USDA Foreign Agricultural Service
GAIN Report
Global Agricultural Information Network

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Voluntary - Public

Date: 9/9/2019
GAIN Report Number: JA9111

Japan

Post: Tokyo

Current Impact of Fall Armyworm Limited

Report Categories:
Grain and Feed
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Report Highlights:
Japan's Ministry of Agriculture, Forestry, and Fisheries (MAFF) confirmed Japan's first outbreak of Spodoptera frugiperda, or Fall Armyworm (FAW). Silage corn has been the primary crop affected by FAW, but corn for grain, sweet corn, sorghum, rice, sugarcane, and sweet potatoes are also at risk. MAFF has announced support payments to offset costs associated with pesticide application, fermentation accelerants, substitute feed purchases, and additional storage for imported feed. FAS/Tokyo does not expect a significant increase in demand for corn for feed from the United States.

General Information:

Fall Armyworm Outbreak

In July 2019, suspected Spodoptera frugiperda, or Fall Armyworm (FAW) larvae were detected in a corn field in Minamikyushu city, Kagoshima Prefecture on Kyushu Island, the southwestern part of Japan. The Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) identified it as FAW on July 3, 2019. MAFF Plant Protection Stations and Prefectural Governments conducted a national survey and found FAW in other parts of Kyushu, Shikoku Island, and in the central part of Honshu Island. As of September 6, FAW has been confirmed in 17 prefectures, which had silage corn production in 2017. The pathway for FAW introduction into Japan has not been identified. This is the first detection of FAW in Japan.

Potential Damage

The MAFF survey found silage corn fields account for the majority of the fields affected by FAW. Whole crop silage corn is produced throughout Japan and in 2017, 4.8 MMT of whole crop silage corn was produced on 94,800 hectares. Three MMT of the 4.8 MMT, or 63 percent, was produced in Hokkaido, where FAW has not been found. In 2017, approximately 860,000 MT of whole crop silage corn was produced in the 17 silage corn producing prefectures where FAW has been found. In many of the silage corn producing prefectures in southern Japan silage corn is harvested twice a year and the first harvest had already been completed before the FAW outbreak. With pesticide application and early harvest, damage on whole crop silage corn is expected to be limited. In a worst case scenario, assuming FAW spread to all prefectures except Hokkaido, approximately 1.8 MMT[1] of whole crop silage corn could be in danger of FAW damage. MAFF does not currently have information on the quantity of damaged silage corn or the impact on yield, but FAS/Tokyo expects it to be limited. Appendix 1, shows 2017 corn silage production in Japan by prefecture and indicates whether or not FAW has been confirmed as of September 6, 2019.

Potential for Feed Corn as Substitute for Corn Silage

Forage, including corn silage, is biologically indispensable for the diet of cattle to stabilize digestive functions. As a result, MAFF expects most dairy farmers to substitute corn silage with other forages, such as hay or hay silage in the event FAW damage results in corn silage shortages. Hay and hay silage do not have the same nutritional breakdown as corn silage, so producers would likely have to increase compound feed, which includes grain corn, to balance out the diet for their herds.

MAFF Response

There is currently no pesticide registered with MAFF that is allowed for use against FAW. In response to this outbreak, MAFF has established a list of pesticides and corresponding crops (corn, sorghum, rice,

[1] Whole crop silage production in all prefectures except Hokkaido was 1.78 MMT in 2017.

sugarcane and sweet potatoes) that are tentatively permitted for use upon confirmation of the outbreak. For corn, the insect tends to attach the head of the plant, and when the height of the plant becomes too high to spray, MAFF recommends early harvest and tillage or plowing the plants under the soil to prevent larvae and pupae from spreading. To encourage pesticide application, MAFF is providing a support payment to farmers and localities who purchase pesticides for FAW control. MAFF is also providing support payments for the cost of applicators, application contract fees, and fermentation accelerants for early harvested silage corn.

In addition to pest management support, MAFF will provide a support payment of a 5,000 yen ($46.76) per metric ton when farmers purchase a feed substitute for corn silage. MAFF believes that hay or hay silage will be the first choice to substitute corn silage for cattle feed, but as hay does not have the same nutritional balance as corn silage, farmers are expected to use compound feed to supplement nutrition.

At a regularly scheduled press conference on August 30, MAFF Minister Yoshikawa said that in response to the FAW outbreak and to prevent a feed supply shortage, MAFF is preparing to provide financial support for storage costs for imported feed materials. The support payment would go to private sector feed grain buyers to support storage costs and interest fees associated with purchases. MAFF is prepared to provide storage costs for advance purchase of up to 2.75 MMT, equivalent to three months of Japanese annual imports of corn 11 MMT. MAFF is considering allowing the support payment to be used for storage overseas, perhaps due to a lack of storage capacity in Japan.

Minister Yoshikawa said this advance purchase is not expected to affect the Japanese feed supply and demand situation.

Appendix 1

2017 silage corn production in Japan.

Prefecture	Planted Area (ha)	Production (MT)	Production Share %	Fall Armyworm detected as of September 6, 2019
Hokkaido	55,100	3,003,000	62.8	
Miyazaki	4,910	248,000	5.2	X
Tochigi	4,680	194,700	4.1	
Iwate	5,170	192,300	4.0	
Kumamoto	3,600	160,200	3.4	X
Gunma	2,830	152,800	3.2	
Ibaraki	2,410	116,200	2.4	X
Nagano	1,980	105,100	2.2	
Kagoshima	2,110	90,300	1.9	X
Fukushima	1,560	72,400	1.5	X
Aomori	1,800	68,200	1.4	
Chiba	982	55,300	1.2	X
Miyagi	1,180	45,900	1.0	
Oita	746	32,800	0.7	X
Tottori	905	30,800	0.6	
Okayama	567	28,500	0.6	X
Yamagata	674	28,400	0.6	
Nagasaki	554	24,600	0.5	X
Shizuoka	356	16,300	0.3	
Akita	389	15,900	0.3	
Ehime	289	14,900	0.3	X
Kanagawa	237	12,900	0.3	X
Saitama	257	12,700	0.3	
Aichi	181	9,560	0.2	
Gifu	214	8,770	0.2	
Yamanashi	158	7,050	0.1	
Hiroshima	170	4,790	0.1	
Hyogo	146	4,730	0.1	
Niigata	174	3,850	0.1	
Tokushima	77	3,850	0.1	
Ishikawa	46	3,220	0.1	
Fukuoka	69	3,140	0.1	X
Mie	78	2,810	0.1	X
Shimane	67	2,300	0.0	

Tokyo	40	1,850	0.0	
Kagawa	22	801	0.0	
Fukui	18	558	0.0	
Kyoto	15	398	0.0	
Shiga	11	389	0.0	
Toyama	8	384	0.0	
Saga	9	306	0.0	X
Yamaguchi	8	300	0.0	X
Kochi	8	270	0.0	X
Okinawa	1	77	0.0	X
Total	**94,806**	**4,781,603**		

Source: MAFF

Appendix 2

Prefectures with a confirmed outbreak of FAW are highlighted in red. Hokkaido, the northernmost of Japan's four main islands and largest producer of silage corn, does not have a confirmed outbreak of FAW.