

1999 PACIFIC RIM FORAGE EXPORTS

William P. Ford¹

ABSTRACT

Exports are an important market for the Western United States forage producer. Forage products include: alfalfa hay and cubes, timothy hay, oat hay, sudangrass hay, bermuda hay, and ryegrass and fescue straw. Japan constitutes the largest market and Japan's demand for forage products is an important factor in West Coast markets. In 1999, Japan imported 534,806 metric tons (mt) of alfalfa cubes, 1.745 million mt (mmt) of baled hay, and 243,771 mt of alfalfa pellets. The United States supplied approximately 77% of these cubes, 79% of the baled hay, but less than 2% of the pellets. Canada supplied 22%, 9%, and over 98% of Japan's imports of alfalfa cubes, hay, and pellets. Overall, the United States supplied about 71% of Japan's total 1999 forage imports (hay, cubes, pellets) of 2.524 mmt. Currently, Korea is the second largest forage market in the Pacific Rim, and their imports increased 112% in 1999. Taiwan is the third largest Pacific Rim forage market and their imports also increased slightly in 1999.

Key Words: exports, cubes, hay, Japan, Korea, Taiwan

INTRODUCTION

Exports are an important market for the Western United States forage producer. Forage products exported are: alfalfa hay and cubes, timothy hay, oat hay, sudangrass hay, bermuda hay, and ryegrass and fescue straw.

Table 1 lists the United States forage exports to the Pacific Rim for 1999. The United States exported 2,073,352 metric tons (mt) to the Pacific Rim. Japan was the largest market at 86.0% or 1,783,835 mt. Korea was the second largest destination at 8.5% or 175,794 mt. Taiwan was the third largest destination and received 5.3% or 109,424 mt. The destinations of China, Singapore, and Malaysia only received 0.2% or 4,299 mt. The Port of Seattle and the Port of Portland were virtually tied for the largest port for forage products exported to the Pacific Rim.

JAPAN

Demand for forage products from Japan is playing an increasing role in West Coast markets, especially in the Pacific Northwest (PNW). In 1999, Japan imported 534,806 mt of alfalfa hay

¹ Former Area Extension Agent, WSU Cooperative Extension, 1016 N 4th Avenue, Pasco, WA 99301

cubes (Table 2). The United States supplies approximately 77% of these alfalfa cubes and Canada about 22%. Baled hay imports for Japan totaled 1,745,862 mt in 1999 (Table 3). Approximately 79% of these hay products came from the United States. Total hay & cube imports for Japan in 1999 totaled 2.280 million metric tons (mmt). The United States shipped approximately 1.783 mmt or 71% of Japan's hay & cube imports that year, while Canada shipped 267,452 mt or 11.7% of Japan's imports. The United States is not an exporter of alfalfa pellets. Canada supplied over 98% of the 243,771 mt that Japan imported in 1999 (Table 4). The United States supplied about 71% of Japan's total forage imports (hay, cubes, pellets) of 2,524 mmt in 1999, while Canada supplied 20%.

The United States Department of Commerce west coast export data differs somewhat from the Japanese import data. Generally, import data from Japan gives a better indication of total hay and cube exports from the United States which were 1.783 mmt in 1999. The significance of the Department of Commerce data is the tonnage exported by geographical location. Department of Commerce data indicate that the PNW share of these exports is about 60% or 1,070,301 mt in 1999. The Pacific Southwest (California, Nevada, Utah, & Arizona) share of these exports to Japan is approximately 40% or 713,534 mt. Over 10,341,000 mt of hay were produced in the PNW in 1999. Japanese forage exports represented about 10.4% of total hay production in Washington, Oregon, and Idaho. In the Pacific Southwest, at least 12,174,148 mt of hay were produced in 1999. Forage exports represented approximately 5.9% of total hay production in this region. Many of the exports are coming from the state of Washington (Tables 5 and 6). In 1998, the last year available, figures show approximately 533,434 mt of forages were exported from Washington (Table 7). Hay production in Washington totaled 2,863,123 mt in 1998. Although PNW exports in 1998 represented only 8.8% of total hay production and 6% in the Pacific Southwest, exports from Washington State represented 18.6% of total production in that state. That was the fifth year that forage exports from Washington have exceeded \$100 million (Table 7). This trend continued in 1999 with increases in hay exports, primarily alfalfa and timothy, and decreases in alfalfa cube exports. Forage exports the past twelve years have helped support and stabilize forage prices in the PNW even with variable acreages and prices.

Forage products are shipped to Japan and the Pacific Rim from the United States in 40 foot cargo containers. Depending on the product shipped, each container will hold approximately 20-28 mt. Canada has been shipping some alfalfa cubes in partial cargo holds of ships (Break-Bulk). This has led to dramatic savings in shipping somewhat at the expense of quality. Bulk alfalfa cubes are handled more severely and more often, which increases breakage and fines. But, the savings in transportation have helped Canada increase its market share of cube exports to Japan and Korea. Bulk shipments of cubes have also been made from Washington and Oregon ports. About 90% of the alfalfa cubes shipped to Japan are for dairy cows and 10% for beef cows. Dairy cows also take about 60% of baled hays, and the balance would be split evenly between beef cows and horses. A recent trend has been the shipment of bagged cubes to Japan in containers. Smaller bags are generally about 30-40 Kg and larger bags are 400-550 kg. The smaller bags are stacked on a pallet and wrapped with plastic. Recently, some big bales have been sliced and double compressed into mid-size bales weighing 430-440 Kg and then shipped to Japan. This form of packaging seems to be gaining acceptance faster than most industry people thought.

Japan has strict import regulations. Sample containers from shipments are transferred to the Japanese Plant Protection and Quarantine (PPQ) yard. If the containers have been fumigated in the United States, PPQ checks for gas residues. If residues are above allowable levels, the containers must then be aerated. Next, PPQ checks for pests and prohibited items. If insects are found, then containers must be fumigated in Japan. Prohibited items include wheat or barley plants, wheat or barley straw, and any Agropyron grasses. These prohibited items are all hosts for the Hessian fly, against which Japan has strict regulations. If these containers are rejected, then the forage products either have to be destroyed or reshipped back to the United States and/or other destinations. Potentially, this re-shipment can be very expensive to the originator. Soil can also cause some rejections, although this seems to vary by port. Because of these strict import regulations, forage producers need to cooperate with exporters in sending the best quality product possible. Once forage products pass the PPQ process, they then move to market. Cubes that are shipped in containers are generally unloaded at port warehouses and sacked in 30 kg or 500 kg sacks. The smaller sacks are usually loaded on pallets. As mentioned earlier, more bagged cubes are being shipped from the United States. Baled hay is also sometimes palletized. From warehouses, these forage products move to inland storage or to market. In the interest of saving handling, storage, and transportation costs, many containers are shipped directly to the consumer in Japan. Once forage products are stored or consumed, claims can be received from Japanese buyers against the shipper and/or broker. These claims can be potentially very expensive. Claims can be for lack of quality, misrepresentation of product, foreign matter contamination, condition (moisture/mold damage), or actually be a market claim (price dislocation). A market claim is when the buyer seeks some price relief due to changes in product prices and/or market conditions.

The United States and Canada will continue to be major suppliers of forage products to Japan. Baled hay exports have increased 109% during the past 10 years, with the United States supplying the vast majority of products. Alfalfa cube exports from the United States and Canada have declined and Canada's market share has slipped to about 22%. Currently, export demand for alfalfa cubes from the U.S. is down 6.8% and hay is up 7.2% (January-August 2000) versus the same period in 1999. Canada's alfalfa cubes to Japan have declined about 6.4% during this same period. The depressed demand from the 1998 recession and uncertain financial situation has moderated during 1999 due to the improved economy. It appears that there will be a slight increase in total hay and cube imports in 2000. Japan is the second largest economy in the world and food and feed imports are very important to this island nation.

KOREA

The Korean market is also starting to develop and is now the second largest destination for forage products. Korea displaced Taiwan because of population, livestock numbers, limited arable land base, and a larger economy. Table 8 shows the Korean hay & straw, cube, and pellet imports from 1988 – 1999. This is quite a change from the early 1990's when alfalfa pellets were the main forage import with very few cubes and almost no hay or straw. In 1999, Korea imported 54,810 mt of alfalfa cubes; 62,793 mt of alfalfa hay; 141,176 mt of grass straw; and 51,773 mt of alfalfa pellets (Table 9). The United States supplied approximately 35% of these

cubes, 87% of the baled alfalfa hay, 72% of the grass straw, and zero percent of the pellets. Canada supplied all of the pellets and about 63% of the cubes. Overall, the United States supplied 57% of Korea's total 1999 forage imports of 310,552 mt. Imports for 1999 show a 111% increase over the same period in 1998. This large increase in demand for imported forages was due to a very quick economic recovery from the 1997-1998 Pacific Rim recession. The International Monetary Fund financial rescue, the resultant belt tightening, and hard work by Korea led to this dramatic increase in forage imports.

Table 10 shows the Korean forage imports for January – July 2000. Forage imports for this seven month period show a dramatic increase over the same period in 1999. Currently, export demand from the U.S. for alfalfa cubes is up 55%, alfalfa hay is up 100%, and grass straw is up 124% (January – July 2000) versus the same period in 1999. Orders indicate a big interest in alfalfa hay and grass straw. Oregon grass straw is a substitute for rice straw and is cheaper than alfalfa hay or cubes. But, there is no substitute for alfalfa hay and cubes when dairies want to be more efficient and produce more milk. It now appears that 2000 will be a record year for forage imports into Korea and may reach 500,000 mt by the end of the year. Korea will become a large importer of United States hay, cubes, and straw. This market should develop further over the next 5 to 10 years as the economy further improves. The potential size of this market is estimated to be 35 to 45% of the Japanese market or 600,000 to 800,000 metric tons of pellets, hay, cubes, and straw. This development could occur faster depending on the possible agreement of North Korea and South Korea to peacefully co-exist. This agreement could affect the growth of the cattle and dairy industry in South Korea positively. Increased aid and trade with North Korea could have a positive effect on imported forages. Conversely, increased tensions between North and South Korea could have a negative effect on the speed of development in South Korea.

TAIWAN

The forage market in Taiwan is now the third largest Pacific Rim consumer for the United States. Table 11 lists the diversity of forage products which Taiwan consumes. Total exports to Taiwan rose sharply in 1995 due to crop and weather conditions. It does not appear that these levels will be continued. But, imports rose slightly in 1999 (Table 12).

CONCLUSION

The West Coast forage industry need to recognize the importance of Pacific Rim exports to the forage economy of their areas. The United States exported 2,073,352 mt to the Pacific Rim in 1999. The PNW share of these exports is 60% or 1,244,011 mt. The PSW share of these exports to the Pacific Rim is 40% or 829,341 mt. The Pacific Northwest exported 12% of its total hay production in 1999, while the Pacific Southwest exported 6.8%. This demand helps set the tone for hay prices on the West Coast. Demand in 1999 was up substantially for forage imports to the Pacific Rim after the Asian financial recession in 1997-1998. The United States needs to continue to supply consistent quality hay, cubes, and straw and cheaper transportation methods to retain and/or increase their market share in the Pacific Rim.

TABLE 1
1999 U.S. FORAGE EXPORTS - PACIFIC RIM

<u>Country</u>	<u>Tonnage (mt)</u>	<u>%</u>
Japan	1,783,835	86.0
Korea	175,794	8.5
Taiwan	109,424	5.3
<u>Other</u>	<u>4,299</u>	<u>0.2</u>
Total	2,073,352	100.0

Source: P.O.P., NHA, & Zen-Noh

TABLE 2
ALFALFA CUBE IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January – December</u>							
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
USA	573,427	614,859	540,579	528,196	482,712	479,950	428,055	410,159
Canada	175,797	166,904	166,816	189,203	158,003	150,736	143,996	117,950
Australia	12,675	8,734	7,337	---	2,467	7,977	6,639	927
Others	<u>1,948</u>	<u>3,429</u>	<u>6,771</u>	<u>2,411</u>	<u>3,931</u>	<u>11,514</u>	<u>9,384</u>	<u>5,770</u>
TOTAL	763,847	793,926	721,503	719,810	647,113	650,177	588,074	534,806

Source: Zen-Noh, Seattle

TABLE 3
BALED HAY IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January – December</u>						
	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
USA	1,102,849	1,088,711	1,189,197	1,223,485	1,462,265	1,240,617	1,373,676
China	48,427	63,993	51,101	58,867	69,228	61,167	56,752
Australia	48,930	61,284	48,098	85,461	115,081	113,913	158,911
Canada	39,550	60,721	88,074	89,309	104,906	138,716	149,502
Others	<u>4,860</u>	<u>6,828</u>	<u>7,324</u>	<u>4,771</u>	<u>5,529</u>	<u>3,903</u>	<u>7,021</u>
TOTAL	1,244,616	1,281,537	1,383,794	1,461,893	1,757,009	1,558,316	1,745,862

Source: Zen-Noh, Seattle

TABLE 4
ALFALFA PELLET IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January – December</u>							
	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
USA	2,072	1,677	5,649	7,384	29,982	4,705	2,089	3,325
Canada	292,120	277,341	289,864	266,290	244,093	261,857	194,343	240,339
Others	<u>307</u>	<u>612</u>	<u>282</u>	<u>486</u>	<u>2,230</u>	<u>312</u>	<u>10,905</u>	<u>107</u>
TOTAL		279,630	284,795	274,160	276,305	266,874	207,337	243,771

Source: Zen-Noh, Seattle

TABLE 5
WASHINGTON ALFALFA CUBE EXPORTS

<u>Year</u>	<u>Prod. (mt)</u>	<u>Value</u>
1984	79,834	\$11,170,000
1985	74,390	\$10,091,000
1986	144,245	\$17,362,000
1987	139,709	\$16,635,000
1988	219,542	\$30,105,000
1989+	206,842	\$29,640,000
1990+	226,800	\$34,000,000
1991+	195,048	\$25,800,000
1992+	271,253	\$38,870,000
1993+	244,037	\$40,350,000
1994+	258,552	\$41,325,000
1995+	272,160	\$41,700,000
1996+	226,800	\$36,750,000
1997+	208,656	\$37,720,000
1998+	188,698	\$30,784,000

+Estimated

Source: WA Ag Statistics & Industry Estimates

TABLE 6
WASHINGTON ALL HAY EXPORTS

<u>Year</u>	<u>Prod. (mt)</u>	<u>Value</u>
1984	68,947	\$11,391,000
1985	72,576	\$10,960,000
1986	81,648	\$12,587,000
1987	102,514	\$14,182,000
1988	144,245	\$19,640,000
1989+	124,916	\$18,038,000
1990+	136,080	\$21,000,000
1991+	173,275	\$28,650,000
1992+	185,976	\$35,875,000
1993+	272,160	\$54,000,000
1994+	283,046	\$62,400,000
1995+	294,840	\$64,025,000
1996+	308,448	\$70,250,000
1997+	299,376	\$73,070,000
1998+	344,736	\$80,960,000

+Estimated

Source: WA Ag Statistics and Industry Estimates

TABLE 7
WASHINGTON FORAGE EXPORTS

<u>Year</u>	<u>Tons Exported (mt)</u>	<u>\$ Value</u> (millions)	<u>% of Crop</u> <u>Exported</u>
1984	148,781	22.6	5.6
1985	146,966	21.1	6.2
1986	225,893	30.0	8.8
1987	242,222	30.8	10.2
1988	363,787	49.7	14.2
1989+	332,035	47.8	13.0
1990+	362,880	55.0	13.1
1991+	368,323	54.5	13.7
1992+	457,229	74.7	17.0
1993+	516,197	94.4	20.1
1994+	541,598	103.7	21.4
1995+	567,000	105.7	19.1
1996+	535,248	107.0	18.8
1997+	508,032	110.8	18.2
1998+	533,434	111.8	18.6

+Estimated

Source: Wa Ag Statistics and Industry Estimates

TABLE 8
KOREAN FORAGE IMPORTS
Metric Tons

	<u>Pellets*</u>	<u>Cube*</u>	<u>Hay</u>
1988			
1989			
1990			
1991			904
1992			4,629
1993			5,689
1994			8,287
1995			25,612
1996			64,277
1997			111,901
1998			80,042
1999			203,969

Source: National Hay Ass'n. Export Comm. & C.D.A.
*Estimated: Categories combined when reported in Korea

TABLE 9
KOREAN FORAGE IMPORTS – 1999
Metric Tons

	<u>Pellets*</u>	<u>Cubes*</u>	<u>Alfalfa</u> <u>Hay</u>	<u>Straw</u>	<u>Total</u>
U.S.	---	19,424	54,814	101,453	175,691
Canada	51,773	34,516	7,875	2,220	96,384
China		---	104	33,061	33,165
Other		870	---	4,442	5,312
TOTAL	51,773	54,810	62,793	141,176	310,552

Source: NHA Export Comm. & C.D.A.
*Estimated: Categories Combined in Korea

TABLE 10
KOREAN FORAGE IMPORTS (mt)
January - July 2000

	<u>Pellets*</u>	<u>Cubes*</u>	<u>Alfalfa Hay</u>	<u>Straw</u>	<u>Total</u>
U.S.			55,157	125,062	190,972
Canada			9,413	12,620	76,585
China			972	30,241	31,213
Other			---	6,572	6,572
TOTAL	32,731	32,574	65,542	174,495	305,342

Source: NHA Export Comm. & C.D.A.

* Estimated: Categories Combined in Korea

TABLE 11
U.S. HAY EXPORTS TO TAIWAN
12/94 - 11/95

<u>Type</u>	<u>Containers</u>	<u>%</u>
Alfalfa	1,749	50.9
Bermuda	1,057	30.7
Timothy	300	8.7
Cubes	131	3.8
Oat Hay	115	3.3
Pellets	36	1.0
Ryegrass	32	0.9
Fescue	16	0.5
Sudan	3	0.1
TOTAL	3,439	100.0

Source: Journal of Commerce

TABLE 12
TAIWAN FORAGE IMPORTS
Metric Tons

<u>Year</u>	<u>U.S.</u>	<u>Canada</u>
1989	10,480	---
1990	11,657	---
1991	10,133	29,073
1992	18,277	47,481
1993	19,825	70,311
1994	76,691	66,932
1995	118,344	72,705
1996	88,949	44,811
1997	88,454	36,944
1998	74,315	55,179
1999	109,424	---

Source: J. of Commerce, P. of P., & Statistics Canada