by promoting the development and social implementation of innovative technologies and production systems as well as implementing efforts at each stage of inputs, production, processing and distribution, and consumption.

- New KPI targets for 2030 were set as interim targets in June 2022. The targets include raising the percentage of hybrid horticultural facilities installed per area to 50% and reducing chemical fertilizer use by 20% through promotion of efficient and smart fertilization such as labor-saving and proper fertilization using soil diagnosis, data, etc.

Specific initiatives at each stage of the MIDORI Strategy



Source: Prepared by MAFF

Newly established KPI targets for 2030 as interim targets

Reduction of greenhouse gases	10.6% reduction in **CO_2 emission** from fossil fuels combustion in the agriculture, forestry, and fisheries sectors
	Electrification and hydrogen battery use for agricultural and forestry machinery as well as fishing vessels (1) Achieving 50% extension rate of electric mowers and automated steering systems in practical use contributing to reduced use of fossil fuels (2) Technology demonstrated under conditions relevant to the operational environment of forestry machinery or prototype demonstrated under actual operational conditions (3) Test operations carried out on small coastal fishing vessels
	Achieving 50% of hybrid **horticultural facilities** installed per area
Environmental conservation	10% reduction in risk-weighted use of **chemical pesticides**
	20% reduction in **chemical fertilizer use**
Fisheries	Achieving 13% of artificial seedling rate in **aquaculture** of Japanese eel, bluefin tuna, etc. **Replacing** 64% of **aquaculture feed** with compound feed

Source: Prepared by MAFF

Promoting nationwide implementation of the basic plan based on the MIDORI ACT, and steadily reducing the use of chemical fertilizers and pesticides, expanding organic farming, etc.

- The MIDORI Act was entered into force in July 2022. This act supports producers and business operators working on reducing the environmental burden.
- All prefectures had prepared and announced their basic plans based on this act by the end of FY 2022, and the government had approved the plans of 33 business operators that produce, sell, and conduct research and development of machinery and materials that help reduce the environmental burden.
- Measures to realize the MIDORI Strategy have been promoted by assisting efforts to switch to Green Cultivation Systems that incorporate environmentally friendly cultivation techniques such as activities for Soil Productivity Improvement and labor-saving techniques, as well as encouraging efforts by Organic Villages, municipalities promoting organic farming on a community basis.

Shiga’s "environmentally-friendly agricultural products” cultivation field, the first prefecture in Japan that prepared a basic plan

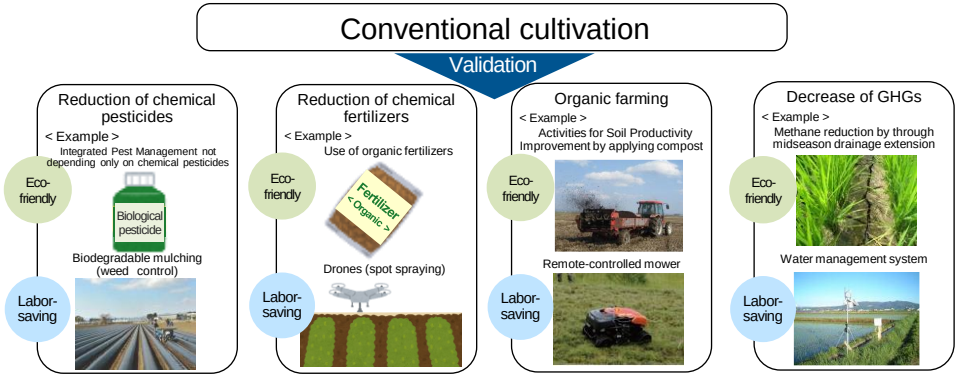
(Shiga Prefecture)

Source: Shiga Prefecture

Efforts to promote agriculture with less environmental impact from marketing aspect (Kyoto Prefecture)

Source: Saka no Tochu Co., Ltd

Image of effort to verify "eco-friendly cultivation techniques" suitable to producing areas



Source: Prepared by MAFF

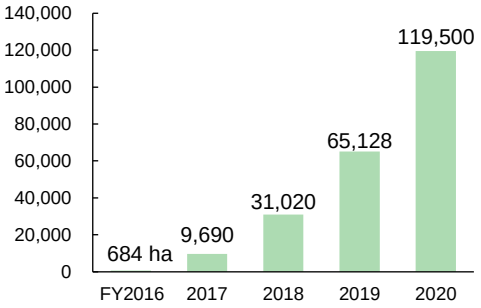
Strengthening efforts to increase public awareness and understanding of the MIDORI Strategy

- The MIDORI Act stipulates that the government should take measures such as enhancing publicity activities to reduce environmental burden so that stakeholders can deepen their understanding and interest in food systems that are in harmony with the environment.
- Efforts will be strengthened to increase public awareness and understanding of the MIDORI Strategy. In addition, “visualization” of reducing the environmental burden will be promoted so that producers' efforts of reducing the environmental burden can be quantitatively evaluated and communicated to consumers in an easy-to-understand manner.
- Seizing every opportunity, including in the Asian Monsoon region, the MIDORI Strategy will be promoted internationally.

Promoting field implementation of smart agriculture and acceleration of digital transformation of agriculture to address labor shortages and improve productivity

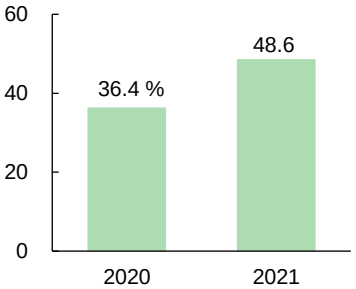
- At the agricultural sites, efforts to improve agricultural productivity by using cutting-edge technologies such as robots, AI, and IoT, as well as utilizing data are spreading.
- Efforts are being made to automate farm work and contribute to labor savings by utilizing a smartphone-operated paddy field water management system, and agriculture management applications linked to location information will make it easier such that even unskilled farmers can take the initiative in production activities by digitizing and automating work records.
- The smart agriculture demonstration projects have been implemented in 205 districts nationwide since FY 2019. In FY 2022, in order to accelerate the social implementation of smart agriculture, field demonstrations have been implemented to introduce advanced technologies throughout the production areas.
- At production sites, efforts to provide agricultural support services that promote smart agriculture, such as replacement farming service using drones and autonomous farm machines, and consulting service using data, have expanded.
- The percentage of business farmers practicing data-driven agriculture rose to 48.6% in 2021, up from 36.4% of the previous year. Data utilization has been promoted through on-the-job instructions in production areas by smart support teams consisting of producers and private companies participating in the demonstration projects, as well as instructions in production areas by extension advisors.
- To achieve DX in agricultural sites, utilization of the “Common Application System of MAFF (eMAFF)” has been promoted, which provides online access to administrative procedures such as subsidies under the jurisdiction of MAFF. In addition, the "Common Geographic Information System of MAFF (eMAFF Map)" has been in development, which utilizes digital maps to improve the efficiency of farmland-related operations. The application has been appreciated by its users for its ability to streamline on-site inspection operations.

Actual cases of agricultural chemicals applied by drone (estimate)



Source: Prepared by MAFF

Percentage of business farmers practicing data-driven agriculture



Source: Prepared by MAFF based on the data of “2020 Census of Agriculture and Forestry” (recompiled) and “2021 Survey on Agricultural Structure and Movement” (recompiled)

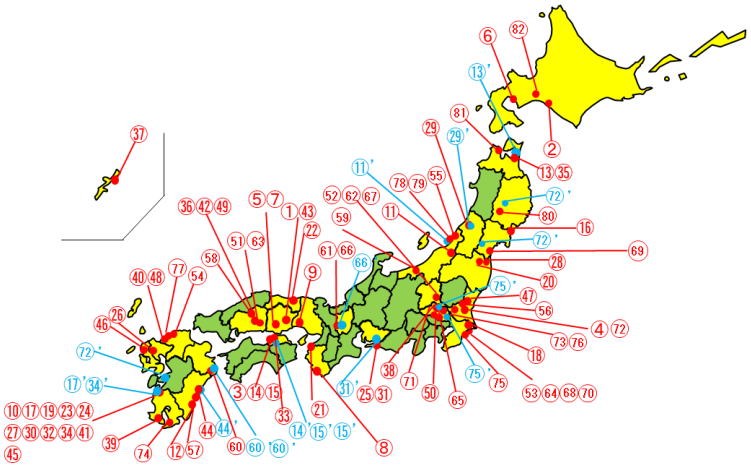
- In the distribution field, the “smart food chain,” an information sharing system, has been developed. It serves as a hub for linking the production, processing, distribution, sales, and consumption stages of agricultural, forestry and fishery products. In addition, projects to realize agricultural DX have been promoted, which include the construction of a palette-based data linkage system and a platform creation for sharing production and distribution information using two-dimensional code.

Topic 4 Measures against highly pathogenic avian influenza (HPAI) and classical swine fever (CSF)

During the 2022 season, HPAI occurred at an unprecedented rate, with outbreaks in areas where it had never been observed in the past. The price of chicken eggs remained above normal

- The HPAI virus is highly contagious and fatal, and once an outbreak occurs, it can have a significant impact on the local poultry industry and threaten the stable supply of chicken eggs and chicken meat to the public.
- In the 2022 season, highly pathogenic avian influenza cases have been confirmed on all continents except the Australian continent and Antarctica. In Japan, since the outbreak of HPAI was confirmed in October for the first time in history, 82 cases have been identified in 26 prefectures as of the end of March 2023, and approximately 17.01 million chickens have been subject to be killed.
- The number of layers subject to be killed due to HPAI reached a record high, increasing to about 10% of the total number of hens raised in Japan. In addition, due to an increase in production costs caused by soaring feed prices, the retail price of chicken eggs in FY 2022 remained at a high level compared to the average year (288 yen/pack as of March 2023, 135% of the normal). In some areas, retailers restricted purchases, and shortages occurred in the evening. The shortage of chicken eggs for processing has affected food companies, for example, some of the companies reduced the amount of eggs used and suspended sales of products using eggs.

Locations of HPAI outbreak



Source: Prepared by MAFF

Note: The numbers show the order of outbreaks. Red numbers show the number of affected poultry farms (premise/establishment) in the 2022 season.
The blue numbers indicate the farms where the poultry was determined to be suspected animals and killed based on the poultry's movement from the affected farms of the red numbers.

Stronger measures against HPAI

- MAFF has strengthened measures to prevent outbreaks and the spread of HPAI by notifying the public about early detection/reporting and thorough sanitary control, dispatching of epidemiologic investigation teams, and supporting epidemic prevention measures implemented by prefectures.
- Support was provided for the resumption of operations by the poultry farm households affected by HPAI outbreaks.
- Urgent call was made to egg producers for a stable supply of chicken eggs by, for example, extending the feeding period of layers, thereby supporting egg production, including countermeasures against rising prices of compound feeds.

Poultry farm that was urgently disinfected with slaked lime

Thorough disinfection around irrigation ponds to prevent avian influenza outbreaks (Kagawa Prefecture)

Source: Kagawa Prefecture

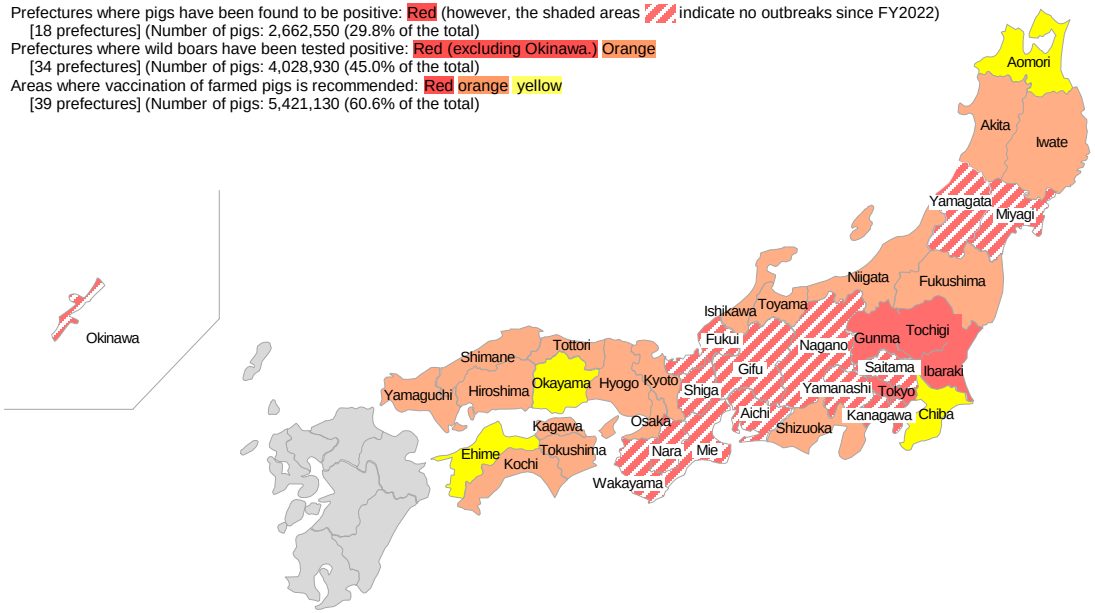
Promoting thorough sanitary control and measures against wild boars to prevent classical swine fever (CSF) outbreaks

- Since a case of classical swine fever (CSF) was confirmed in Japan in 2018 for the first time in 26 years, 86 outbreaks have been confirmed on pigs or wild boars feeding farms in 18 prefectures as of March 2023. In FY 2022, 9 outbreaks occurred on farms of pigs or wild boars in 4 prefectures.

- In response to CSF, MAFF shared a sense of urgency with related parties and cooperated with prefectural governments to take measures such as thorough sanitary control as a basis, oral vaccines for wild boars, and strengthen border quarantine.

Locations of CSF outbreak

Prefectures where pigs have been found to be positive: Red (however, the shaded areas indicate no outbreaks since FY2022)
[18 prefectures] (Number of pigs: 2,662,550 (29.8% of the total)
Prefectures where wild boars have been tested positive: Red (excluding Okinawa.) Orange
[34 prefectures] (Number of pigs: 4,028,930 (45.0% of the total)
Areas where vaccination of farmed pigs is recommended: Red orange yellow
[39 prefectures] (Number of pigs: 5,421,130 (60.6% of the total)



Posters to prevent the spread of infection
Source: Japan Livestock Industry Association

Source: Prepared by MAFF
Note: Number of raised pigs are calculated based on the data of MAFF, “2022 Livestock Farming Statistics.”

Promoting initiatives based on the Vision for a Digital Garden City Nation

Expansion of efforts to use digital technology in rural areas to solve regional issues

- The "Vision for a Digital Garden City Nation" aims to accelerate the revitalization of rural areas by using digital technologies to solve social issues in rural areas and increase the attractiveness of rural areas while making the most of regional individuality.
- In December 2022, the government formulated the “Comprehensive Strategy for the Vision for a Digital Garden City Nation” and presented the mid- to long-term direction that the vision should aim for.
- It is expected that rural areas facing aging population and depopulation will utilize digital technology in various efforts to utilize resources in rural areas to revitalize their communities.
- In rural areas, efforts to solve regional issues using digital technology have spread, such as using ICT to make ordering reservations more efficient for people who have difficulty in shopping and developing demand for countryside stay by creating a remote work environment.
- Using the use of digital technology, rural RMOs are expected to efficiently and effectively use the functions of "small bases" that are engaged in regional festivals and operation of public facilities.

Co-working space used for telework and training (Niigata Prefecture)
Source: Myoko City, Niigata

Communal exchange using smart speakers (Kyoto Prefecture)
Source: Kehara Rice Terraces Wonder Village Project

Registering as Digitalization in hilly and mountainous areas and supporting efforts in cooperation with related ministries and agencies

- The areas where efforts are promoted to solve various local issues and revitalize the region by utilizing resources in rural areas and digital technology are registered as Digitalization in hilly and mountainous areas. Such initiatives have been supported in cooperation with related ministries and agencies.

Measures to ensure access to food for those in need and who feel difficulty in shopping

Promoting support for food banks, etc.

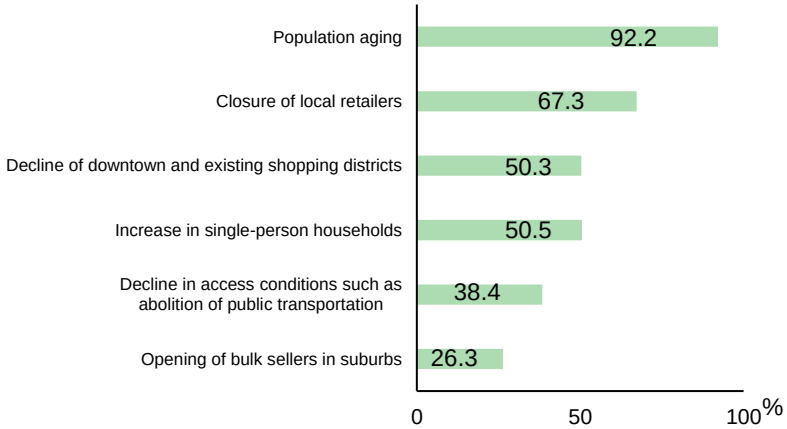
- In addition to the prolonged impact of COVID-19, the effects of soaring food and other commodity prices have had a serious impact on those who have difficulty in accessing food.
- As of the end of March 2023, there are 234 organizations in Japan engaged in food bank activities that receive donations of unused food products from food companies, farm households, etc., and provide them to facilities, etc. Food is mainly provided to Kodomo Shokudo (Children's Cafeterias), etc. In addition to budget and personnel shortages, there are issues including a shortage of warehouses, cold storages, and transport vehicles.
- MAFF has supported the establishment of food banks, strengthening of operational bases, advanced initiatives such as cross-regional cooperation, and expansion of acceptance and provision of food for Kodomo Shokudo (Children's Cafeterias).

Activities to deliver surplus agricultural products, etc. produced in hilly and mountainous areas to orphanages, Kodomo Shokudo (Children's Cafeterias), etc. (Okayama Prefecture)
Source: Japan Harvest (NPO)

Disseminating information on how to address "The issue of Food Access"

- Due to the aging population, the increase in single-person households, the closure of local retail businesses, and the decline of existing shopping districts, an increasing number of people (so-called "people with difficulty in shopping"), especially the elderly, find it inconvenient or difficult to buy and eat food in urban areas as well as in depopulation areas. This is a social issue known as "The issue of Food Access."
- About 90% of the municipalities that responded to the survey recognized the need for countermeasures. "Aging population" is the most common reason for the need of measures.
- It is important for the relevant ministries and departments of local governments to cooperate with each other on a cross-cutting basis, and work continuously in collaboration and cooperation with various stakeholders such as private companies, NPOs, and local residents. Information on approaches to food access issues, support measures, and advanced cases have been proactively disseminated.

Background for which measures are needed



Source: MAFF, "Results of a nationwide municipal survey on food access issues"

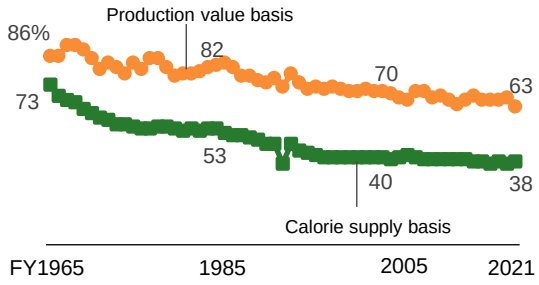
In FY 2021, the total food self-sufficiency ratio on a calorie supply basis was 38%, up 1 percentage point from the previous year. The total food self-sufficiency ratio on a production value basis decreased by 4 percentage points from the previous year to 63%

- In FY 2021, the total food self-sufficiency ratio on a calorie supply basis was 38%, up 1 percentage point from the previous year due to increases in the planted area and yield for wheat and soybeans, and a recovery of eating-out service demand for rice. The total food self-sufficiency ratio on a production value basis decreased by 4 percentage points from the previous year to 63% due to an increase in feed import value for livestock products and raw material imports value such as oils and fats, as well as an increase in import unit value for meat, etc.

- The food domestic production ratio on a calorie supply basis (not reflecting feed self-sufficiency ratio) increased by 1 percentage point from the previous year to 47%. The feed self-sufficiency ratio remained at 25%, the same as the previous year.

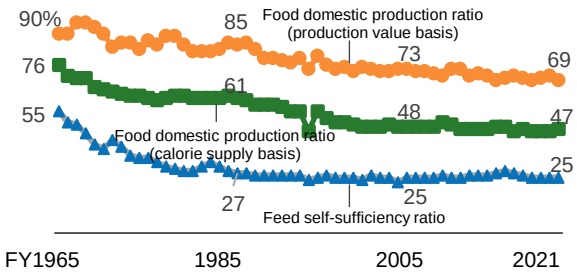
- The food self-sufficiency potential index has been flat in recent years due to an increase in the yield of wheat and other crops in rice- and wheat-centered cropping system, amid a decrease in the area of farmlands. On the other hand, in potato-centered cropping, the index tends to decline due to a decrease in the labor force (total working hours).

Japan's total food self-sufficiency ratio



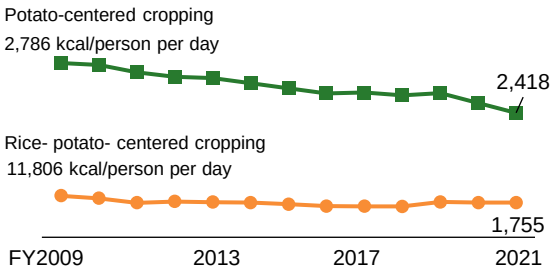
Source: MAFF, "Food Balance Sheet"
Notes :1) FY2021 shows an estimate.
2) The food self-sufficiency ratio is an indicator of the amount of domestic food consumption that is covered by domestic production.

Japan's food domestic production ratio and feed self-sufficiency ratio



Source: MAFF, "Food Balance Sheet"
Notes :1) FY2021 shows an estimate.
2) The food domestic production ratio reflects the activities of the livestock industry and evaluates the status of domestic production, regardless of whether the feed is domestically produced or imported

Japan's food self-sufficiency index

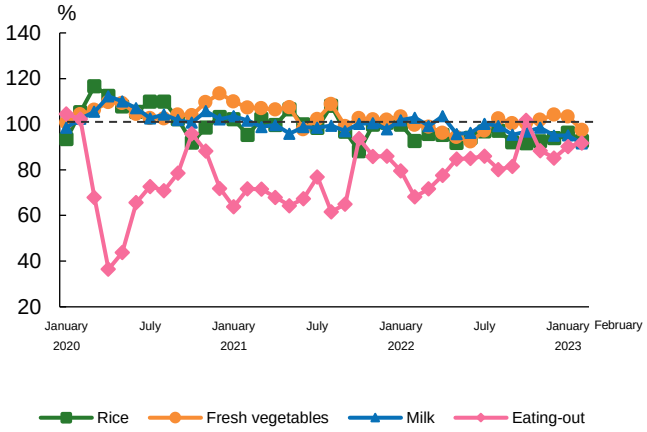


Source: Prepared by MAFF
Note: The food self-sufficiency potential index is an indicator that evaluates the potential production capacity of food.
It is a trial calculation of the calorie supply a day per person, in the case of maximum use of farmlands, etc. and when calorie efficiency is maximized, with consideration of a certain degree of nutritional balance.

While eating-out sales are on a recovery path, izakaya (Japanese style pub) and other sales recovery is lagging behind

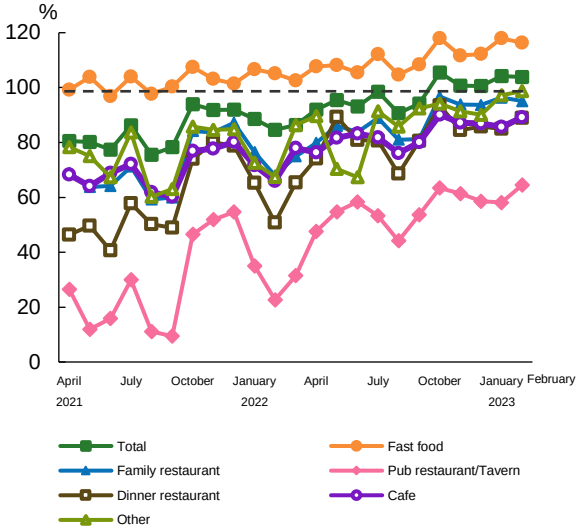
- Spending on eating-out has dropped sharply since March 2020 amid the spread of COVID-19. Since then, there have been series of recoveries and declines, and the effects have not ceased in 2022.
- Overall sales in the food Service industry in 2022 are on a recovery track. Meanwhile, sales recovery is slow, especially in pub restaurants and izakaya (Japanese-style pub). In this era of changing lifestyles, it indicates that demand for banquets has not recovered to a sufficient level in the businesses that serve alcoholic beverages during the evening.
- Support has been provided for businesses affected by COVID-19, including promotion of sales channel development and boosting demand for restaurants.
- The food consumption expenditure by consumer households, In nominal terms, increased compared to the previous year. It decreased in real terms, excluding price changes.

Monthly food expenditures per person (Compared to the same month in 2019)



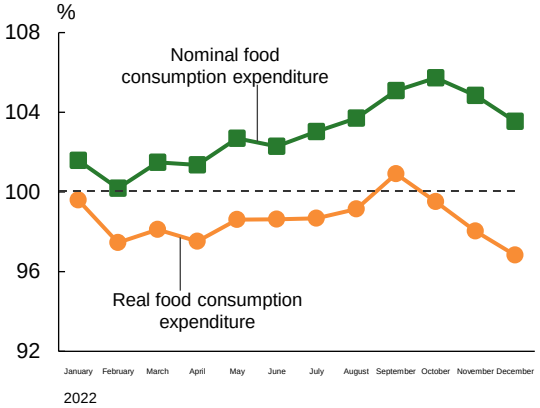
Source: Compiled by MAFF based on the data of MIC, "Family Income and Expenditure Survey"

Sales in the Food Service Industry by business category (Compared to the same month in 2019)



Source: Compiled by MAFF based on the data of Japan Foodservice Association, "Food Service industry Market Trend Survey"

Monthly food consumption expenditure per capita compared to the same month the previous year

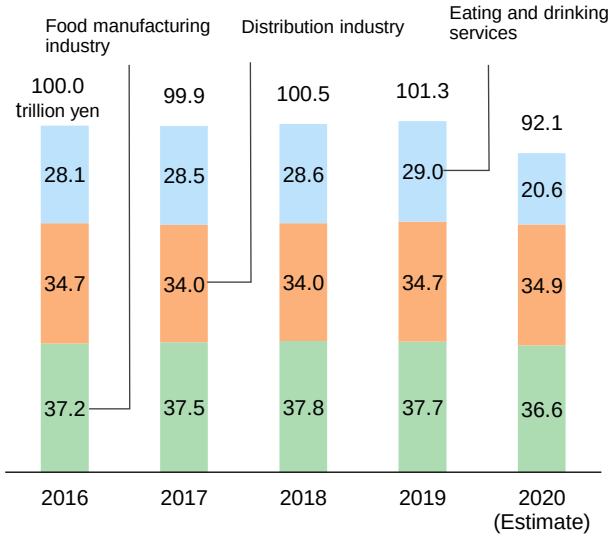


Source: Compiled by MAFF based on the data of MIC, "Family Income and Expenditure Survey"

Promoting rationalization and sophistication of distribution, reduction of food loss and waste, and efforts to promote food tech for sustainable development of the food industry

- Domestic production of the food industry in 2020 was 92.1 trillion yen, down 9.2 trillion yen from the previous year due to the spread of COVID-19.
- There are concerns about the impact of the so-called "2024 problem in logistics," which will be applied to overtime caps of truck drivers.
- In order to reduce the restraining time of truck drivers, switching to transportation using pallets, improving loading efficiency by standardizing the pallet size and corrugated boxes, and labor-saving and automation of inspection work utilizing ICT and AI have been promoted. In addition, developing joint logistics facilities and switching to rail and maritime shipping (modal shift) from truck transportation has been implemented.
- In order to reduce food loss and waste, a review of business practices, such as easing strict delivery deadlines and easing expiry date labeling, have been promoted.
- The Food Tech Public-Private Council formulated the vision and roadmap to promote food tech in February 2023.
- The revised Act on Japanese Agricultural Standards (JAS) came into effect in October 2022, and organic liquors (alcohol beverages) have been included in the scope of JAS for organic processed foods, for which organic equivalency arrangements would be pursued to facilitate export of organic products.

Domestic production of the food industry



Source: Compiled based on the data of MAFF, "Economic Accounts for Agriculture and Food Related Industries"
Note: Food manufacturing industry include the categories of beverages and tobacco.

Poster calling for reduction of food loss and waste

Promoting the understanding and popularization of Japanese food among foreign visitors to Japan by taking advantage of the resumption of inbound tourism

- Japan's dietary culture is a world-class cultural heritage and the foundation that supports agriculture, food, community, and diverse food industries. Understanding and extension of Japanese food and dietary culture among foreign visitors to Japan has been promoted by taking advantage of the resumption of inbound tourism.
- Japan Food Export Platforms were established in 6 countries and regions in FY2022 to provide comprehensive, professional, and continuous support to exporters in destination countries and regions.

Launch ceremony of Japan Food Export Platform (Thailand)

Promoting the protection and use of intellectual property to expand exports, and increase income and regional vitality

- Under the Geographical Indications (GI) Protection System, 11 new products were registered as GI in FY2022, bringing the total number of registered GIs to 128 nationwide. The operation of the GI protection system was reviewed, and the appraisal criteria were revised to contribute to export expansion.
- Promote efforts by the Plant Breeders' Rights Management Body to effectively protect Japan's plant varieties through overseas variety registration and contract cultivation on behalf of right holders and to establish a cycle to return licensing income to the development of new plant varieties.
- The dissemination of the "Guidelines for the Protection of Trade Secrets in the Agriculture Sector," which outlines how to manage confidential information, such as technology and knowhow, for the purpose of being legally protected as trade secrets, including explanation on actual implementation thereof from more practical viewpoints, has been made.

GI products registered in FY2022

Onnayama Daikon (radish)
(Nishitaku-machi, Taku City, Saga Prefecture)

Omi Hinosan Hinona
(Hino-cho, Gamo-gun, Shiga Prefecture)

DATE NO ANPO GAKI
(a kind of semi-dried persimmon fruit)
(Date City, Fukushima Prefecture and others)

sanuki shiro miso
(Kagawa Prefecture)

Tamura no egoma oil
(Tamura City, Fukushima Prefecture)

Hida Beef
(Gifu Prefecture)

Awaodori
(Tokushima Prefecture)

Tokachi Raclette
(Obihiro City, Hokkaido and others)

Tokushima Sudachi
(Tokushima Prefecture)

Kikugawa deep steamed green tea
(Shizuoka Prefecture)

Namegata Sweet Potato
(Namegata City, Ibaraki Prefecture and others)

Promoting the efforts to realize the “Fourth Basic Program for *Shokuiku* Promotion”

- In promoting *shokuiku* (food and nutrition education), it is important for each citizen to raise awareness about “food,” acquire the ability to make appropriate judgement about “food” based on reliable information and practice a sound dietary pattern that promotes mental and physical health.

- Based on the Fourth Basic Program for *Shokuiku* Promotion, initiatives have been implemented, including the extension of the "Digital *Shokuiku* Guidebook," holding “The 17th National Convention on Promotion of *Shokuiku* in Aichi" and operating the "National Network for *Shokuiku* Promotion.”

- Support has been provided for the efforts to establish a variety of communal eating places in communities such as Kodomo Shokudo (Children’s Cafeterias), as well as free delivery of public grain reserves. Various effects are expected from the communal eating places in the communities, such as promoting *shokuiku*, taking measures against loneliness and isolation, and supporting the needy.

- Initiatives to help exchanges between consumers and producers have been implemented.

Using sugarcane seedling growing kits, promoting online hands-on shokuiku activities (Okinawa Prefecture)
Source: Alternative Farm Miyako

Source: NihonkaiKaihatsu, Incorporated.

Source: Waiwai Kodomoshokudo Project

Children's cafeteria providing a place to eat together

Farmers developing efforts to bring food and agriculture closer together (Tochigi Prefecture)
Source: Inasaku Honten

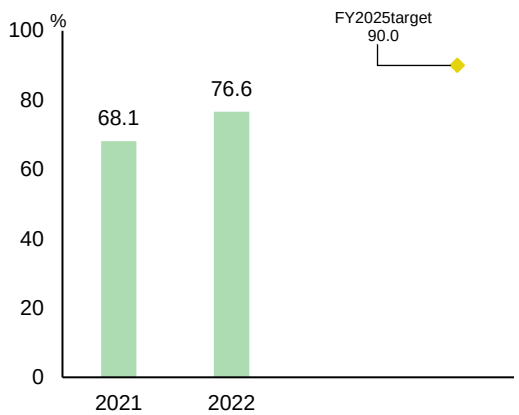
Maintaining and increasing the percentage of local products used in school lunch programs

- School lunch programs are designed to maintain and promote children's health by providing nutritionally balanced meals. School lunch expenses vary by regions due to differences in menus and the number of meals served per year in each local government.

- Utilization of locally produced agricultural, forestry, and fishery products in meal service including school lunch programs is an effective means of promoting local production for local consumption. Maintaining and increasing the percentage of local products used in school lunch programs (on a monetary basis) will be promoted in order to practice a sustainable dietary pattern for children.

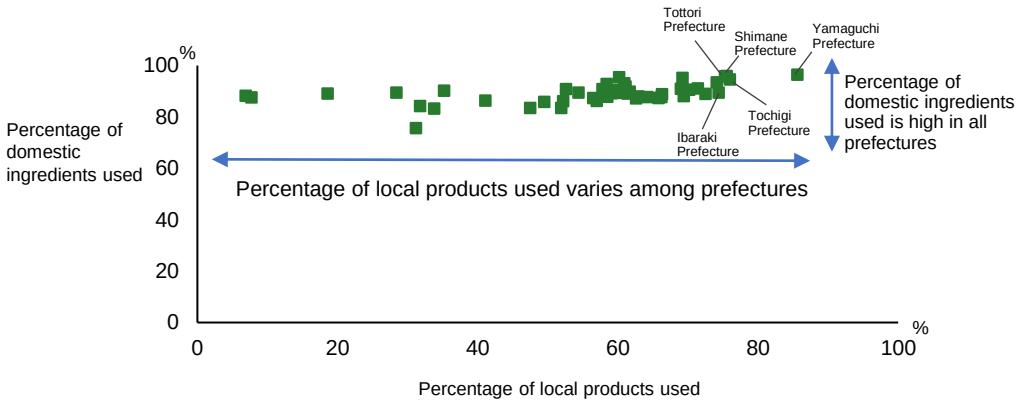
  - The ratio of local products and domestic ingredients used in school lunch programs by each prefecture shows that while the percentage of domestic products used varies, the percentage of domestic ingredients used is more than 80% in most of the prefectures, indicating a high ratio nationwide.

The percentage of local products used in school lunch programs (on a monetary basis) that will be maintained or improved from FY2019 figure



Source: Compiled by MAFF based on the data of MEXT, "2022 Survey on the Use of Local and Domestic Produce in School Lunch Program"

The percentage of local and domestic ingredients used in school lunch programs by each prefecture



Source: Compiled by MAFF based on the data of MEXT, "2022 Survey on the Use of Local and Domestic Produce in School Lunch Program"

Note: The figures are for FY2022.

Promoting the appeal of food and agriculture through the national movement "NIPPON FOOD SHIFT"

- As the distance between food and agriculture widens, a national movement focused on deepening the link between food and agriculture “Thinking about Japan through Food. NIPPON FOOD SHIFT” was launched to foster public understanding of agriculture and rural areas, which is being developed through public-private collaboration.

- Focusing on Generation Z (people born in the late 1990s to the 2000s), MAFF has provided information regarding the efforts by agricultural, forestry, and fishery workers in various parts of the country, and regional food, as well as appealing local food and rural areas.

- Talk sessions, marches, and other events has been held across the country. The movement has been rolled out in various ways, including developing initiatives in collaboration with promotion partners, and providing information through public-private collaboration via media such as television, newspapers, magazines, websites, and social media.

Animated videos on the website explain the changes in the connection between food and agriculture in Japan

Thinking about Japan through food.
NIPPON FOOD SHIFT FES. Tokyo 2022

Promoting consumption expansion of domestic agricultural, forestry, and fishery products

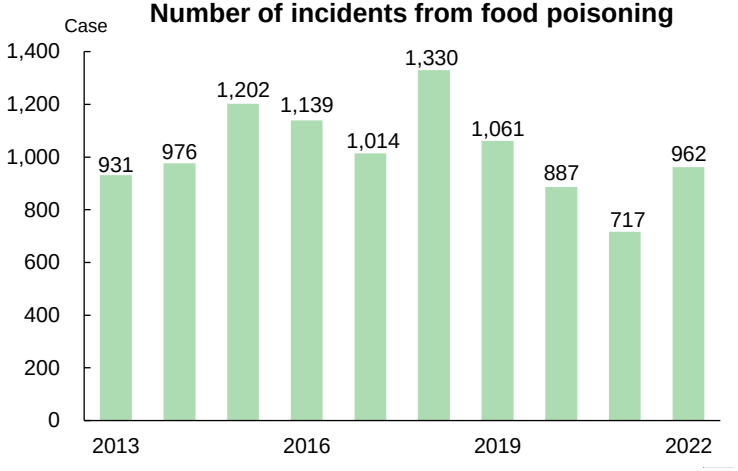
- In addition to providing information on the website "After all, rice is the first thing to eat!," the “Let’s eat vegetables project” has been implemented. In June 2022, MAFF launched the “Smiles Project for Milk” for consumption expansion of milk.

The poster of the "Let’s eat vegetables project"

Promoting activities to ensure food safety and consumer trust based on scientific knowledge, etc.

- The number of incidents from food poisoning in 2022 was 962, an increase from the previous two years.
- Taking into account the latest scientific knowledge and international trends, etc., concerted efforts are being made to ensure food safety. Simultaneously, efforts are being made to promote the dissemination of information on food safety.
- Labeling of the origin of ingredients for all processed foods, except imported products, has been mandatory from April 2022. Consumers can check the labels and choose products made from domestic ingredients.

Number of incidents from food poisoning



Source: Ministry of Health, Labour and Welfare, Food Poisoning Statistics"

Taking measures to prevent the invasion and spread of livestock infectious diseases and plant pests

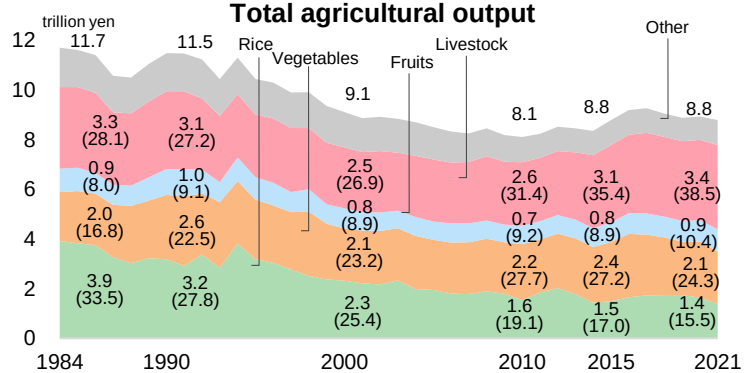
- Thorough frontline measures have been implemented, including utilization of quarantine detector dogs to prevent the entry of African swine fever, foot and mouth disease, and other diseases into the country.
- The spread of foul brood, a livestock infectious disease, has been prevented, which occurs and kills bee larvae when they ingest food containing the pathogen.
- The revised Plant Protection Act promulgated in May 2022 provides for the implementation of survey on the entry of pests under the Act, the expediting of emergency control, the establishment of a system to promote Integrated Pest Management focusing on outbreak prevention, the addition of items to the quarantine list, and the strengthening of the authority of plant protection officers.

Animal and plant quarantine detector dog

Total agricultural output in 2021 decreased by 1.1% from the previous year to 8.8 trillion yen

- Total agricultural output in 2021 was 8.8 trillion yen, a decrease of 1.1% from the previous year, due to lower prices of rice as a staple food and vegetables, while livestock production exceeded 3.4 trillion yen, the highest ever. By sector, livestock production increased, while rice and vegetables were on the decline.
- By prefecture, Hokkaido topped the list with 1.3 trillion yen, followed by Kagoshima with 0.5 trillion yen and Ibaraki with 0.4 trillion yen.

Total agricultural output

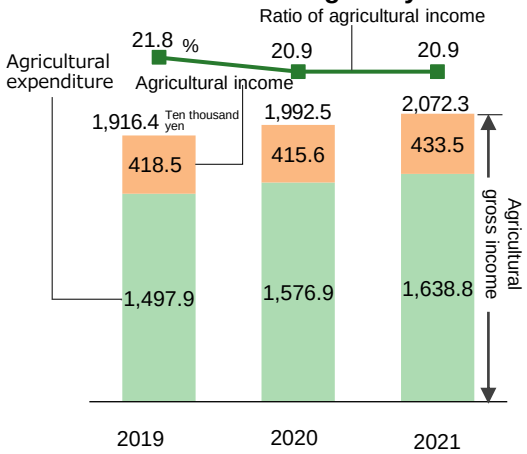


Source: MAFF, "Statistics of Agricultural Income Produced"
Notes: 1) Total agricultural output is estimated by subtracting intermediate products such as seeds and feed that are reinput into agriculture from the agricultural products produced in the year (including self-consumption) and multiplying the production quantity in each item by the farm household's yard sales price for each item. -
2) "Other" is the total of wheat, cereals, pulses, potatoes, flowers, industrial field crops, other crops, and processed agricultural products.
3) Figures in parentheses are the percentage to total output (%).

In 2021, agricultural income per business farming entity increased from the previous year to 4.34 million yen. Agricultural income as a percentage of the income per individual management entity is about 80%

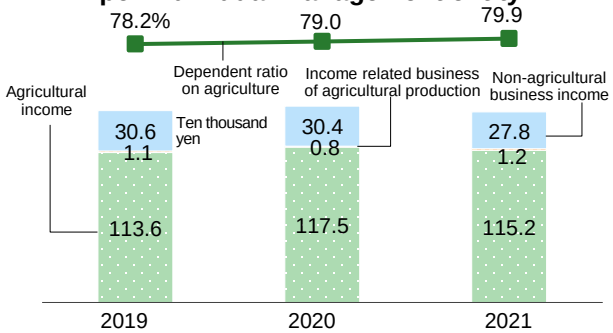
- In 2021, agricultural gross income per business farming entity was 20.72 million yen and agricultural income was 4.34 million yen. Ratio of agricultural income was 20.9%.
- In 2021, the agricultural income, income related business of agricultural production, and non-agricultural business income per individual management entity were 1,152,000 yen, 12,000 yen, and 278,000 yen, respectively. Agricultural income as a percentage of total income of each business (dependent ratio on agriculture) increased by 0.9 percentage points to 79.9% compared to the previous year.

Agriculture income and expenditure per business farming entity



Source: MAFF, "Statistical Survey on Agricultural Management"
Note: Ratio of agricultural income = Agricultural income/Agricultural gross income x 100

Agricultural and other income per individual management entity

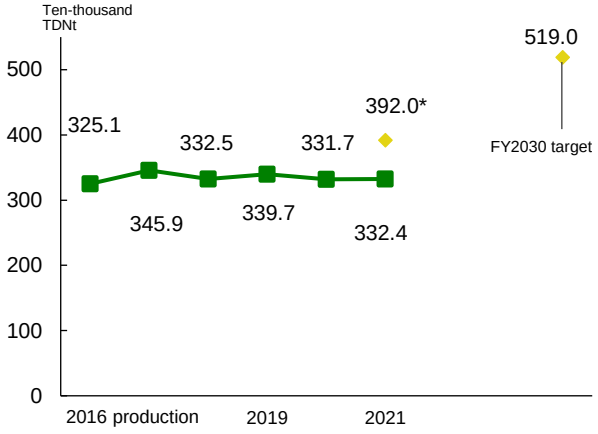


Source: MAFF, "Statistical Survey on Agricultural Management"
Notes: 1) Agricultural income is agricultural gross income (total income earned by farming) minus agricultural expenditure (all expenses required for farming).
2) Income related business of agricultural production is gross income related business of agricultural production (gross income from businesses such as agricultural processing, farm household inns, farm restaurants, and tourist farms which are related to agriculture and managed by agriculture management entities) minus expenditures of related business of agricultural production (including labor and material costs required for the related business of agricultural production).
3) Non-agricultural business income is business income other than agriculture or related business of agricultural production
(income from forestry, fishery, commerce, and industry as a side business in addition to agriculture) minus non-agricultural business expenditure (employment expenses, material cost, and other expenses incurred in the business).

Promoting initiatives to strengthen the production base of domestic feed and to improve the profitability of livestock farming in the region

- Beef production in FY 2021 was 336,000 t (same level as the previous year). Pork production in FY 2021 was 923,000 t (up 0.7% from the previous year).
- Forage crops production in 2021 was 3,324,000 TDNt (up 7000 t from the previous year). The planted area in 2022 was 1,026,000 ha (up 2.5% from the previous year).
- To strengthen the domestic feed production base, expanding the production and utilization of domestic feed including silage maize, strengthening the operation of feed production organizations, and developing grassland have been promoted.
- In October 2022, the 12th ALL JAPAN WAGYU SHOW was held in Kagoshima.
- Initiatives have been promoted to improve the profitability of livestock farming in the region and to produce sustainable livestock products.
- The Horse Racing Act was amended in November 2022. Under the law, the management base of local horse racing and the production base of horse production areas have been stably strengthened.

Production of forage crops



Source: Compiled by MAFF based on the data of "Crop Statistics", etc.
Notes: 1) Rice for feed is excluded.
2) Production is an annual base and target value is a fiscal base.
3) The asterisk* indicates the FY2021 target for measured index of policy evaluation.
4) TDN is total digestible nutrients.

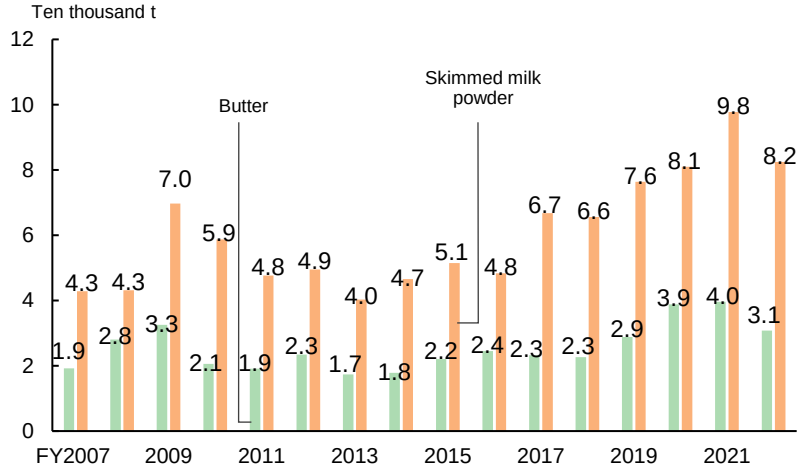
Large-scale demonstration experiment of maize for grain
(Harvesting during field trips)
Source: JA ZEN-NOH

"The 12th ALL JAPAN WAGYU SHOW" held in Kagoshima in October 2022
(Once every five years, best Japanese beef cattle are brought together from all over the country to compete, showing the improvement results of Japanese beef cattle, and to share the future direction of Japanese beef cattle improvement).

Promoting early resolution of the supply-demand gap issue from both supply and demand perspectives

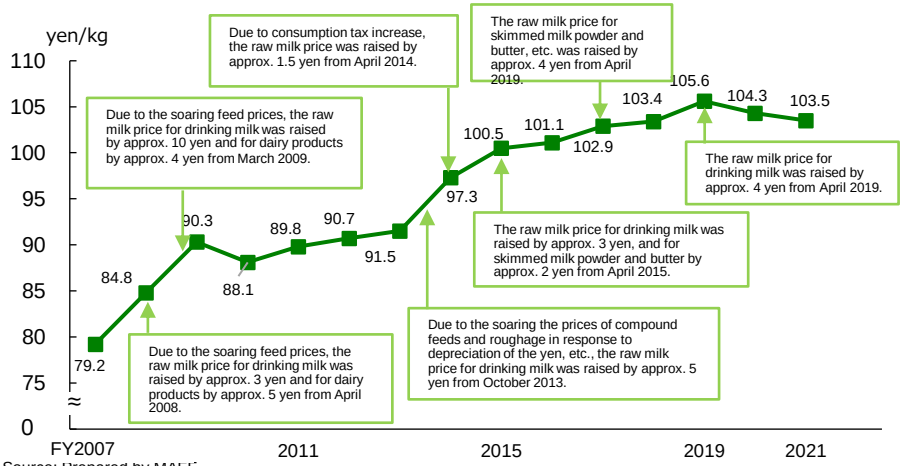
- Dairy management in Japan is facing a challenging operation environment due to a supply and demand gap of more than 400,000 tons in raw milk equivalent in a single fiscal year through decreased demand, amid soaring production costs such as feed costs.
- It is appropriate to reflect the increase in production costs in milk prices for the stability of dairy management, but negotiations on raw milk prices have been hampered by record-high level stocks of skimmed milk powder.
- In order to improve dairy management, it is necessary to prepare an environment in which rising production costs can be properly reflected in prices by promoting the early resolution of this supply and demand gap problem.
- Therefore, in order to improve the supply and demand gap of raw milk, producers and producer groups have made an agonizing decision to suppress raw milk production.
- For individual dairy management, in addition to measures to combat the rising cost of compound feeds, MAFF has taken measures to mitigate the impact of the rising feed cost by providing compensatory payments for increased feed cost and financial support.
- In addition, MAFF has provided supports to producer groups to curb production of raw milk through retiring dairy cows, reducing stocks of dairy products, and promoted initiatives called “Smiles Project for Milk”, collaborative initiatives across industries to address issues of dairy industries. Furthermore, in order to cultivate new demand, MAFF has urgently supported activities such as providing milk at a reduced price to foreign visitors and Kodomo Shokudo (Children’s Cafeterias).
- Raw milk price (nationwide) was raised by 10 yen/kg (excluding tax) for “milk for drink and other products” in November 2022, and by 10 yen/kg (excluding tax) for dairy products in April 2023, as a result of raw milk price negotiations between producer groups and dairy manufacturers.

Stocks of dairy products



Source: MAFF "Statistics on Milk and Dairy Products"
Note: 1) Stocks are figures as of year-end.Figures for FY2022 are as of December 2022
2) Approximate figures for FY2021 and FY2022

Raw milk price (nationwide)

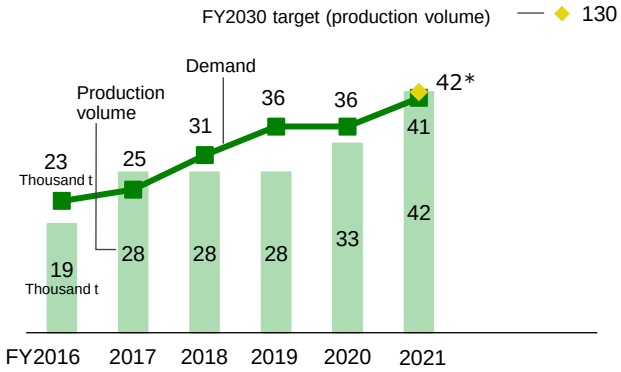


Source: Prepared by MAFF
Notes: 1) Raw milk price is calculated by deducting milk collection and transportation costs and fees from raw milk transaction prices and adding subsidy to raw milk used for dairy processing.
2) Raw milk prices for each fiscal year are calculated based on MAFF “Agricultural Price Statistical Survey.”
3) Figures for each fiscal year are simple averages for each month including consumption tax.
4) From FY2007 to FY2009, the figures are based on FY2005. From FY2010 to FY2014, the figures are based on FY2010. From FY2015 to FY2019, the figures are based on FY2015. From FY2020 to FY2021, the figures are based on FY2020.
5) Approximate figures are for FY2021.

Promoting conversion to rice for rice flour and other products, and production of field crops such as wheat and soybeans, for which domestic demand is increasing

- Production of rice for consumption as a staple food in 2022 was 6.701 million tons (down 4.4% from the previous year). Planted area was 1.251 million ha (down 4% from the previous year).
- In order to produce in response to consumer needs, stable trading through advance contracts or multi-year contracts that link production areas/producers with users, supporting crop diversion to rice for flour, etc., and providing information on stocks and prices have been implemented.
- In FY 2021, the demand for rice for rice flour was 41,000 tons (up 13.9% from the previous year). Production in FY 2021 was 42,000 tons. Expansion of domestic demand and exports to overseas gluten-free markets has been promoted.
- The planted area of wheat in 2022 was 227,000 ha (up 3.3% from the previous year). The planted area of soybeans in 2022 was 152,000 ha (up 3.7% from the previous year).
- Strengthening production systems and improving production efficiency in production areas has been promoted by supporting the aggregation of cropping and the introduction of farming techniques.
- In order to promote the production of field crops such as wheat and soybeans, for which domestic demand is increasing, MAFF has promoted support for efforts to convert paddy fields to upland fields and to create production areas for field crops, as well as utilizing a block rotation system in paddy fields.

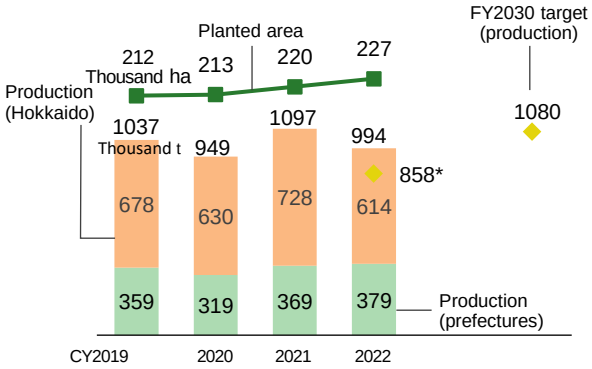
Production and demand for rice for rice flour



Source: Prepared by MAFF
Note: The asterisk* indicates the FY2021 target for measured index of policy evaluation.

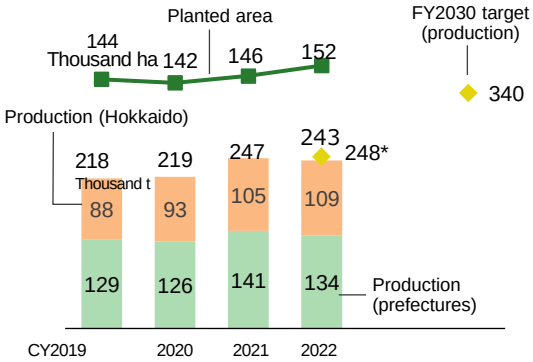
Developed and sold bread made from 100% home-grown rice flour with less allergy risks (Niigata Prefecture)
Source: Tainai Co., Ltd

Wheat planted area and production



Source: Compiled by MAFF based on the data of "Crop Statistics", etc.
Note: The asterisk* indicates the FY2022 target for measured index of policy evaluation.

Soybean planted area and production



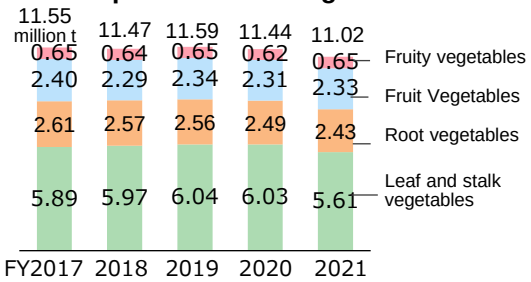
Source: Compiled by MAFF based on the data of "Crop Statistics", etc.
Note: The asterisk* indicates the FY2022 target for measured index of policy evaluation.

Promoting the development of horticultural production areas and the introduction of labor-saving tree forms of fruits

- Vegetable production in FY 2021 was 11.02 million t (up 3.7% from the previous year). In addition to improving infrastructure, developing horticultural production areas, and introducing machinery and facilities with high performance, MAFF has provided comprehensive support for the establishment of new production and distribution systems, and the introduction of crop stabilization technology to strengthen the production system for processing and manufacturing uses of vegetables.

- Fruit production in FY 2021 was 2.599 million t (down 2.8% from the previous year). The production base has been strengthened to meet domestic and international demand by promoting the introduction of labor-saving tree forms and mechanical work systems, as well as securing farmers and labor force.

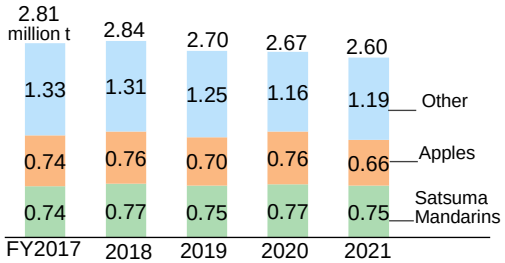
Domestic production of vegetables



Source: MAFF, "Food Balance Sheet"
Note: FY2021 refers to an estimate.

Farmer working on highly environmentally controlled tomato cultivation (Fukui Prefecture)

Domestic fruit production



Source: MAFF, "Food Balance Sheet"
Note: FY2021 refers to an estimate.

Tall spindle planting of apples (Aomori Prefecture)

Promoting international-level GAP and farming safety measures

- The number of management entities that have acquired GLOBALG.A.P., ASIAGAP or JGAP certifications is 7,977 as of the end of FY2021. MAFF has promoted the expansion of the number of those entities engaging in the international-level GAP.

- In addition to improving the safety of farm machinery through the review of the safety inspection system, MAFF has promoted farmers' safety awareness-raising through development of instructors and training for farmers on effective accident prevention measures.

Case study: acquisition of GAP certification

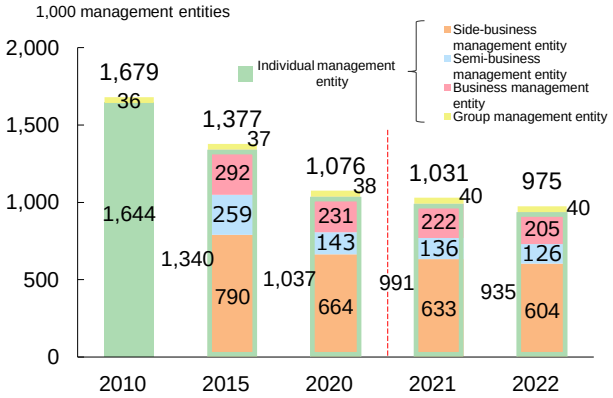
Atsumi Agricultural High School has acquired GLOBALG.A.P. for chrysanthemums and tomatoes, which are the main commodities produced locally, by the students' own efforts for collecting necessary data and preparing for application form (Aichi Prefecture).

Farm work safety poster

The number of agriculture management entities has been on a downward trend, with the average age of core persons mainly engaged in farming rising to 68.4. Developing and securing business farmers is an urgent issue

- The number of agriculture management entities has been on a downward trend, with 975,000 in 2022, down 5.4% from the previous year. The number of individual management entities, which account for 96% of the total, decreased by 5.7%, while group management entities, accounting for 4% of the total, increased by 1.5%.
- The number of agricultural corporations in 2022 increased by 1.9% from the previous year to 32,000.
- The number of core persons mainly engaged in farming has been on a downward trend, with a decrease of 5.9% to 1.23 million in 2022. The number of those in the 50-64 and 65-74 age groups decreased by 9.3% and 7.8% respectively, compared to the previous year. 860,000 people are aged 65 or older, accounting for about 70% of the total, with the average age being 68.4.
- The number of certified farmers, whose agricultural management plan has been certified by the local government (hereinafter called "certified farmers"), in FY 2021 decreased by 2.2% from the previous year to 222,000. Certified farmers account for 22.8% of the agriculture management entities.
- MAFF has promoted planned management succession and recruitment of newcomers from younger generation to realize a balanced agricultural structure among generations. Policy support for farmers' pensions has also been implemented.

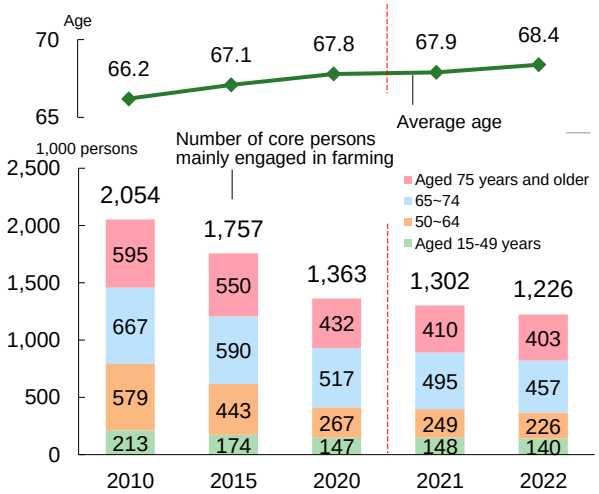
Number of agriculture management entities



Source: Prepared based on the data of MAFF, "Census of Agriculture and Forestry" and "Survey on Movement of Agricultural Structure"

Notes: 1) Figures as of February 1 of each year.
2) Business management entity refers to an individual management entity whose main income is agricultural, with a family member under 65 years of age (engaged in self-employment agriculture for 60 days or more a year). Semi-business management entity refers to an individual management entity whose main income is non-agricultural, with a family member under 65 years of age (engaged in self-employment agriculture for 60 days or more a year). Side-business management entity refers to an individual management entity with no family member under 65 years of age (engaged in self-employment agriculture for 60 days or more a year).
3) Figures for 2021 and 2022 are the results of the survey on Movement of Agricultural Structure, and are estimates captured through sampling survey.

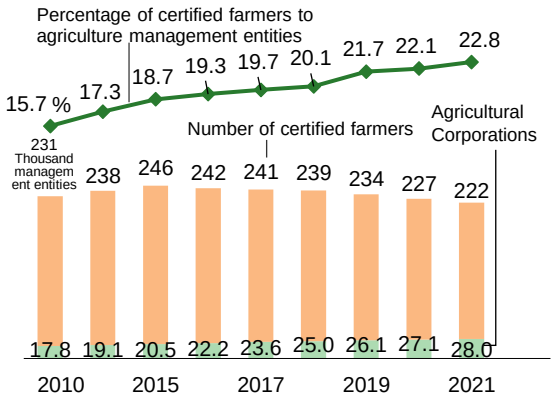
Number of core persons mainly engaged in farming and average age



Source: MAFF, "2010 World Census of Agriculture and Forestry" (recompiled) and "2015 Census of Agriculture and Forestry" (recompiled), "2020 Census of Agriculture and Forestry" and "Survey on Movement of Agricultural Structure"

Notes: 1) Figures as of February 1 of each year.
2) Figures for 2021 and 2022 are the results of the survey on Movement of Agricultural Structure and are estimates captured through sampling survey.

Number of certified farmers



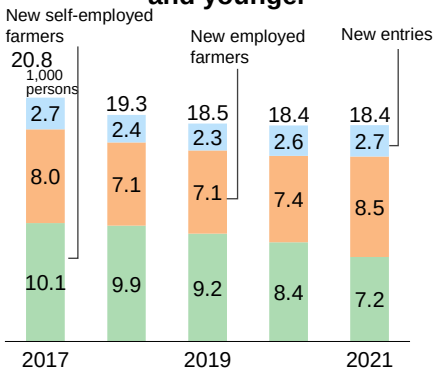
Source: Prepared based on the data of MAFF, "Status of Certified Farmers," "Census of Agriculture and Forestry," and "Survey on Movement of Agricultural Structure"

Notes: 1) Number of certified farmers is as of the end of each fiscal year.
2) Including specified corporations that are deemed to be certified farmers.

Providing support for newcomers to acquire farming techniques and secure funds

- The number of newcomers fell 2.7% to 52,000 in 2021. Of these, 18,000 are under 49 years of age. The number of new employed farmers exceeded the number of new self-employed farmers for the first time.
- Looking at the employment status of newcomers aged 49 years and younger just before employment, those who worked outside of agriculture were the most common.
- As newcomers face challenges such as learning farming techniques and securing funds, MAFF has provided support for providing funds for farming and securing machinery/facilities, etc.
- Farmer's academy had 1,737 graduates in FY 2021. Those who took up farming accounted for 54.2% of the total. The percentage of newly employed farmers was 33.2%.

Number of newcomers aged 49 years and younger



Source: MAFF, "Survey on Newcomers in Agriculture"
Note: The figures refer to the number of recruited newcomer in a year from February 1 of the relevant year to January 31 of the next year.

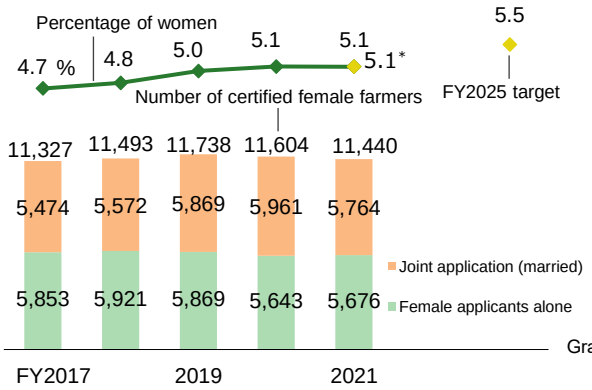
Case study: promotion of recruiting newcomers

The Kaifu Next-Generation Horticultural Area Creation Promotion Council is promoting community-wide efforts to develop newcomers based on the "Cucumber Town Plan," which aims to expand production areas by recruiting newcomers through migration (Tokushima Prefecture).
Source: Kaifu Agricultural Co-operatives

Promoting the creation of a working and living environment for female farmers

- The number of female core persons mainly engaged in farming in 2022 was 480,000, down 6.3% from the previous year. They make up about 40% of the total and are important business farmers.
- In FY 2021, there were 11,000 certified female farmers. They make up 5.1% of total certified farmers.
- It is essential to create an environment in which men and women can share housework, child care, nursing care, and agriculture work. MAFF has supported initiatives such as the development of female farmers who can be leaders in their communities, the group activities of local female farmers, and support activities for child care and farm work in their communities.
- Efforts by female farmers are being further developed, such as the "Nougyou-Joshi Project" (Campaign for women farmers to be more active in agricultural business by cooperation with various industries to tap women farmers' knowledge and experience). Besides, there are cases of women who are active in AFFrinnovation, as well as forming female farmers' groups in local communities to promote the sales of agricultural products.

Percentage of certified female farmers



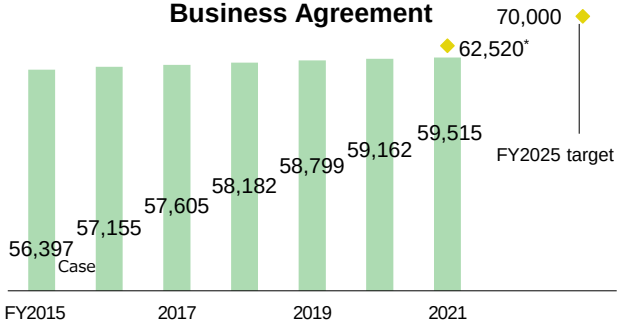
Grand Prize Winners of the "Nogyo-joshi Award 2022"

Source: Compiled based on MAFF "Approval Status of Plan for Improving Agricultural Management by Type of Farming"
Notes: 1) Figures are as of the end of each fiscal year.
2) The asterisk* indicates the FY2022 target for performance at the end of FY2021 in measured index of policy evaluation.

Diverse management entities such as small, medium, and family management play an important role in maintaining local communities. Efforts to secure diverse human resources, including the elderly and the disabled person, have also expanded

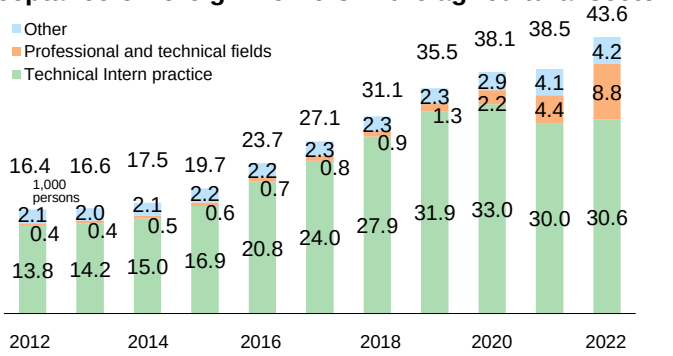
- In 2022, 96% of agriculture management entities were individual management entities, and 52% of agriculture management entities manage under 1.0 ha of farmland. At the production site, small, medium, family, and other diverse management entities cooperate in each production area to conduct agricultural production and joint sales, playing an important role in maintaining local communities.
- As of the end of FY 2021, the number of “family business agreements” , which determine individual roles and working conditions among family members, was 60,000.
- With the aging and declining population in rural areas, it is important to secure a workforce at production sites, including foreign workers. The total number of foreign workers in the agricultural field in 2022 was 44,000, an increase of about 5,000 from the previous year.
- Efforts to secure and utilize diverse human resources, including the elderly and disabled persons, have expanded.
- In 2020, the number of agricultural cooperatives practicing "purchase and sales" system reached about 70% of the total, and efforts to focus on sales operations have expanded. In addition, some agricultural cooperatives are developing and selling low-cost fertilizers and providing contracted drone-based pest control services.

Number of farms with signed Family Business Agreement



Source: Compiled based on MAFF “Survey of Actual Condition on Family Business Agreements”
Notes: 1) Figures are as of the end of each fiscal year.
2) The asterisk* indicates the FY2022 target for performance at the end of FY2021 in measured index of policy evaluation.

Acceptance of foreign workers in the agricultural sector



Source: Compiled by MAFF based on the Ministry of Health, Labour and Welfare "Notification of 'Employment Status of Foreigners'"
Notes: 1) The figures are as of the end of October in each year.
2) Figures for "professional and technical fields" after 2019 include the number of "specified skilled foreign workers."
3) Reporting of the "employment status of foreign nationals" is mandatory upon hiring or separation from employment, and there is no obligation to do so when not including separation from employment, such as when transferring from "technical intern practice" to "specified skills"; therefore, the figures are not consistent with those of other surveys.

Kagoshima Prefectural Federation of Economic Agricultural Co-operative Associations promotes contracted labor-saving pest control of sweet potato, etc. (Kagoshima Prefecture)
Source: Kagoshima Prefectural Federation of Economic Agricultural Co-operative Associations

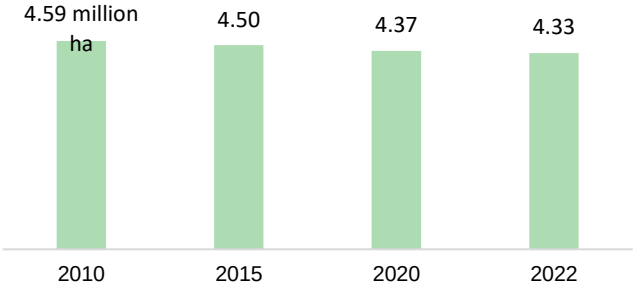
Steadily expanding the number of people who join revenue insurance

- The number of management entities that joined revenue insurance in 2022 increased by approximately 20,000 to 79,000 compared to the previous year.

Agricultural land area has been on a downward trend. Farmland accumulation rate for business farmers increased by 0.9 percentage points from the previous fiscal year

- The agricultural land area in 2022 decreased by 24,000 ha from the previous year to 4.33 million ha. Total planted area also continued to decline, with the 2021 utilization rate of cultivated land at 91.4%.
- Newly occurring dilapidated farmland area in FY 2021 was 30,000 ha. The newly reclaimed area was 13,000 ha. The area of reusable dilapidated farmland is 91,000 ha.
- As of the end of March 2022, there were 520,000 ha of unregistered inheritance farmland and 509,000 ha of potentially unregistered inheritance farmland.
- In 2021, there was no acquisition of farmland by a foreign legal person or by a person believed to be a foreign national whose place of residence is abroad. In the same year, with respect to a foreign legal person or a person believed to be a foreign national whose place of residence is overseas, the acquired farmland by a Japanese legal person in which the foreign legal person has voting rights or a Japanese corporation in which the foreign person is an officer, was 5.3 ha by 3 corporations.
- Cropland intermediary management institutions (Farmland Banks) lease farmland dispersed and dislocated within the area and reallocates it to business farmers in a cohesive manner, thereby consolidating and intensifying farmland.
- In FY 2021, farmland accumulation ratio for business farmers rose by 0.9 percentage points from the previous year to 58.9%. It needs to accelerate the efforts to achieve target of 80% in FY 2023.

Agricultural land area



Source: MAFF "Statistics on Cultivated Area and Planted Area"

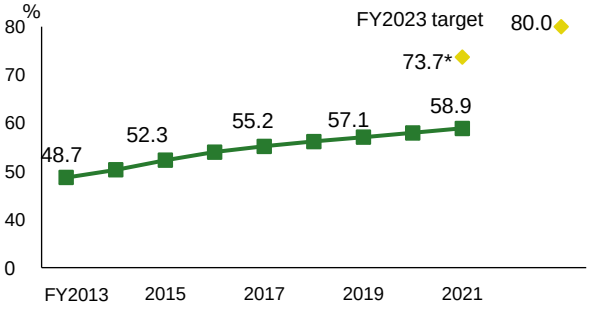
Status of generation and elimination of dilapidated farmland in FY2021

(Unit: 10,000 ha)

Newly generated area		Newly reclaimed area		Reusable dilapidated farmland	
	Arable land zone		Arable land zone		Arable land zone
3.0	1.5	1.3	0.8	9.1	5.4

Source: Prepared by MAFF

Business farmers' share of total farmland

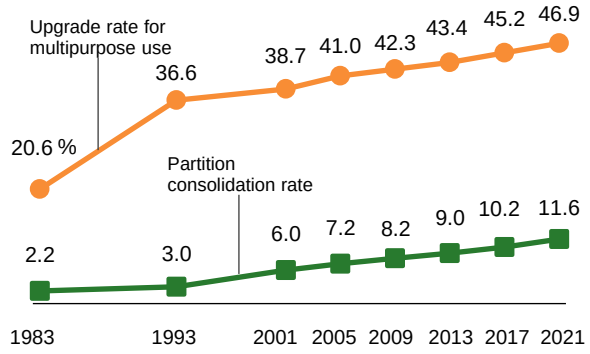


Source: Prepared by MAFF
Note: 1) The figures include those other than farmland banks.
2) The asterisk* indicates the FY2021 target for measured index of policy evaluation.

Promoting consolidation and expansion of farmland parcels, conversion of paddy fields into upland fields and multipurpose paddy fields, life extension of agricultural irrigation facilities, measures against heavy rains and earthquakes in reservoirs

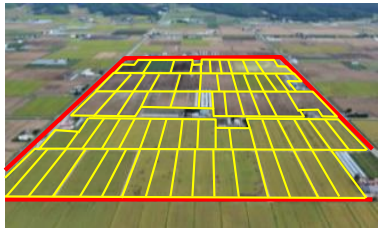
- For agricultural transformation to a Growth Industry, the development of the agricultural production base has been implemented, such as consolidation and expansion of farmland parcels, conversion of paddy fields into upland fields and multipurpose paddy fields. As of the end of March 2021, 12% of paddy fields had been consolidated into large partitions of 50a or more, and 47% had been upgraded to multipurpose paddy fields by installing culvert drainage, etc. Irrigation facilities had covered 25% of upland fields.
- In order to facilitate the implementation of smart agriculture, the development of agricultural production bases has been promoted such as consolidation and expansion of farmland parcels suitable for automated agricultural machinery and the development of ICT water management facilities.
- In order to support the establishment of food security, converting paddy fields into upland fields and multipurpose paddy fields by improving water-drainage, etc., upgrading upland fields by developing irrigation facilities, and improving pastures have been promoted.
- As of the end of March 2021, out of 7,700 core agricultural irrigation facilities such as dams and headworks and 51,831 km of core channels, the percentage of facilities and the length of channels that have exceeded the standard durable years was 56% and 45%, respectively. Sudden accidents such as water leaks in agricultural irrigation facilities due to aging deterioration also remain high. To extend service life and reduce life-cycle costs of facilities, stock management, which implements repairs and renewals in a planned and efficient manner, has been promoted.
- Pursuant to the Act on Special Measures for Construction of Agricultural Reservoirs, as of the end of July 2021, approximately 55,000 locations were designated as Important Agricultural Reservoirs for disaster prevention. Approximately 33,000 of those reservoirs have created hazard maps. The disaster prevention and mitigation measures related to agricultural reservoirs with an appropriate combination of structural and non-structural measures have been promoted.
- Promotion of "River Basin Disaster Resilience and Sustainability by All" management through the use of flood control functions of farmland and irrigation and drainage facilities such as storage of rainwater in "rice paddy dams" and pre-discharge in agricultural dams have been implemented.

Development status of partition consolidation and multipurpose paddy fields

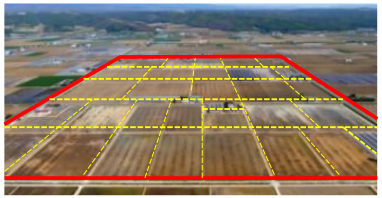


Source: Compiled based on MAFF "Statistics on Cultivated Area and Planted Area" and "Basic Survey on Fundamental Agricultural Data"

Notes: 1) "The "partition consolidation rate" is the percentage of the paddy fields consolidated into large partitions of 50a or more.
2) The "upgrade rate for multipurpose use" is the percentage of the paddy fields consolidated into large partitions of about 30a or more, whose groundwater levels are 70 cm or more and flooding removal time is 4 hours or less.



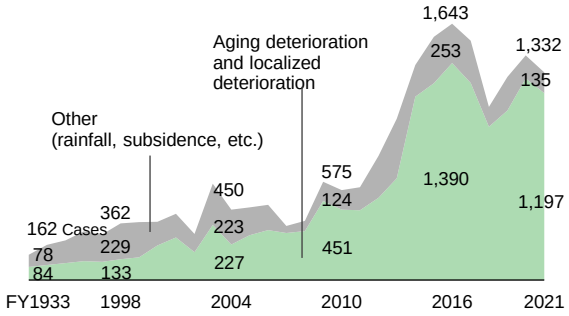
(Before readjustment : 30a to 50a per lot)



(After readjustment : 1.5 to 2.3 ha per lot)

Fields before and after land readjustment (Hokkaido)
Source: Ministry of Land, Infrastructure, Transport and Tourism

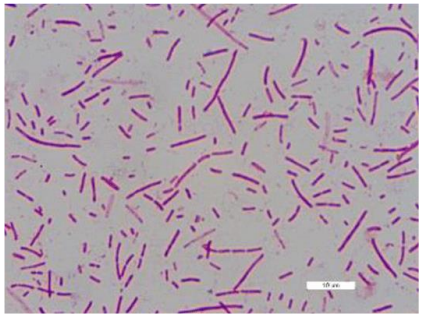
Occurrences of sudden accidents at agricultural irrigation facilities



Source: Prepared by MAFF

Promoting innovation creation and technological development

- Toward the realization of the MIDORI Strategy, the development of technologies that contribute to both productivity potential and sustainability in the agriculture, forestry, fisheries, and food industries has been advanced.
- Flying insect pests were shot down by irradiating them with laser light. This is expected as new pest control technology to help reduce the use of chemical pesticides.
- Elucidation of microbial functions related to curbing methane production and improving productivity in cattle, and evaluation for the effectiveness of candidate materials for curbing methane production have been implemented. In addition, breeding and improvement of cattle that produce less methane and development of technologies to reduce greenhouse gases in the composting process have been promoted.
- In FY 2021, a technical catalog, "The Strategy for Sustainable Food Systems, MIDORI" (Ver. 1.0) on expected technologies to be widely extended in agricultural sites was published. In November 2022, Ver. 2.0 with additional technologies available by 2030 was released.



A new bacterial species, *"Prevotella Lacticifex*," isolated from low methane-producing cattle

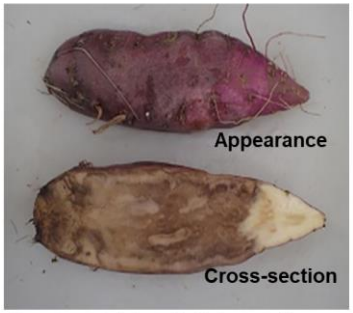
Source: NARO

- In December 2022, the "MIDORI Breeding Policy" was formulated to set forth the direction for the early development of innovative varieties that achieve both high productivity and reduced use of chemical fertilizers, as well as the revitalization of variety development. Based on this policy, the breeding of varieties, such as those resistant to sweet potato foot rot disease and BNI (Biological Nitrification Inhibition)-enabled wheat and maize, which can maintain high productivity even with the application of smaller amounts of nitrogen fertilizer, has been promoted.
- The establishment of a "smart breeding platform" to streamline the development of new varieties, including tools to predict the optimal mating combinations, has been promoted. This has accelerated the development of new varieties by national research institutes, prefectural test sites, universities, and private companies.
- The integration and utilization of "Knowledge" is operated and utilized as a mechanism to promote open innovation by introducing knowledge, technology, and ideas from various fields in the agriculture, forestry, fisheries, and food industries. As of the end of FY 2022, more than 4,500 legal persons and individuals from a wide range of fields, including IT, electronics, and medicine, had joined as members.

Examples of breeding varieties developed under the "MIDORI Breeding Policy"

Varieties to help reduce the use of chemical pesticides

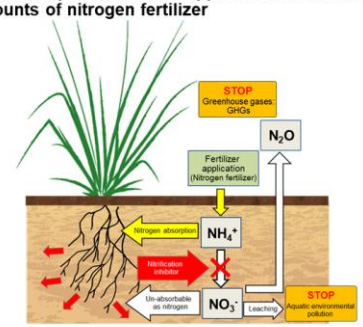
-Promoting development of varieties resistant to sweet potato foot rot disease and reducing use of chemical pesticides



Sweet potato infected with foot rot disease

Varieties to help reducing the use of chemical fertilizers

-Development of BNI (Biological Nitrification Inhibition)-enabled crops maintain high productivity even with the application of smaller amounts of nitrogen fertilizer



BNI-enabled wheat and maize

Source: Prepared by MAFF
Note: Photo source is NARO

Promoting initiatives to reduce the emissions of greenhouse gases: GHGs from agriculture

- Emissions of greenhouse gases from the agriculture, forestry, and fisheries sectors in Japan in FY2020 were 50.84 million t (CO2 equivalent).
- Various efforts for this issue have been promoted, such as prolonging midseason drainage in paddy farming and practicing autumn plowing, managing livestock waste in livestock farming, and development and extension of technologies to reduce greenhouse gas emissions from fermentation in the digestive tracts of livestock.
- The J-Credit system, under which the government certifies the amount of greenhouse gas emissions reduction and absorption as credits, allows transactions to attract private funds, enabling the agriculture, forestry, and fishery industry to earn income by selling the credits generated by their reduction and absorption efforts. This system is expected to be further utilized in the future.
- The 27th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change: COP27 was held in Egypt in November 2022. On this occasion, agricultural production technologies developed by Japanese research institutes that contribute to measures for climate change were introduced.

The "Kunming-Montreal Global Biodiversity Framework," a new global goal on biodiversity by 2030, was adopted. In March 2023, the Biodiversity Strategy of the Ministry of Agriculture, Forestry and Fisheries was revised

- In December 2022, the 15th Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD-COP15) was held and adopted the "Kunming-Montreal Global Biodiversity Framework," a set of new global targets for biodiversity to be achieved by 2030.
- In the area of agriculture, forestry, and fisheries, targets were set to conserve and manage at least 30% of terrestrial and inland water areas, and of marine and coastal areas (30 by 30), and to reduce the risk of pollution caused by excess nutrients, chemicals, etc. lost to the environment.
- In March 2023, the Ministry of Agriculture, Forestry and Fisheries Biodiversity Strategy was revised to strongly support the agriculture, forestry, and fisheries industry focusing on biodiversity conservation.

Main targets of the Kunming-Montreal Global Biodiversity Framework

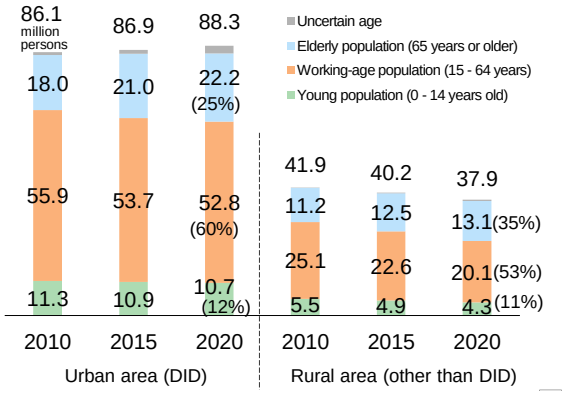
	Overview
Conserved Areas	Ensure that at least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, are effectively conserved and managed through protected areas and other effective area-based conservation measures . (OECM) (30 by 30) *OECM: Other Effective area-based Conservation Measures
Wild species	Ensure that the use, harvesting, and trade of wild species is sustainable, safe, and legal, preventing overexploitation.
Pollution	Reduce pollution risks from all sources, including by reducing excess nutrients lost to the environment by at least half, by reducing the overall risk from pesticides and highly hazardous chemicals by at least half.
Agriculture, Forestry, and Fisheries industries	Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, contributing to the resilience and long-term efficiency and productivity of these production systems, and to food security.
Business	Take measures to enable business, and in particular to ensure that large and transnational companies and financial institutions regularly monitor, assess, and transparently disclose their risks, dependencies, and impacts on biodiversity and promote actions to ensure sustainable patterns of production.
Reduction of waste	Ensure that people are enabled to make sustainable consumption choices to reduce the global footprint of consumption, including through halving global food waste, significantly reducing overconsumption.

Source: Prepared by MAFF

Aging and depopulation are occurring in parallel in rural areas. Promoting rural migration measures by related ministries and agencies

- Aging and depopulation are occurring in parallel in rural areas. Population in 2020 increased by 2% in cities compared to 2015, while rural population decreased by 6%.
- Interest in rural migration, especially among the younger generation, has grown and the value and appeal of rural communities are re-evaluated.
- The recruitment of human resources who can play a key role in supporting rural activities in the future has been promoted through measures to promote rural migration by relevant ministries and agencies.

Population by age group in rural and urban areas



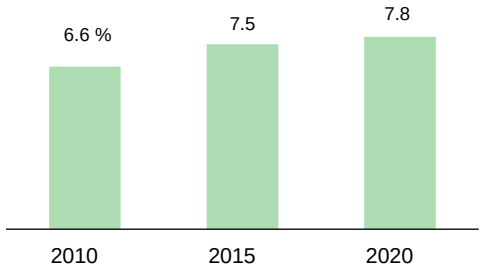
Source: Compiled by MAFF based on the data of MIC, "National Census"
Note: In the census, a densely inhabited district (DID) is defined as a city, and the areas other than DID are defined as rural areas.

The "Tanabe Mirai Sozojuku" that creates a new flow of people, and the immigrated founder of the school (Wakayama Prefecture)
Source: Tanabe City, Wakayama Prefecture

Rural communities are becoming smaller. Movements to support maintenance of village functions through wide-area cooperation are expanding

- The percentage of rural communities with 9 or fewer households in total increased by 1.2 percentage points to 7.8% in 2020 compared to 2010.
- The survival of rural communities affects the maintenance of agricultural production activities in the area. The maintenance and growth of rural population and maintenance of community functions are important issues.
- The movement to maintain the functions of rural communities through wide-area coordinated efforts has been spreading.

Percentage of rural communities with nine or fewer households

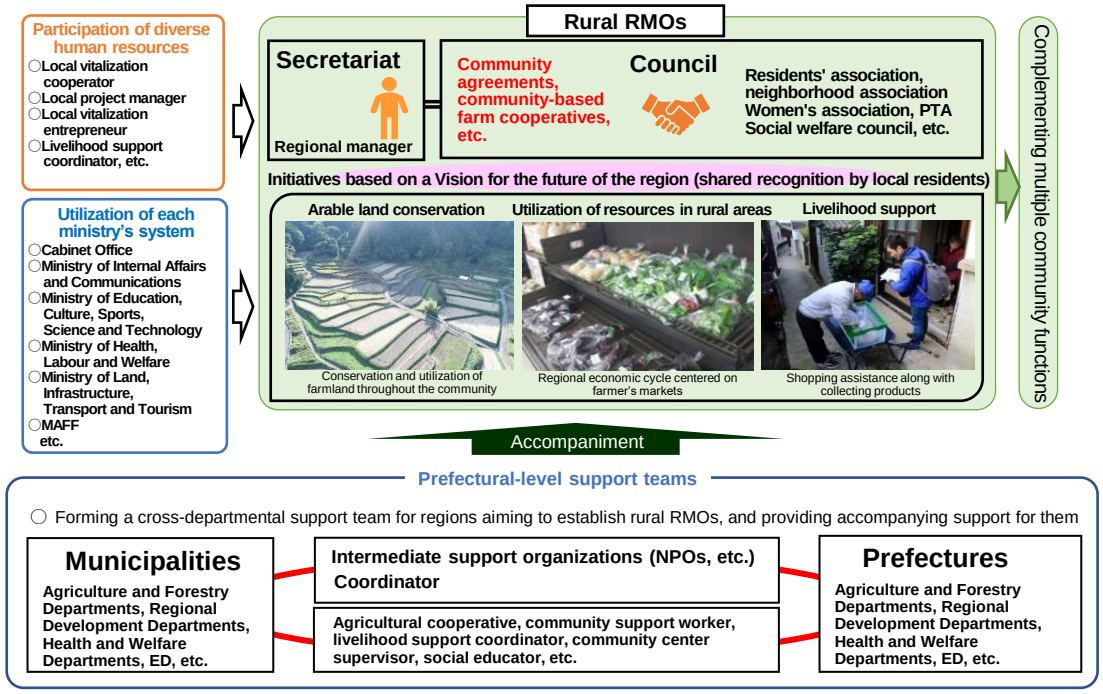


Source: MAFF, "Census of Agriculture and Forestry"

Promoting formation of rural RMO (Region Management Organization)

- The formation of rural RMOs (rural community management organizations) has been promoted. This organization complements the functions of multiple communities and provides livelihood support and other initiatives that contribute to the maintenance of local communities, in conjunction with farmland conservation activities and agricultural economic activities.
- In forming rural RMO, it is important to develop an organization into one that supports the livehood of rural communities by developing economic activities through agricultural promotion using resources in rural areas, based on cooperation between various local entities and agricultural land preservation activity groups which receive “grants for direct payment to farmers in hilly and mountainous areas” and “grants for multifunctional payment”.
- In order to achieve the goal of forming rural RMOs in 100 districts by FY 2026, MAFF will provide support for the organizations aiming to become rural RMOs through planning, demonstration projects, and other initiatives. Also, prefecture-based support teams consisting of local governments, agricultural cooperatives, and NPOs, as well as establishment of a national platform have been supported.

Promotion system for formation of rural RMOs



Case study: establishment of rural RMOs

Drone-based pest control
(Functions relating to agricultural production)

Shopping assistance with mobile shop trucks
(Functions related to livelihood support)

As a rural RMO in Hida district of Yasugi City, Ehida Company began its efforts to contribute to regional agriculture, and developed a wide range of businesses, including industrial promotion, living environment improvement, enhancement of welfare, and promotion of migration (Shimane Prefecture)
Source: Ehida Company Corporation

Implementing a Japanese agricultural direct payment system and promoting agriculture in hilly and mountainous areas and urban agriculture

- In order to maintain and exercise the multifunctional roles in agriculture and rural areas, the Japanese agricultural direct payment system has been implemented based on the "Act on Promotion of the Multifunctionality of Agriculture." The system consists of three components: a multifunctional payment system, a direct payment system to farmers in hilly and mountainous areas, and a system of direct payments for environmentally friendly agriculture.

- In FY 2021, the area of certified agricultural land under a multifunctional payment system increased by 20,000 ha from the previous year to approximately 2.31 million ha.

- In FY 2021, the agreed area under the grants for direct payment to farmers in hilly and mountainous areas increased by 11,000 ha from the previous year to 653,000 ha. In order to maintain rural communities' functions in weakening hilly and mountainous areas, etc., drawing up of rural communities' strategies will be promoted.

- Amid a consistent decline in agricultural land in urbanization promotion areas, agricultural land area in productive green zones in 2021 was 12,000 ha, the same as the previous year.

- In 2017, the specified productive green spaces system was introduced to extend the deadline for purchase offers of productive green zones at the owner's will. As of the end of December 2022, 89% of the productive green zones stipulated in city planning in 1992 under the Productive Green Space Act were designated as specified productive green zones.

Examples of multifunctional payment systems

Farmland maintenance payment

Dredging up mud of channels

Mowing the slope

Resource improvement payment

Joint activities to improve the quality of resources in rural areas

Partial repair of farm roads

Extermination of alien species

Activities to extend the service life of facilities

Repair of channel walls

Renewal of concrete channels

- In FY 2021, the leased area of farmland certified under the Urban Farmland Leasing Act increased by 25.9 ha from the previous year to 77.5 ha.

Promoting the securing of livelihood infrastructure in rural areas

- The creation of information and communication environments such as optical fiber and wireless base stations has been promoted for the use of ICT, etc. in agriculture and rural areas.

- Efforts such as appropriate conservation measures for aging rural community sewerage facilities and farm roads have been supported.

Promoting efforts to create and expand the agricultural related population and deepen their relationships. "Half-farmer, half-X" approach has been spreading

- According to a 2021 public opinion survey conducted by the Cabinet Office, about 70% of respondents said they are interested in cooperating with agricultural and rural communities. In order to create and expand "Agricultural related population" and deepen the relationships, various support has been provided for agricultural experiences, exchanges between urban and rural areas, and experiences of life in rural areas, according to the stage of development of their involvement and interest.
- The “exchange project for children experiencing farming and rural lives” has been promoted to support experience of agricultural, forestry, and fishery activities.
- The "Half-farmer, half-X" approach, which combines agriculture with other work ~~jobs~~ by moving from the city to~~r~~ rural areas, has been spreading. The measures to increase the number of people practicing half-farmer, half-X approach, such as utilizing the system of the Act on the Promotion of Specific Regional Development in Rapidly Declining Population Areas, have been promoted in collaboration with relevant ministries and agencies.
- The number of members of the “regional revitalization cooperation corps” in FY 2022 was 6,447, an increase of 432 from the previous year.

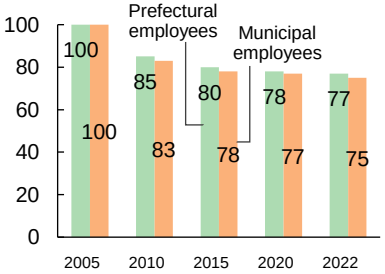
Efforts to create and expand the related population based on the ownership system (Ibaraki Prefecture)
Source: Ibaraki Food and Agriculture Brand Building Council

Efforts to dispatch multi-workers to production sites during the busy season (Kagoshima Prefecture)
Source: Erabu Island Business Cooperative

In local governments, the number of employees in the agriculture, forestry, and fisheries department is decreasing

- In local governments, the number of employees in the agriculture, forestry, and fisheries departments is decreasing. As it becomes difficult to meet the diverse needs of agricultural sites, it is important to take measures that suit the characteristics of each region while making effective use of limited administrative resources.
- The gap between regions that can take advantage of various regional development measures and create new movements, and those that cannot do so is widening, and the so-called "gap between rural areas" has become apparent. MAFF is promoting the initiative for “Rural area producers training course” to develop human resources that support community development, and the utilization of “Rural Areas Development Hotline” that serves as a consultation point for community development.

Number of employees in the agriculture, forestry, and fisheries department of local government (Index number with 2005 as 100)



Source: Compiled by MAFF based on the Ministry of Internal Affairs and Communications' “Survey Results on Capacity Management of Local Governments”

Promoting "Support for Innovations from Rural Areas" such as countryside stay and agriculture-welfare collaborations

- The "Support for Innovations from Rural Areas" has been promoted by developing the existing AFFrinnovation efforts, utilizing diverse resources related to agriculture, forestry, and fishery products and these industries, and collaborating with other fields to create new businesses and added value. Soft measures support, hard measures support, and accompanying support such as dispatching of experts have been implemented, while promoting cooperation among diverse entities including agriculture, forestry, and fishery workers and local businesses.

- Total annual sales of related business of agricultural production including processing and direct sales by farmers engaged in AFFrinnovation in FY2021 increased by 33.7 billion yen from the previous year to 2,066.6 billion yen.

- The total number of guests staying in the countryside in FY 2021 was 4.48 million, an increase of 580,000 compared to the previous year. By the end of FY 2022, 621 countryside-stay regions had been adopted nationwide. Initiatives to stimulate demand for countryside stay have been developed as a safe and secure travel destination.

- Efforts to promote employment of people with disabilities in the agricultural sector, called agriculture-welfare collaborations, have been promoted in various parts of the country as an advantageous approach for both agricultural and welfare sectors.

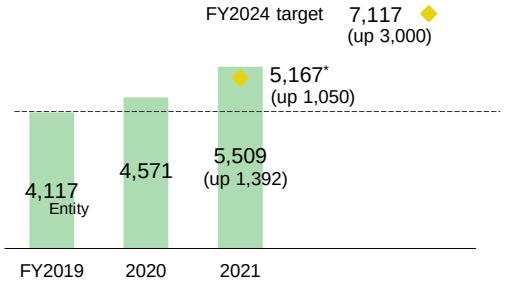
- In FY 2021, the number of entities engaged in agriculture-welfare collaborations increased by approximately 20% compared to the previous year, to 5,509. The development of professional human resources who can support agriculture-welfare collaborations at the sites, as well as dissemination and awareness-raising of the agriculture-welfare collaborations nationwide have been promoted.

Case study: innovation from rural areas

"Forest" x "Sports" x "Venture Company" approach (Forest and survival games) (Nagano Prefecture)
Source: Forestry Corporation

"Agricultural products" x "Processed sales, tourism" x "farmers, local businesses" approach (craft beer and cherry smoked meat produced and sold) Development of stay-type tourism content in collaboration with tourism businesses) (Chiba Prefecture)
Source: Kyonan Corporation

Number of entities involved in agriculture-welfare collaborations



Source: Prepared by MAFF
Note: The asterisk* indicates the FY2021 target for measured index of policy evaluation.

Promoting the use of biomass and the introduction of renewable energy

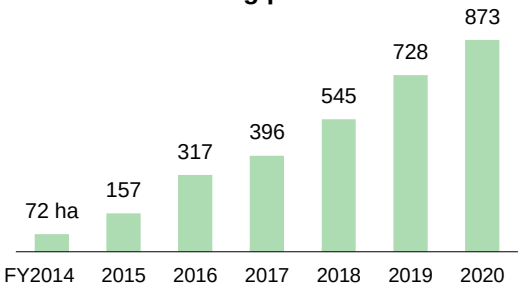
- In September 2022, the new Basic Plan for Promoting Biomass Utilization was decided on by the Cabinet. Promote the comprehensive use of biomass not only in rural areas but also in urban areas.
- The Plan has promoted the cultivation of energy crops on farmlands and the prevention of occurrence of devastated farmland.
- By FY 2022, 101 municipalities had been selected as Biomass Industrial Cities.
- By FY 2021, the number of municipalities that had prepared basic plans based on the Act on Promoting the Generation of Electricity from Renewable Energy Sources Harmonized with Sound Development of Agriculture, Forestry and Fisheries, increased to 81, and the number of certified plans for facilities improvement increased to 100.

Initiatives for local consumption of locally produced energy through biogas plant operation (Hokkaido)
Source: Shikaoi-cho, Hokkaido

While farming photovoltaics efforts are expanding, there have been cases in which problems have occurred in farming on the farmland under the photovoltaic panels

- The area of the farming photovoltaics projects that generate electricity while continuing to farm have been increasing year by year, with 873 ha in FY 2020, an increase of 145 ha from the previous year.

Areas of farming photovoltaics



Source: Prepared by MAFF

- On the other hand, of the 2,535 ongoing initiatives as of the end of FY 2020, 458 or 18%, are in a situation where farmland is not properly managed, causing hindrance to farming. The agricultural committee or farmland diversion authority provides guidance to improve farming conditions for initiatives that have been hindered due to the business operators, but as a result of not following the improvement guidance, there have been cases where the relicensing of farmland conversion, which is necessary for the business continuation, has not been granted.

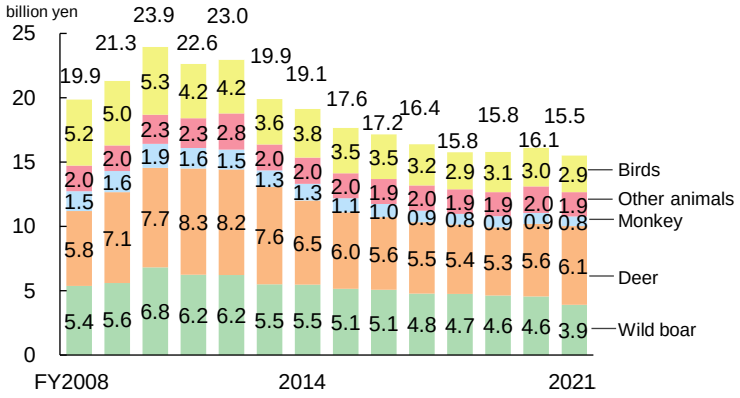
Case study: the lower farmland is not properly managed, weeds are thriving and causing hindrance to farming

Promoting initiatives such as prevention of wildlife damage and utilization of gibier*

- In FY 2021, damage to field crops by wildlife decreased by 600 million yen from the previous year to 15.5 billion yen, due to a decrease in damage caused by wild boars.
- Under the Revised Act on special countermeasures for the prevention of damage due to wildlife, initiatives for wide-area trapping, utilization of ICT, versatile use of hide and skin,etc. have been supported.
- Utilizing wildlife which has been considered harmful wildlife to turn them into resources in rural areas as gibier, has been expanded. The amount of gibier used in FY 2021 increased by 18% from the previous year to 2,127 t.
- Under the domestic gibier certification system to provide safer gibier and ensure security of consumers, the number of certified domestic gibier facilities at the end of FY 2022 was 30, including 4 newly certified facilities.

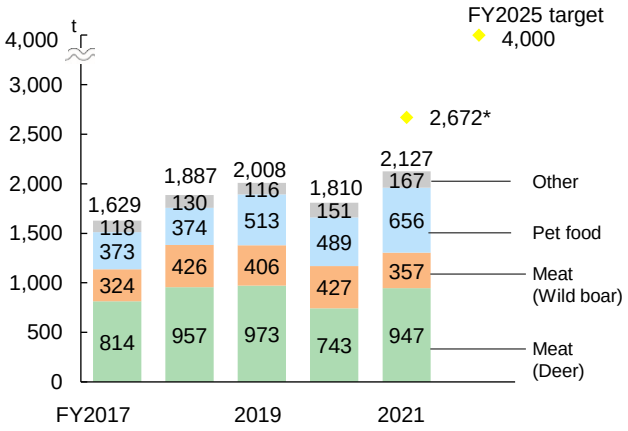
*Gibier is meat from wildlife which is hunted according to the hunting regulations or captured to prevent damage to agriculture or ecosystems.

Filed crop damage caused by wild birds and animals



Source: Prepared by MAFF

Amount of gibier utilized



Source: Prepared based on MAFF "Fact-finding Survey on Wildlife Resources Utilization"
Note: The asterisk* indicates the FY2021 target for measured index of policy evaluation.

Two sites as Globally Important Agricultural Heritage Systems and two sites as Japanese Nationally Important Agricultural Heritage Systems were newly designated

- In July 2022, 2 sites were newly designated as Globally Important Agricultural Heritage Systems: Kyoutou Region in Yamanashi and the Lake Biwa region in Shiga. In January 2023, 2 sites were newly designated as Japanese Nationally Important Agricultural Heritage Systems: Tabashine mountain-base areas in Iwate, and Hiki Hills in Saitama.

- The number of designated rice terraces under the Act on Vitalization of Tanada Region increased to 711 in FY 2022. In accordance with the Act, cross-ministries and agencies have comprehensively provided support for regional revitalization efforts focused on rice terraces by the Designated Tanada Promotion Association.

- In FY 2021, the Minister of Agriculture, Forestry and Fisheries recognized 271 outstanding rice terraces as "TSUNAGU TANADA heritage – passing hometown pride to the future."

- According to a 2021 public opinion survey conducted by the Cabinet Office, the awareness of “multifunctional roles of agriculture” was less than 30%. Dissemination and awareness-raising has been promoted by distributing pamphlets that explain the multifunctional roles of agriculture in an easy-to-understand manner.

(Kyoutou Region in Yamanashi)

(Lake Biwa region in Shiga)

2022 Globally Important Agricultural Heritage Systems

Rice terrace in the Mikohara District selected as one of the “TSUNAGU TANADA heritage" (Ishikawa Prefecture)
Source: Ishikawa

Substantial progress has been made in rehabilitating infrastructure in tsunami-affected farmland and other areas through restoration projects

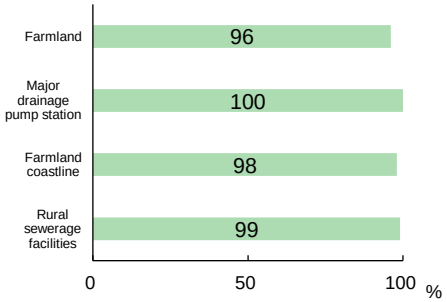
- Agriculture-related damage from the Great East Japan Earthquake was 964.3 billion yen, among 2,443.5 billion yen of damage to agriculture, forestry, and fisheries in total.
- Of the 19,660 ha of farmland for recovery from the earthquake and tsunami disaster, 18,840 ha of farmland were able to restart farming as of the end of March 2023.
- In the three prefectures of Iwate, Miyagi, and Fukushima, efforts have been made for the expansion of farmland parcels in conjunction with the restoration of farmland from the earthquake and tsunami.

Large-scale elevated cultivation introduced to revive strawberry production (Miyagi Prefecture)
Source: Watari-cho, Miyagi

There are still issues to be addressed in areas affected by the nuclear disaster, such as restarting farming and dispelling reputational damages

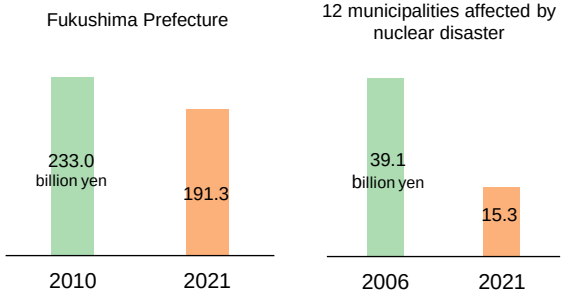
- The total area of farmland for restarting farming in the 12 municipalities affected by the nuclear disaster increased by 793 ha from the previous fiscal year to 7,370 ha at the end of FY 2021. On the other hand, there is a delay in restarting farming in municipalities with difficult-to-return zones.
- In 2021, the total agricultural output of Fukushima Prefecture had recovered to about 80% of pre-earthquake levels, while the agricultural output of the 12 municipalities affected by the nuclear disaster had recovered only to about 40%.
- Support for the development of facilities that serve as a base for production areas has been provided, aiming to create production areas where production and processing can be integrated to increase added value.
- The percentage of people who are hesitant to buy Fukushima products because of radioactive materials has been on a downward trend and was 5.8% in 2023.
- Comprehensive brand unique to Fukushima, strengthening the competitiveness of production areas, and promoting domestic and international sales.

Status of restoration of farmland and agricultural facilities



Source: Prepared by MAFF
Notes: 1) Figures are as of the end of FY 2022.
2) Farmland indicates the ratio to the 19,660 ha of farmland to be restored excluding that which has been converted to public lands (including prospects) (completed except for 820 ha in Fukushima Prefecture)
3) Major drainage pump stations are for 96 sites that need to be restored.
4) Farmland coastlines are for 122 areas in need of restoration (completed except for 3 areas in Fukushima)
5) Rural sewerage facilities are for affected 401 sites (including facilities under restoration).

Agricultural output of 12 municipalities affected by nuclear power disaster compared with pre-disaster levels



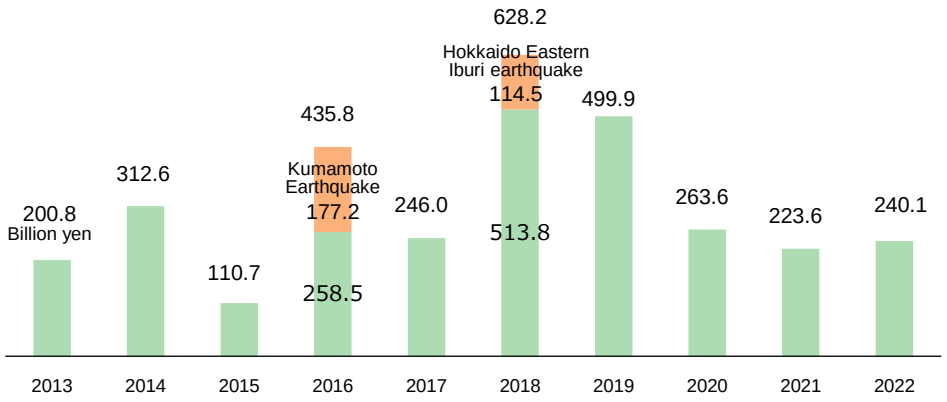
Sources: Compiled based on the data of MAFF, "Statistics of Agricultural Income Produced" and "2021 Agricultural Output by Municipality (Estimation) (Results of estimation of agricultural output by municipality using the results of the Census of Agriculture and Forestry)"

Damage to agriculture, forestry, and fisheries caused by major natural disasters in 2022 was 240.1 billion yen

- In recent years, large-scale natural disasters have occurred in various parts of Japan almost every year. The disaster caused extensive damage to field crops, farmland, and agricultural facilities in our country's agriculture, forestry, and fisheries industries.

- Restoration and reconstruction has been promoted from the 2019 East Japan Typhoon, heavy rains in July 2020, and heavy rains from July to August 2021.

The amount of damage caused by natural disasters in agriculture, forestry, and fisheries in the past 10 years



Source: Prepared by MAFF
Note: Damage figures for 2022 are as of the end of March 2023.

- In 2022, widespread damage occurred due to the 2022 earthquake off the coast of Fukushima Prefecture, heavy rain from July 14, 2022, heavy rain from August 3, 2022, and the Typhoon Nos. 14 and 15 in 2022. The total amount of damage to agriculture, forestry, and fisheries in 2022 was 240.1 billion yen at the end of March 2023.

- With respect to the damage caused by major natural disasters such as the heavy rains that began on August 3, 2022, the designation as a disaster of extreme severity reduced the burden on local governments and disaster-affected farmers for disaster restoration projects on farmland and agricultural facilities.

Flooding of land under permanent crops due to "heavy rain from August 3, 2022" (Aomori Prefecture)

Promoting measures based on the "Five-Year Acceleration Plan for Disaster Prevention, Disaster Mitigation, and Building National Resilience"

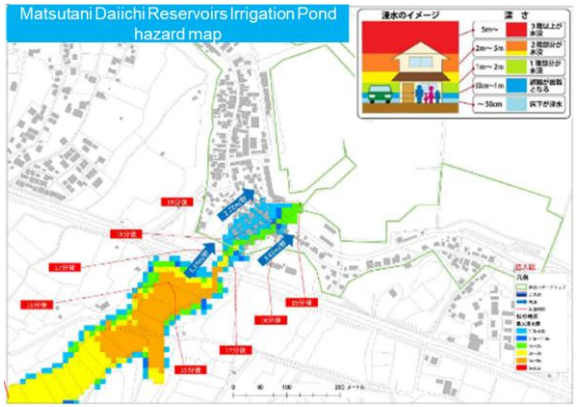
- Based on the “Fundamental Plan for National Resilience” decided on by the Cabinet in 2014 (revised in 2018), disaster prevention and mitigation measures have been promoted by combining structural measures such as extending the service life of agricultural irrigation facilities and promoting comprehensive measures for irrigation ponds including consolidation, with non-structural measures such as creating hazard maps and educating local residents.

- In the field of agriculture and rural areas, based on the “Five-Year Acceleration Plan for Disaster Prevention, Disaster Mitigation, and Building National Resilience” decided on by the Cabinet in 2020, initiatives have been promoted, such as “flood control measures (improvement of agricultural irrigation facilities, enhancement of the storage function of paddy fields, improvement of seashore)," "disaster prevention and mitigation measures related to important agricultural reservoirs for disaster prevention,” “measures against aging agricultural irrigation facilities, heavy rain, and earthquakes," "disaster prevention and mitigation measures for wholesale markets," and "measures for continuing business of horticultural products."

(Before measures)

(After measures)

Important agricultural reservoirs for disaster prevention before and after countermeasure works (Tottori Prefecture)
Source: Kotoura Town, Tottori Prefecture



Agricultural reservoirs hazard map (Tottori Prefecture)
Source: Kotoura Town, Tottori Prefecture

Promoting the development and introduction of new adaptation technologies to address the impacts of climate change

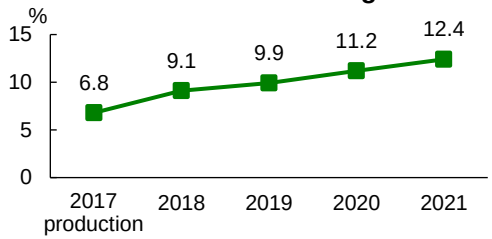
- Agricultural production is generally sensitive to climate change, and the effects of growth and quality deterioration are seen in each item. To this end, monitoring of the impacts of global warming, compilation of global warming impact survey reports, and dissemination of information have been conducted. In addition, efforts have been implemented to work for the extension and instruction of the adaptation measures to production sites, and demonstration of the introduction of new adaptation technologies, through the introduction of adaptation technologies to avoid and mitigate the effects of high temperatures and high-temperature-resistant varieties.

- In paddy rice, the crop acreage percentage of high-temperature-tolerant varieties has been increasing year by year and was 12.4% in 2021.

- The purchase of agricultural insurance has been promoted to help farmers themselves prepare for damage by natural disasters. Focus is placed on promoting enrollment in horticultural facility mutual aid and revenue insurance schemes. In FY 2021, the horticultural facility mutual aid enrollment rate was 69.9%, up 4.3 percentage points from the previous year. At the same time, extension of agricultural BCP (Business Continuity Plan) has been promoted.

- In a survey released in March 2023, about 40% of respondents said that they “do not stockpile food.” Efforts to establish household food stockpiles in preparation for disasters have been promoted.

Percentage of high-temperature-tolerant varieties to rice acreage



Source: MAFF, “2021 Global Warming Impact Study Report” (released in September 2022)
Note: High-temperature-tolerant varieties are those that do not suffer a drop in brown rice quality or yield even at high temperatures.

Case study: agricultural BCP utilization

Kanaizuka Engei took the opportunity of encountering damage caused by heavy snow to create an agricultural version of the BCP, which is used to raise awareness of disaster prevention and improve management on a daily basis (Saitama Prefecture)
Source: Kanaizuka Engei

FY2023 Measures for Food, Agriculture, and Rural Areas

Summary

- Policy priorities, fiscal measures, tax measures, monetary measures

I. Measures to maintain and improve Japan's food self-sufficiency ratio and potential

- Initiatives to maintain and improve Japan's food self-sufficiency ratio and potential
- Measures to realize the production targets for each major item

II Measures for securing a stable supply of food

- Exploration of demand through the creation of new values
- Strategic exploration of global market
- Deepening of the connection between consumers and food and agriculture
- Ensuring food safety and consumer trust taking international activities into consideration
- Establishing comprehensive food security in anticipation of food supply risks
- Response to a new international environment such as TPP, and strategic international negotiations

III. Measures for sustainable development of agriculture

- Development and securing of business farmers for realizing a strong and sustainable agricultural structure
- Active participation of diverse human resources and entities that support agricultural sites
- Accumulation and concentration of agricultural land for business farmers and securing farmland
- Promotion of initiatives towards stabilization of agricultural management
- Development of agricultural production base that contributes to the transformation of agriculture into a growth industry and strengthening national resilience
- Strengthening of the production bases in response to changes in the demand structure, etc., and streamlining of distribution/processing structure
- Promotion of innovations at agricultural production/distribution sites by utilizing ICT, etc.
- Promotion of the Strategy for Sustainable Food Systems, MIDORI(Measures for Achievement of Decarbonization and Resilience with Innovation)
- Promotion of environmental policy, including responses to climate change

IV. Measures for promotion of rural areas

- Securing income and employment opportunities by utilizing resources in rural areas
- Improvement of conditions necessary for people to continue to live in rural areas including hilly and mountainous areas
- Creation of new movements and vitality to support rural areas
- Development of a collaborative system of related ministries and agencies to continuously promote measures in line with the above three items

V. Measures for restoration/reconstruction from the Great East Japan Earthquake and large-scale natural disasters

- Restoration/Reconstruction from Great East Japan Earthquake
- Preparedness for large-scale natural disasters
- Restoration from large-scale natural disasters

VI. Measures for groups

VII Measures for forming a national consensus through the expansion of national movements on food and agriculture

VIII Response to new infectious diseases including COVID-19

IX. Matters necessary for comprehensively and systematically promoting measures for food, agriculture, and rural areas

- Unless otherwise noted, this report is based on information available as of the end of March 2023.
- The figures in the tables and charts are rounded off and may not exactly reflect the actual totals.
- The targets in this report are those in the measurement indicator of policy evaluation in accordance with the basic plans for food, agriculture, and rural areas.
- The maps in this report do not necessarily indicate Japan’s territories comprehensively.

Definitions

A	
Accumulation and concentration of agricultural land	Accumulation of agricultural land means owning or leasing farmland to expand farmland for utilization. Concentration of agricultural land means exchanging farmland use rights to eliminate farmland dispersion and allow farming to be conducted continuously without difficulty.
AFFrinnovation	AFFrinnovation which means initiatives for agriculture, forestry and fisheries operators to voluntarily cooperate with others to comprehensively and integrally promote agriculture, forestry and fisheries as the primary industry, manufacturing as the secondary industry and retailing as the tertiary industry to utilize regional resources for producing new added value.
African swine fever	African swine fever is an infectious disease caused by African swine fever (ASF) virus for pigs and wild boars. It is a high-mortality disease featuring fever and whole-body hemorrhagic lesions. There is no effective vaccine or therapy for this disease. ASF is seen chronically in Africa and an outbreak has been identified in Russia and its vicinity. In August 2018, China became the first Asian country to identify an outbreak of ASF. Since then, the disease has spread in Asia. No outbreak of this disease has been confirmed in Japan. This is a disease of pigs and wild boars and is not contagious to humans.
Agricultural irrigation facilities	These facilities are roughly divided into two types: irrigation facilities for providing irrigation water for farmlands and sewerage facilities for discharging surplus surface and soil water in farmlands. Irrigation facilities include dams and other water storage facilities, water intake facilities such as weirs, drains, pumping facilities, circular tank diversion works, farm ponds and other water supply and distribution facilities. Sewerage facilities include drainage channels and drainage pump stations. In addition, there are water control facilities to monitor, control and operate irrigation and sewerage facilities.
B	
Biomass	Biomass means organic resources of flora and fauna origin, excluding fossil resources. Biomass is made by organisms that create organic matter from inorganic water and CO_2 through photosynthesis using solar energy falling on the earth. These types of resources are renewable throughout its life cycle as long as there are organisms and solar energy.
C	
Calorie supply (Calorie intake)	Calorie supply refers to the total amount of calories from food that is supplied to the public, and calorie intake refers to the total amount of calories actually consumed by the public. As a rule, the value for calorie supply is taken from the Food Balance Sheet issued by the Ministry of Agriculture, Forestry and Fisheries, while the value for calorie intake is taken from the National Health and Nutrition Examination Survey issued by the Ministry of Health, Labour and Welfare. It is necessary to keep in mind that calculations for both values are entirely different, since the calorie supply value includes food residue emerging inevitably in food industry processes, home food leftovers, etc.
Certified farmer (system)	The certified farmer system certifies plans for improving agricultural management drafted by farmers to attain targets for efficient and stable farm management in basic plans prepared by municipal governments to meet their respective conditions under the Agricultural Management Framework Reinforcement Act. For certified farmers, or those whose plans have been certified, various measures are primarily implemented, including low interest financing from the Super L loan system and other programs, measures to facilitate farmland consolidation and infrastructure improvement efforts to support business farmers.

Classical swine fever	Classical swine fever is an infectious disease caused by classical swine fever (CSF) virus for swine and wild boars. It develops symptoms such as fever, anorexia and prostration, featuring strong propagation and high fatality. The disease is still seen throughout the world including Asia. Japan eliminated the disease in 2007 before encountering its first epidemic in 26 years in September 2018. The disease infects swine and wild boars but not humans.
Community-based farm cooperatives	Farm cooperatives consist of farming households in certain regions that have developed relations through local communities or other geographical bases. Cooperative member households conduct farming through joint agriculture production. These cooperatives' forms and operations vary depending on regional conditions. Their operations range from the aggregation of diverted paddy fields and the communal use of communally purchased machines, to joint production and sales in which agricultural leaders play a central role.
Countryside stay	It is a "stay-type tourism in rural areas, rural communities" where visitors stay in rural areas and rural communities and enjoy meals and experiences using resources in rural areas during their stay. By providing a variety of tourism content that makes use of resources in rural areas, rural communities, such as lodging, meals, and experiences, and by encouraging visitors to stay long and consume in rural areas and rural communities, it is expected to maximize the benefits obtained by the region, revitalize the rural areas and rural communities and their increase in incomes, as well as becoming a threshold in the creation of related population focusing on migration and settlement in the rural areas and rural communities.
Creation of multipurpose paddy fields	To improve drainage by constructing drainage canals and culverts in paddy fields, so that upland field crops such as wheat and soybeans and vegetables can be grown through usual farming practices/farming management.
D	
Dilapidated farmland	A dilapidated farmland is a farmland that has been left uncultivated and dilapidated due to the abandonment of cultivation and is viewed objectively as unable to be used for growing crops with conventional farming methods.
E	
Ecosystem services	It refers to benefits that people can obtain from the ecosystem, including "supply services" such as food, water, wood, fiber, and fuel; "coordination services" such as climate stability and water purification; "cultural services" that provide recreational and spiritual benefits; and "infrastructure services" such as nourishment/nutrition cycling, soil formation, and photosynthesis.
EPA/FTA	EPA stands for Economic Partnership Agreement and FTA for Free Trade Agreement. An FTA is a treaty between particular countries or regions created for the purpose of reducing and repealing tariffs on goods and services trade barriers. An EPA is a treaty that adds rules on investment and protection of intellectual property to the basic contents of an FTA in order to enhance a wider range of economic relations. Under the General Agreement on Tariffs and Trade (GATT), member countries are allowed to liberalize trade with EPA or FTA partners as an exception to most-favored nation status on the following conditions: (1) "abolishment of tariffs and other restrictive trade regulations" for "essentially all trade", (2) abolishing such practices within a reasonable time frame (as a rule, within 10 years), and (3) refraining from enhancing tariffs and other trade barriers for nations other than EPA or FTA partners (under Article 24 and other sections of GATT).
ESG	ESG is investment, management, and business activities that take into account environment, social aspects, and governance.
F	
Family business	A family business agreement is a written arrangement that clarifies

agreement	business plans, each family member's role, working conditions, etc., for a farming family based on talks between family members. This agreement clarifies the roles of farming family members including women and successors, allowing a farming family to become subject to the preferential treatment of farmer annuity insurance premiums and file joint applications for the certified farmer system.
Food bank	A food bank is an organization that receives donations of unused and other still edible foods from food-related businesses and other entities, and provides it free of charge to those who are unable to obtain sufficient food due to poverty or disasters.
Food domestic production ratio	Food domestic production ratio is the share of domestic production of food provided in the country. It is an index used for the evaluation of domestic production, reflecting the activities of the domestic livestock industry regardless of the origin of the feed. The ratio calculates domestic production as domestically produced food using imported feed.
Food security	As for food security in Japan, the Food, Agriculture and Rural Areas Basic Act states, "Even in the case that domestic supply and demand is or is likely to be significantly strained for a certain period, due to unexpected situations such as a poor harvest or interrupted imports, the minimum food supply required for the people shall be secured in order not to be a hindrance to the stability of peoples' lives and smooth operation of the national economy." Regarding global food security, meanwhile, the Food and Agriculture Organization (FAO) of the United Nations (UN) states, "Food security exists when all people, at all times, have physical, social, and economic access to sufficient and safe food with nourishment/nutrition that meets their dietary pattern needs and food preferences for an active and healthy life." Food security is considered to have the following four points: (i) sufficient quantities of food of appropriate quality (supply side), (ii) access to legal, political, economic, and social rights to food with nourishment/nutrition (access side), (iii) access to safe food with high nutritional value/nutritive value (utilization side), and (iv) stability in access to adequate food at any time (stability side)
Food self-sufficiency potential	This concept expresses the potential capacity of food production in the Japanese agriculture, forestry and fisheries sectors. The components of the food self-sufficiency potential for agricultural production are agricultural resources such as farmland and irrigation systems, agricultural technology, and people engaged in farming. The components of the food self-sufficiency potential for fishery production are potential production volume and people engaged in fishery. - Food self-sufficiency potential indicator This indicator shows the amount of calories supplied from food by fully utilizing the potential production capacity of Japan such as agricultural resources, people engaged in farming, and agricultural technology. Based on the premise that calorie efficiency is maximized, this indicator shows the amount of calories which could be supplied per person per day in the Japanese agriculture, forestry and fisheries sector. The indicator is comprised of the two patterns below. It also expresses the amount of calories which could be supplied that reflects the ratio of the total working hours of existing workforce to the working hours necessary for the production in each pattern (labor fill rate). (Pattern A) When rice and wheat are mainly cultivated by maximizing the calorie efficiency with consideration to nutritional balance (Pattern B) When potatoes are mainly cultivated by maximizing the calorie efficiency with consideration to nutritional balance

Food self-sufficiency ratio	This index indicates the share of domestic production in the total supply of food in Japan. - Self-sufficiency ratio for individual items: The following formula is used to calculate the self-sufficiency ratio on a weight basis for individual items Food self-sufficiency ratio calculation formula $\text{Self} - \text{sufficiency ratio for individual items} = \frac{\text{Domestic production volume}}{\text{Supply for domestic consumption}}$ $= \frac{\text{Domestic production volume}}{\text{Domestic production volume} + \text{Import volume} - \text{Export volume} \pm \text{Fluctuations in inventory}}$ - Total food self-sufficiency ratio: This ratio is an index for the total volume of food, and is expressed in both calorie supply basis and production value basis. Products made from domestic livestock raised with imported feed are not included in domestic production. The food self-sufficiency ratio for FY2018 and beyond is adjusted for changes in food consumption due to inbound (outbound) consumption. ・Total food self-sufficiency ratio on calorie supply basis: Calculated by dividing the value for the sum of the domestic calorie supply per person per day by the value for the calorie supply per person per day. In deriving the calorie supply, weight values for each item are converted to calories using the Standard Tables of Food Composition in Japan - 2020 - (Eighth Revised Edition), after which the calories of all items are totaled. ・Total food self-sufficiency ratio on production value basis: Calculated by dividing the sum of the domestic production value of food by the total food supply value for domestic consumption. In deriving the monetary values, weight values are converted to production values using farm gate prices and import prices from domestic agricultural price and trade statistics, after which all production values are totaled. - Feed self-sufficiency ratio: This index indicates the share of domestic feed (excluding feed produced with imported materials used) in feed supplied to livestock, calculated in terms of total digestible nutrients (TDN) based on the Standard Tables of Feed Composition in Japan (2009).
G	
GAP	Good Agricultural Practices (GAP) are management activities in the agricultural production process to ensure various components of sustainability including food safety, environmental conservation and worker safety.
GLOBALG.A.P.	GLOBALG.A.P. is a GAP certification program with third-party certification established by Germany's FoodPLUS GmbH. Its vegetable and fruit standard and aquaculture standard are GFSI-recognized. This program has been in an extension mainly in Europe.
Greenhouse gases (GHGs)	Greenhouse gases heat the earth's surface by absorbing and radiating a portion of infrared radiation reflected from the ground. The Kyoto Protocol to the United Nations Framework Convention on Climate Change designates carbon dioxide (CO2), methane (CH4, generated from paddy fields and final waste disposal sites), dinitrogen monoxide (N2O, generated during the process of manufacturing some raw ingredients for chemical products and from livestock waste), hydrofluorocarbons (HFCs, used as coolants for air conditioning devices), as greenhouse gases: GHGs that should be reduced.
H	
HACCP	HACCP stands for Hazard Analysis and Critical Control Point. This process management system continuously monitors and records particularly

	important processes (Critical Control Point: processes such as heating and sterilization, detection of foreign materials by metal detectors, etc.) that lead to the prevention of hazards, based on predictions of hazards such as contamination with microbes, microorganisms, and metal contamination in each process from the acceptance of raw materials to the final product (Hazard Analysis). In June 2021, under the Act for Partial Amendment of the Food Sanitation Act, etc., in principle all food business operators (food production, preparation, sales, etc.) are required to implement sanitary control in accordance with HACCP.
Highly Pathogenic Avian Influenza (HPAI)	Highly Pathogenic Avian Influenza (HPAI) is a kind of Avian Influenza that is highly fatal to poultry. When poultry are infected with HPAI, they show general symptoms such as neurological, respiratory and digestive ones, and many of them die. In Japan, there has not been any case reported where humans were infected with HPAI through eating chicken eggs or meat.
Home meal replacement	Home meal replacements are between eating out at restaurants and preparing meals at home. They include commercially sold lunch boxes, ready-to-eat dishes and foods cooked and processed outside home that are consumed at home, school, workplace, etc., without cooking. These meals are perishable.
I	
Idle farmland	Farmland that falls under either of the following ① or ②: ① The first item cites a farmland that is unused for cultivation and is expected to remain unused for the purpose. ② The second cites a farmland that is used far less than other farmlands in the vicinity. (excluding farmland listed in ①)
ISO	It stands for International Organization for Standardization and is referred to as “ISO”, a non-governmental organization headquartered in Geneva, Switzerland. In addition to standards for products and services, the ISO standards established by ISO include standards for mechanisms for managing organizational activities (management systems).
J	
JAS	JAS stands for Japanese Agricultural Standards. Based on the Act on Japanese Agricultural Standards (JAS), the government establishes such standards for the quality, production process, etc. of Agricultural and Forestry Products (including food and drinks, agricultural, forestry, livestock, and marine products) Such JAS certification may be obtained from the third-party Certification Bodies and JAS seals (logos) may be affixed to the JAS certified Agricultural and Forestry Products as proof of such JAS certification.
JFS	JFS is an abbreviation for Japan Food Safety. It is a third-party certification standards for food safety management, developed by the Japan Food Safety Management Association (JFSM). JFS consists of three level standards. The structure of JFS can allow food business operators to step up sequentially. The original of all requirements in the standards, including the international standard level standards approved by GFSI, are written in Japanese. This makes it easier for small and medium-sized enterprises to work on. In addition, the standards are flexible and can be easily introduced in producing food to be eaten raw and fermentation of food, which are unique to the Japanese dietary culture/food culture.
L	
Local consumption of local products	This is an initiative for agriculture, forestry or fishery products (limited to food products) produced in domestic regions to be consumed in those regions. The initiative contributes to improving the food self-sufficiency ratio and to promoting AFFrinnovation through farmers’ markets and processing operations.

O	
OIE	OIE stands for Office International des Epizooties in French. It is currently called the World Organisation for Animal Health. It is an intergovernmental organization founded in 1924 to improve the health of animals. Japan joined the OIE in 1930. OIE's activities include provision of technical support for animal health-related issues, including prevention of animal diseases such as African swine fever, measures against drug resistance, and establishment of international standards on animals/livestock products trading and animal welfare.
R	
Rural community	The rural community is a fundamental regional unit where households are connected by local and family ties for farming or utilization of farming water in some municipal localities. These communities have close relationships for a wide range of activities including maintenance and management of irrigation facilities, use of farming equipment, and marriages and funerals. They have developed many characteristic traditions and function as autonomous or administrative units.
S	
Smart agriculture	Smart agriculture refers to agriculture using advanced technologies such as robots, AI, and IoT. The use of drones and robotic agricultural machines is expected to save labor and automate farming work, while the use of data is expected to improve the quality and productivity of agricultural products.
Sustainable development goals (SDGs)	SDGs stands for Sustainable Development Goals. The Sustainable Development Goals (SDGs) are the entire international community's development goals for 2030, by unanimous adoption at the United Nations Summit in September 2015. There are 17 goals, including those for the eradication of famine and poverty, economic growth and employment, and climate change countermeasures. The SDGs are non-binding goals urging each country to take voluntary actions in accordance with its conditions. Japan created the "SDGs Promotion Headquarters" in May 2016 to implement the SDGs. The headquarters decided on the "SDGs Implementation Guideline," spelling out Japan's vision and priorities for implementing the SDGs, and the SDGs Action Plan, including the direction and major initiatives for providing Japan's SDGs models. Here are the icons for the 17 goals:

T	
TPP	TPP stands for Trans-Pacific Partnership. The TPP agreement is an EPA in the Asia-Pacific region that will liberalize not only customs duty on goods, but also services and investments, and establish rules in a wide range of areas, including intellectual property, financial services, and e-commerce. Negotiations for the TPP agreement reached an agreement in principle in 2015, and the agreement was signed by 12 countries (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the U.S., and Vietnam) in 2016. Following the announcement of the U.S. withdrawal in 2017, 11 countries, excluding the U.S., held discussions, and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) entered into force in 2018.
W	
Washoku; Traditional dietary cultures of the Japanese	In December 2013, UNESCO registered “Washoku; traditional dietary culture of the Japanese” as an Intangible Cultural Heritage of Humanity of the UNESCO. “Washoku” is the Japanese diet practice based on the Japanese people’s spirit of “respecting nature.” It has the following four features: (i) various fresh ingredients and respect for their natural flavors, (ii) nutritional balance that supports healthy dietary pattern, (iii) emphasis on the beauty of nature and seasonal changes in the presentation, and (iv) deep ties to New Year's and other regular annual events
WCS	WCS stands for whole crop silage, meaning a feed that is made by harvesting berries, stems, and leaves integrally for lactic fermentation. WCS rice is produced for WCS for livestock, contributing to the effective utilization of paddy fields and the improvement of feed self-sufficiency ratio.
WTO	WTO is the abbreviation of World Trade Organization. It is an international organization established in January 1995 to further a framework for the General Agreement on Tariffs and Trade (GATT) as a result of the Uruguay Round Negotiations. The headquarters is located in Geneva, and 164 countries and regions have joined as of January 2023. Its purpose is to promote trade liberalization by lowering trade barriers, providing a forum for multilateral trade negotiations and settling international trade conflicts.

Basic Terminology of Statistics

(1) Classification of agriculture management entities (2020 Census of Agriculture and Forestry)

Terminology	Definition
Agriculture management entities	An establishment that performs agricultural production either directly or on contract and fulfills one of the following conditions: (1) manages 30 ares or more cultivated land, (2) possesses a planted area or cultivated area or a number of livestock being raised or delivered that is equal to or greater than a predetermined standard (e.g., 15 ares for outdoor grown vegetables, 350 square meters for vegetables grown in facilities, one cow), (3) accepts farm work on contract. (Censuses of Agriculture and Forestry from 1990, 1995 and 2000 regard agriculture management entities as the combination of commercial farm households, agricultural holdings other than a farm household, and agricultural service enterprises.)
Individual management entities	Entities that conduct business as individuals (households), not including corporate entities.
Business farming entities	Individual management entities whose main source of income (50% or more) is farming, and which have at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more per year.
Semi-business farming entities	Individual management entities whose main income (50% more than) is from sources other than agriculture, and which have at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more per year
Side-business farming entities	Individual management entities without members under the age of 65 engaged in self-employed farming for 60 days or more per year
Group management entities	Agriculture management entities that do not fall under Individual management entities.
Single farming entities	Entities whose main agricultural product sales account for 80% or more of income from all agriculture product sales.
Semi-multiple farming entities	Entities whose main agricultural product sales account for 60% to less than 80% of income from all agriculture product sales.
Multiple farming entities	Entities whose main agricultural product sales account for less than 60% of income from all agriculture product sales (excluding the management entities without any sales).

(2) Classification of agriculture management entities (Definitions from 2005 Census of Agriculture and Forestry to 2015 Census of Agriculture and Forestry)

Terminology	Definition
Agriculture management entities	Same as (1).
Family management entities	Individual management entities or a single-household corporation entity.
Organized management entities	Agriculture management entities that do not fall under family management entities.

(3) Classification of farm households

Terminology	Definition
Farm household	Household engaged in farming and managing cultivated land of 10 ares or more, or earning 150,000 yen or more per year from sales of agricultural products.
Commercial farm household	Farm household managing cultivated land of 30 ares or more, or earning 500,000 yen or more per year from sales of agricultural products.
Business farm household	Farm household whose main source of income (50% or more) is farming, and which possesses at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more a year.
Semi-business farm household	Farm household whose main income (50% or more) is from sources other than agriculture and which possess at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more a year.
Side-business farm household	Farm household without any members under the age of 65 engaged in self-employed farming for 60 days or more a year (farm households other than business and semi-business farm households).
Full-time farm household	A farm household without family members who are part-time farmers.
Part-time farm household	A farm household with one or more members who are part-time farmers.
Farm household earning main income from farming	A part-time farm household earning more income from farming than from others
Farm household earning main income from other jobs	A part-time farm household earning more income from non-farming jobs than from farming
Noncommercial farm household	A farm household managing cultivated land of less than 30 ares, and earning less than 500,000 yen per year from sales of agricultural products.
Agricultural holding other than farm household	A holding other than farm household managing cultivated land of 10 ares or more, or earning 150,000 yen or more per year from sales of agricultural products.
Agricultural services enterprise	An enterprise conducting farm work on contract (including enterprise other than agricultural holding, specializing in production and sale of seedlings).
Land tenure non-farm household	A household other than a farm household possessing 5 ares or more in cultivated land and abandoned cultivated land

Note: Definitions are based on the survey system of the 1990 Census of Agriculture and Forestry and the 2000 Census of Agriculture and Forestry.

(4) Farm household economics

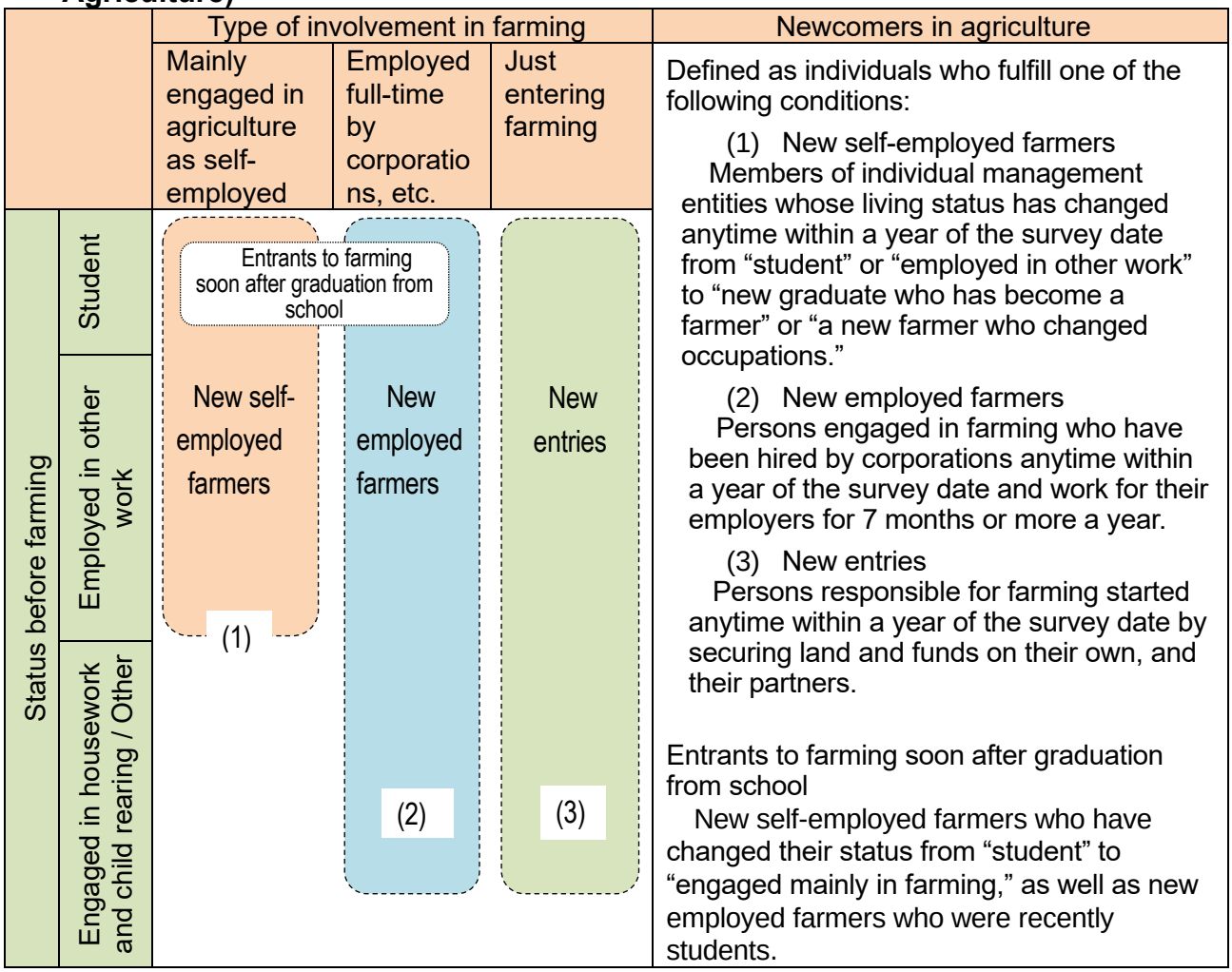
Terminology	Definition
Agricultural income	Agricultural gross income (total income earned by farming) minus agricultural expenditure (all expenses required for farming)
Income related business of agricultural production	Gross income related business of agricultural production (gross income from businesses such as agricultural processing, farm household inns, farm restaurants and tourist farms, which are related to agriculture and managed by agriculture management entities) minus expenditures of related business of agricultural production (including labor and material costs required for the related business of agricultural production)
Non-agricultural business income	Business income other than agriculture or related business of agricultural production (income from forestry, fishery, commerce, and industry as a side business in addition to agriculture) minus non-agricultural business expenditure (employment expenses, material cost, and other expenses incurred in the business)

(5) Agricultural labor

<table>
<tr><th colspan="3" rowspan="2"></th><th colspan="3">Involvement in farming</th><th rowspan="2">Household member of individual management entities</th></tr>
<tr><td colspan="2">Engaged in farming</td><td rowspan="2">Not engaged in farming</td></tr>
<tr><td colspan="2">Mainly farming</td><td>Mainly other</td></tr>
<tr><td rowspan="2">Status during regular hours</td><td>Engaged mainly in work</td><td colspan="3" rowspan="2">Core persons mainly engaged in farming
(1)
(2)
Household members engaged in own farming</td><td rowspan="2">As a rule, people who live and earn a living together
(1) Core persons mainly engaged in farming
Household members 15 years old and over who are working mainly in agriculture during regular hours.
(2) Household members engaged in own farming
Household members 15 years old and over who are engaged in self-employed farming for one day or more per year.
* Housework, school, etc.</td></tr>
<tr><td>Other *</td></tr>
<tr><td colspan="2">Permanently employed worker</td><td colspan="5">A worker employed mainly for agricultural (forestry) management with a contract (including oral contract) period of at least 7 months per year (including those employed without specifying a contract period).
Foreign technical interns employed with a contract period of at least 7 months are also included.
In the case of agricultural management, employees include employed persons for the purpose of agriculture and/or agricultural production related businesses.</td></tr>
</table>

Temporarily employed worker	A day worker or seasonal worker temporarily employed for agricultural (forestry) management other than a permanently employed worker, including mutual help among farm households (labor exchange) and voluntary help (labor accepted for free). However, the workforce of agricultural (forestry) labor that is entrusted to others is not included. In addition, it includes workers who are employed mainly for business other than agricultural (forestry) management work but temporarily engaged in agricultural (forestry) management, as well as those who are employed as "permanently employed workers" with a contract period of at least 7 months but resigned before reaching that period. In the case of agricultural management, employees include employed persons for the purpose of agriculture and businesses related to agricultural production.

(6) Newcomers in agriculture (definition used in the survey on Newcomers in Agriculture)



(7) Classification of agriculture area

Terminology		Definition
Classification of agriculture area		Classification of present and former cities, wards, towns, and villages (hereinafter referred to as "municipalities") based on fundamental conditions (e.g., cultivated, forest and grazing land shares, farmland gradients) that define the structure of regional agriculture
	Category	Standard index (fulfills one of the following conditions)
	Urban area	- Present and former municipalities where the DID's share of habitable land is 5% or more with a population density of 500 persons per square kilometer or more or a DID population of 20,000 or more. - Present and former municipalities where the residential area's share of habitable land is 60% or more with a population density of 500 persons per square kilometer or more. Regions with forest and grazing land's share of 80% or more are excluded.
	Flat farming area	- Present and former municipalities where cultivated land accounts for 20% or more of the total area with forest and grazing land accounting for less than 50% of the total area. However, areas where all paddy fields with gradients of 1/20 or more and all upland fields with gradients of 8° or more account for 90% or more of the total area are excluded. - Present and former municipalities where cultivated land accounts for 20% or more of the total area, with forest and grazing land accounting for 50% or more of the total area and with all paddy fields with gradients of 1/20 or more and all upland fields with gradients of 8° or more accounting for less than 10% of the total area.
	Hilly farming area	- Present and former municipalities where cultivated land accounts for less than 20% of the total area, other than urban and mountainous farming areas. - Present and former municipalities where cultivated land accounts for 20% or more of the total area, other than urban and flat farming areas.
	Mountainous farming area	- Present and former municipalities where forest and grazing land accounts for 80% or more of the total area, with cultivated land accounting for less than 10% of the total area.

Notes: 1) Order of priority: Urban area → Mountainous farming area → Flat and hilly farming area
2) As a rule, DID (Densely Inhabited Districts) are defined as areas where basic district units, as defined by the national census, with populations densities of 4,000 per km^2 or more are adjacent to each other and the total population of these conjoined districts is 5,000 or more.
3) Gradient refers not to the gradient of cultivated land per parcel, but to the main topographical gradient as grouped land.
4) The combination of the hilly and mountainous farming area categories is referred to as hilly and mountainous area.
5) Former municipalities are those that were classified as municipalities as of February 1, 1950.

(8) Agricultural regions nationwide

Agricultural region	Prefecture	Agricultural region	Prefecture
Hokkaido	Hokkaido	Kinki	Shiga, Kyoto, Osaka, Hyogo, Nara, Wakayama
Tohoku	Aomori, Iwate, Miyagi, Akita, Yamagata, Fukushima	Chugoku Sanin Sanyo	 Tottori, Shimane Okayama, Hiroshima, Yamaguchi
Hokuriku	Niigata, Toyama, Ishikawa, Fukui	Shikoku	Tokushima, Kagawa, Ehime, Kochi
Kanto/Tosan Northern Kanto Southern Kanto Tosan	 Ibaraki, Tochigi, Gunma Saitama, Chiba, Tokyo, Kanagawa Yamanashi, Nagano	Kyushu Northern Kyushu Southern Kyushu	 Fukuoka, Saga, Nagasaki, Kumamoto, Oita Miyazaki, Kagoshima
Tokai	Gifu, Shizuoka, Aichi, Mie	Okinawa	Okinawa

(9) Definition of other terminology

Terminology	Definition
Total agricultural output	The sum of output of each item of final products from agriculture production activities multiplied by the farm household's yard sales price for each item
Agricultural production income	Total agricultural output minus physical expenses (including depreciation and indirect taxes) such as fertilizer, agricultural chemicals, pesticide, plant protection chemicals, and utilities, plus current subsidies
Gross domestic product on agriculture	Domestic production on agriculture minus intermediate inputs such as fertilizer, agricultural chemicals, pesticide, plant protection chemicals, and utilities