Census analysis series No.8

From the analysis of business development by vegetable management entitie

Census analysis team of the project on the structure of the agricultural industry and rural regions

The number of planting management entities growing vegetables declined from 516,000 in 2005 to 283,000 in 2020. In particular, the number of planting management entities producing outdoor grown vegetables declined significantly, by 30%, from 2015 to 2020. To ascertain the structural changes undergone by those engaged in vegetable cultivation under these circumstances, we analyzed the situations of management entities with the highest percentage of selling outdoor grown vegetables and vegetables grown in facilities.

Cultivation of outdoor grown vegetables: Progress towards large-scale cultivation of certain items

First, we looked at management entities with the highest percentage of selling outdoor grown vegetables. Since 2010, the number of planting management entities with sales of less than 3 million yen has declined dramatically. This rapid decrease can likely be attributed to elderly small-scale farmers retiring from farming. At the same time, while the group with sales of 30 million yen and more was small in terms of numbers, the number of management entities increased steadily from 2005 to 2020. Moreover, the planted area remained steady from 2005 to 2020, which can be attributed to the growth in size of some entities in the large-scale group.

With regard to root crops and leafy vegetables, which are the major outdoor grown crops (Table 1), we see that the planted areas for most products, especially root crops, declined between 2015 and 2020. Only a very few increased, like cabbage, lettuce, and broccoli. By amount sold, the planted area of all items decreased in the less-than-3-million-yen category, the planted area of all items except broccoli decreased in the 3-million-to-30-million-yen category, and the planted area of all items except taro increased in the 30-million-yen-and-over category.

Furthermore, looking at the shares of planted area for the 30-million-yen-and-over category, all except taro, spinach, scallions, and broccoli had a share of 40% or more. In this size category, the crops with the biggest increases in planted area and the biggest shares were Chinese cabbage, cabbage, and lettuce, which means that the planted areas for these items are becoming more concentrated among the large-scale group.

Table 1. Planted area by item (management entities with the highest percentage of selling)

(unit: ha, %)

		Planted area (2020)	% change (2015-2020)				30-million-yen-and-over group's share of planted area (2020)
			Total	Less than 3 million yen	3 million to 30 million yen	30 million yen and over	
Root crops	Japanese radish	13,239	(13.9)	(34.8)	(25.5)	6.5	49.2
	Carrot	9,068	(13.4)	(35.2)	(22.5)	9.1	41.9
	Taro	2,022	(30.7)	(39.2)	(26.5)	(10.5)	13.2
	Japanese yam	4,312	(12.3)	(38.1)	(23.9)	10.3	46.9
Leafy vegetables	Chinese cabbage	8,366	(1.1)	(33.3)	(19.1)	30.5	53.2
	Cabbage	22,093	1.4	(24.7)	(10.7)	33.5	40.4
	Spinach	5,713	(21.0)	(39.3)	(25.3)	19.6	29.2
	Lettuce	13,804	4.2	(22.5)	(10.8)	32.3	46.4
	Scallions	8,819	(0.4)	(30.8)	(7.0)	72.1	28.7
	Onion	18,355	(2.5)	(17.8)	(23.8)	29.1	51.5
	Broccoli	11,237	30.9	(9.3)	21.8	100.1	31.0

Source: Compiled from Census of Agriculture and Forestry survey form data.

Notes: 1) Shows total plantings only for the planting management entities with the highest percentage of selling outdoor grown vegetables.
2) The shaded area in the share of planted area with a change of +30% or more is for 40% or more.

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Cultivation of vegetables grown in facilities: Decline in the number of planting management entities and planted area

Next, looking at management entities with the highest percentage of selling vegetables grown in facilities, we see that the number of planting management entities in the middle group with sales of 3 million to 30 million yen fell dramatically between 2005 and 2010. Although the rate of decline has eased in recent years, this trend has been continuing since 2010. In addition, the usable area of glass and plastic greenhouses has been declining at an accelerating rate, reducing by 4.8% between 2005 and 2010, by 10.8% between 2010 and 2015, and by 15.8% between 2015 and 2020, thus decreasing along with the planted areas. As a result, the usable area of glass and plastic greenhouses and the planted areas are reducing as the number of agricultural management entities is decreasing, thereby making it more difficult to increase the cultivation of vegetables grown in facilities and ensure business continuity.

In addition, with respect to planted areas by item, looking at spinach, lettuce, scallions, and other leafy vegetables; fruit vegetables; and fruity vegetables grown in facilities (Table 2), during the five years starting from 2015, all declined except lettuce, which increased slightly. The largest declines were for bell peppers, melons, and watermelons.

Similarly, looking at the breakdown of planted area by sales amount, all items declined in the less-than-3-million-yen category, whereas increases in the 30% range were seen for lettuce, scallions, cucumbers, strawberries, and watermelons in the 30-million-yen-and-over category. In addition, looking at the share of planted area by sales amount, most items were concentrated in the 3-million-to-30-million-yen group. Lettuce and scallions had the highest share in the 30-million-yen-and-over group. For vegetables grown in facilities, the future focus will thus be on business development in the middle range, where the number of planting management entities is decreasing.

(Analysis by KOSHIBA Yurie)

Table 2. Planted area by item (management entities with the highest percentage of selling)

(unit: ha, %)

		Planted area (2020)	% change (2015-2020)		Share of planted area (2020)			
			Total	30 million yen and over	Total	Less than 3 million yen	3 million to 30 million yen	30 million yen and over
Leafy vegetables (some)	Spinach	2,082	(18.5)	1.7	100.0	12.3	58.9	28.8
	Lettuce	393	6.5	42.8	100.0	5.5	49.4	45.1
	Scallions	844	(1.4)	39.1	100.0	6.2	49.3	44.5
Fruit vegetables	Cucumber	2,197	(10.6)	44.7	100.0	7.4	81.5	11.0
	Eggplant	772	(14.0)	27.3	100.0	6.6	84.7	8.7
	Tomato	4,746	(9.9)	18.8	100.0	6.6	63.1	30.3
	Bell pepper	708	(23.9)	(3.8)	100.0	8.9	72.5	18.6
Fruity vegetables	Strawberry	2,878	(15.9)	32.3	100.0	6.4	77.8	15.8
	Melon	1,752	(23.4)	3.8	100.0	4.0	70.9	25.0
	Watermelon	1,010	(23.6)	71.8	100.0	5.5	83.3	11.2

Source: Compiled from Census of Agriculture and Forestry survey form data.

Note: 1) Totals are only for crops of the planting management entities with the highest percentage of selling vegetables grown in facilities.

2) The shaded area in the share of planted area with a change of +30% or more is for 40% or more.

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