

**Voluntary Report** – Voluntary - Public Distribution

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**Report Name:** MAFF Publishes 2021 Status of Japan Green Food System Strategy Targets

**Country:** Japan

**Post:** Tokyo

**Report Category:** Agricultural Situation, Climate Change/Global Warming/Food Security

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**Report Highlights:**

Following the establishment of “Green Food System Strategy” in May 2021, Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) implemented certification systems to incentivize farmers, foresters, fishermen, and related businesses to undertake activities to reduce their environmental impact. To communicate greenhouse gas (GHG) reduction efforts to consumers, MAFF is conducting a pilot program for GHG reduction labels on agricultural products and intends to officially implement a labeling system by April 2024. MAFF also published a 2021 status update for the targets set under the Green Food System Strategy.

Following the establishment of “Measures for achievement of Decarbonization and Resilience with Innovation (MeaDRI) or “Green Food System Strategy” ([JA2021-0078](#)) in May 2021, Japan’s Ministry of Agriculture, Forestry and Fisheries (MAFF) implemented the following measures under the “Act to Promote Environmental Impact Reduction Activities for the Establishment of An Environmentally Harmonized Food System” which became effective in July 2022.

- Based on the Act, all 47 Prefectures established their own “Basic Plan” to set environmental impact reduction targets and measures for farmers, foresters and fishers by April 2023 ([JA2022-0059](#)). Twelve Prefectures and 23 municipalities also designated “model districts” in their Basic Plans to promote district-wide environment-friendly initiatives, such as the creation of organic farming clusters and adoption of smart greenhouses. MAFF will prioritize MeaDRI support payment allocations to producers in those “model districts.”
- Based on the Act, Prefectures also launched a system to certify farmers, foresters, and fishermen for their environmental impact reduction plans. MAFF will prioritize support payments to certified farmers, foresters and fishers, who are also eligible for tax breaks on newly acquired machinery or facilities under the Green Investment Promotion Tax System as well as being eligible for low-interest loans from government-affiliated financial institutions.
- The Act further established a system for MAFF to certify businesses which provide technologies, machinery and services that help farmers, foresters and fishermen reduce the use of chemical fertilizers and pesticides, or expand organic farming and other environment-friendly activities. As of August 9, MAFF had certified [52 companies](#) for their activities or products. These certified companies are eligible for tax incentives and low interest loans from government-affiliated financial institution.

For example, businesses certified include a pest control pilot project utilizing “Spinosad”, a naturally occurring pesticide that can reduce the use of chemical pesticides.

Nonetheless, the majority of certified businesses are manufacturers and marketers of machinery such as weeding machines, compost spreaders, and automated mixers for livestock waste.

Certified farmers, foresters and fishermen who purchase MAFF-certified machinery are eligible for tax incentives.

## GHG Reduction Label on Agricultural Products

To communicate GHG reduction efforts to consumers, MAFF is conducting a pilot project to sell fresh produce with “GHG Reduction Label” in cooperation with 195 retail outlets. The pilot project covers 23 fresh vegetables and fruits<sup>1</sup>. The label indicates GHG reduction by 5 percent with one star, by 10 percent with two stars and by 20 percent or more with three stars. MAFF sets the following formula to calculate a GHG reduction rate.



$$\text{GHG reduction rate (\%)} = 1 - \frac{\text{Farmers' emission at cultivation (emission-absorption)}}{\text{Standard emission from conventional cultivation in a region}}$$

Farmers can access the calculation sheet on the MAFF website, where the formula and relevant data have been pre-installed to calculate the GHG reduction rate. Together with the label, information on how farmers reduced GHG emission is displayed on the product or the store shelves. MAFF is conducting a survey of consumers to evaluate receptivity toward the labels. In addition, MAFF is now working to establish GHG reduction calculations for beef cattle, dairy cattle, and hogs, allowing for the creation of a “GHG Reduction Label” for livestock and pork products. MAFF intends to finalize operational guidelines and officially implement the labeling system by April 2024.

### Key Performance Indicators: 2021 Figures

MAFF published actual figures for 2021 for 14 Key Performance Indicators (KPI) established in the Green Food System Strategy (Table 1). MAFF noted the following progress for 2021.

- The use of chemical pesticides decreased nine percent in the 2021 pesticide year (October-September); this drop largely was due to a shift to lower risk pesticides and reduction of production and shipment of chemical pesticides caused by global logistic constraints for pesticide raw materials. The use of chemical pesticides is measured by “risk conversion value”, which is calculated by multiplying active ingredient-based pesticide sales volume with risk factors based on acceptable daily intake.
- The use of chemical fertilizer decreased six percent in the 2021 fertilizer year (July-June) due partly to improved efficiency in fertilizer applications based on soil analysis.
- The KPI target for imports is for “food companies that import sustainability-conscious raw materials”, and MAFF aims for all major food companies to do so by 2050. MAFF estimates that 36.5 percent of companies did so in 2021<sup>2</sup>.

<sup>1</sup> Produce covered includes rice, spinach, leeks, onions, Chinese cabbage, potatoes, sweet potatoes, cabbage, lettuce, Daikon (Japanese white radish), carrots, asparagus, apples, Japanese pears, peaches, green tea, tomatoes (greenhouse and outdoor cultivation), cherry tomatoes (greenhouse), strawberries (greenhouse), cucumbers (greenhouse and outdoor cultivation), eggplants, mandarin oranges, and grapes.

<sup>2</sup> According to MAFF, out of 132 food manufacturers (of which 125 are listed companies) MAFF surveyed, 36.5 percent of the companies used raw materials imported with consideration of sustainability factors.

- Organic farming area increased to 26,600 hectares in 2021, which accounted for 0.6 percent of the 4.3 million hectares of total farmland. The KPI target is to expand organic farming area to 63,000 hectares by 2030 and to 25 percent of total farmland by 2050.

### **Expansion of Organic Farming**

MAFF is increasing budgets and promotional activities to expand organic farming in Japan Fiscal Year<sup>3</sup> 2023. One of the measures being taken is to facilitate municipalities' creation of "Organic Villages" and establishment of "farm to table" supply chains in local areas. By March 2023, 55 municipalities had declared that they would establish "Organic Villages" and were working to establish supply chains. As an example, many municipalities intend to purchase locally produced organic products for school lunch programs. MAFF is supporting prefectural governments with the goal of creating 100 Organic Villages by 2025.

### **Promotion of Carbon Credits in Agriculture, Forestry and Fisheries: J-Credit Carbon Credit**

The GOJ operates [the J-Credit Scheme](#) under which 145 projects had been registered in the agriculture, forestry and fisheries sectors by March 2023 (12 projects for agriculture, 28 projects for food industry, 24 projects for wood industry, and 78 projects for forest management). Currently [five agriculture methodologies](#) are approved under the J-Credit System including a newly-approved methane reduction method involving the extension of the drying period in paddy rice cultivation.

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<sup>3</sup> Japan Fiscal Year runs from April 1 to March 31.

**Table 1. Key Performance Indicators 2030 Targets and 2021 Actual**

Key Performance Index (KPI)		Individual Index	Standard Value (Standard Year)	2021 Actual	2030 Target (Reduction Rate from the Standard Value)	
GHG Reduction	1	<b>Zero CO2 Emissions in Agriculture, Forestry and</b>	CO2 emission by fuel combustion	16.59 million ton-CO2 (2013)	17.22 million tons-CO2	14.84 million ton-CO2 (10.6%)
	2	<b>Establishment of Electrification and Hydrogeneration Technologies for Agricultural Machinery and Fishing Vessels by 2040</b>	Increase use of agricultural machinery which reduces fossil fuel use	-	electric mowers: 4.7% automated steering: 16.1%	Establishment of technologies by 2040 50% of farmers and fishers use electric mowers and automated steering systems to reduce fossil environment TRL 6: Technological verification under the various use environment TRL 7: Prototype verification Implementation of test operation by small coastal fishing vessels
			Technology Readiness Level (TRL)* for electrification of high performance forestry machinery	-	TRL 1 ~ 2	
			Progress in technological development for fishing vessels	-	Started delivery	
3	<b>Complete Transition to Fossil Fuel Free Horticultural Facilities by 2050</b>	Ratio of areas of horticultural facilities heated by heat pumps and fossil fuels to the total heated area of horticultural facilities	-	10.6%	50% of horticultural facilities (by heated area) use hybrid heating system with heat pumps and fossil fuel heaters	
4	<b>Renewable Energy Implementation in Agriculture, Forestry and Fisheries Villages Keeps Pace with the Expansion</b>	-	-	-	Aimed at implementing renewable energy in agriculture, forestry and fishery villages so these industries keep pace with Japan's expansion of renewable energy, toward the realization of	
Environment Conservation	5	<b>50% Reduction in Chemical Pesticide Use (risk conversion value) by 2050</b>	Chemical pesticide use (risk conversion value**)	23,330 (risk conversion value) (2019 pesticide year***)	21,230 (risk conversion value) 9% reduction	10% reduction
	6	<b>30% Reduction in Chemical Fertilizer Use by 2050</b>	Chemical fertilizer use (Total sales volume of Nitrogen, Phosphorus and Potassium)	900,000 tons (2016 fertilizer year)****	850,000 tons 6% reduction	720,000 tons (20% reduction)
	7	<b>Expand Organic Farming Areas to 25% of National Arable Land by 2050</b>	Ratio of organic farming areas to the national arable land (equivalent to internationally recognized organic farming)	23,500 hectares (2017)	26,600 hectares	63,000 hectares

Source: MAFF

\*Technology Readiness Levels (TRLs) are a method to assess the maturity level of a particular technology.

\*\*Risk conversion value is calculated by multiplying active ingredient-based pesticide sales volume with risk factors based on acceptable daily intake.

\*\*\* Pesticide year: October – September; \*\*\*\*Fertilizer year: July – June

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Food Industry	8	<b>Halve Business Derived Food Loss by 2030 from 2000</b>	Business Derived Food Loss	5.47 million tons (JFY2000)	2.79 million tons 49% reduction	2.73 million tons (50% reduction)
	9	<b>30% Increase in Labor Productivity of Food Manufacturers by 2030</b>	Labor productivity in food manufacturers	5.149 million Yen per person (2018)	5.152 million yen per person 0% increase	6.694 million Yen per person (30% increase)
	10	<b>10 % Reduction of the Ratio of Costs to Sales for Food and Beverage Wholesalers by 2030</b>	Ratio of costs to sales in food and beverage wholesalers	11.6% (2016)	13.4%	10%
	11	<b>Procurement of Imported Raw Materials Considering Sustainability by Food Companies by 2030</b>	Procurement of imported raw materials considering sustainability by food companies	-	36.5%	100% of major food companies in Japan
Forestry	12	<b>Increase of Ratio of Elete Trees to Forestry Seedlings to 30% by 2030 and 90% by 2050</b>	Utilization ratio of elete trees (fast growing trees)	Utilization ratio of elete trees 4.3% (2019)	6.2%	Utilization ratio of elete trees: 30%
		<b>Establishment of High-Rise Wooden Structure Technologies and Maximization of Carbon Storage in Timber by 2040</b>	Establishment of high-rise wooden structure technologies			
Fisheries	13	<b>Recovery of Fish Catch Equivalent to 2010 (4.44 million tons) by 2030</b>	Recovery of fishery production	3.115 million tons (2018)	3.15 million tons	4.44 million tons
	14	<b>100% Artificial Seedling Use in Aquaculture of Japanese Eels and Bluefin Tuna, etc by 2050</b>	Ratio of artificial seedlings (larvae and juveniles artificially produced from farmed or fished parents)	1.9% (2019)	2.9%	13%
		<b>100% Compound Feed Use in Aquaculture by 2050</b>	Ratio of compound feed	44% (average ratio of three out of five between 2016 and 2020)	45%	64%

Source: MAFF

\*\*\*\*\*Elite trees: fast growing trees

\*\*\*\*\*Artificial seedlings: larvae and juveniles artificially produced from farmed or fished parents

**Attachments:**

No Attachments.