

1997 PACIFIC RIM FORAGE EXPORTS

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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 perennial ryegrass and fescue straw. Japan constitutes the largest market and Japan's demand for forage products is playing an increasing role in West Coast markets. In 1997, Japan imported 650,000 metric tons (mt) of alfalfa cubes, 1.757 million mt (mmt) of baled hay, and 266,000 mt of alfalfa pellets. The United States supplied approximately 74% of these cubes, 83% of the baled hay, but less than 2% of the pellets. Canada supplied 23%, 6%, and 98% of Japan's imports of alfalfa cubes, hay, and pellets. Overall, the United States supplied about 73% of Japan's total 1997 forage imports (hay, cubes, pellets) of 2.674 mmt. Currently, Korea is the second largest forage market in the Pacific Rim, but is not expected to grow in 1998. Taiwan is the third largest Pacific rim forage market and also is not expected to grow in the near future.

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 perennial ryegrass and fescue straw.

Table 1 lists the United States forage exports to the Pacific Rim for 1997. The United States exported 1,960,636 metric tons (mt) to the Pacific Rim. Japan was the largest market at 89.6% or 1,757,230 mt. Korea was the second largest destination at 5.7% or 111,214 mt. Taiwan was the third largest destination and received 4.5% or 88,454 mt. The countries of China, Indonesia, and the Philippines only received 0.2% or 3,738 mt. The Port of Seattle was the largest port at 490,112 mt of forage products exported to the Pacific Rim.

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JAPAN

Demand for forage products from Japan is playing an increasing role in West Coast markets, especially in the Pacific Northwest (PNW). In 1997, Japan imported 650,000 mt of alfalfa hay cubes (Table 2). The United States supplies approximately 74% of these alfalfa cubes and Canada about 23%. Baled hay imports for Japan totaled 1,757,009 mt in 1997 (Table 3). Approximately 83% of these hay products came from the United States. Total hay & cube imports for Japan in 1997 totaled 2.407 million metric tons (mmt). The United States shipped approximately 1.942 mmt or 81% of Japan's hay & cube imports that year, while Canada shipped 255,642 mt or 11% of Japan's imports. The United States is not an exporter of alfalfa pellets. Canada supplied over 98% of the 266,874 mt that Japan imported in 1997 (Table 4). The United States supplied about 73% of Japan's total forage imports (hay, cubes, pellets) of 2.674 mmt in 1997, while Canada supplied 19%.

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 1.942 mmt in 1997. 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 53% or 1,037,802 mt in 1997. The Pacific Southwest (California, Nevada, Utah, & Arizona) share of these exports to Japan is approximately 47% or 920,856 mt. Commerce data also suggest that over 70% of the alfalfa hay exported from the West Coast came from the PNW. Over 10,697,702 mt of hay were produced in the PNW in 1997. Forage exports represented about 9.7% of total hay production in Washington, Oregon, and Idaho. In the Pacific Southwest, 13,105,411 mt of hay were produced in 1997. Forage exports represented approximately 7.0% of total hay production in this region. Many of the exports are coming from the state of Washington (Tables 5 and 6). In 1997, approximately 508,032 mt of forages were exported from Washington (Table 7). Hay production in Washington totaled 2,958,042 mt in 1997. Although PNW exports in 1997 represented only 9.7% of total hay production and 7.0% in the Pacific Southwest, exports from Washington State represented 17.1% of total production in that state. This is the fourth year that forage exports from Washington have exceeded \$100 million (Table 7). Even with the decline of actual tonnage, the value of exports are the highest they have ever been. Forage exports the past ten years have helped support and stabilize forage prices in the PNW even with increasing acreages.

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 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.

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 dramatically increased during the past 8 years, with the United States supplying the vast majority of products. Alfalfa cube exports from the United States have declined somewhat and Canada has increased its market share the past few years. Currently, export demand for alfalfa cubes is down 11% and hay is down 22% (January-August 1998) versus the same period in 1997. Canada's alfalfa cubes to Japan also declined almost 9% during this same period. The continuing recession, bad debt, succession of bankruptcies, weaker yen, and uncertain financial situation in Japan has adversely affected forage imports. This depressed demand is likely to last at least thru 1999. But, 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 - 1997. 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 1997, Korea

imported 56,526 mt of alfalfa cubes; 34,451 mt of alfalfa hay; 77,450 mt of grass straw; and 53,396 mt of alfalfa pellets (Table 9). The United States supplied approximately 53% of these cubes, 87% of the baled alfalfa hay, 69% of the grass straw, and zero percent of the pellets. Canada supplied all of the pellets and about 46% of the cubes. Overall, the United States supplied 51% of Korea's total 1997 forage imports of 221,823 mt. The interest in alfalfa hay and the quality available from the United States has increased greatly between 1990 and 1997.

Table 10 shows the Korean forage imports for January – July 1998. Forage imports for this seven month period show a 55% decrease over the same period in 1997. Currently, export demand for alfalfa cubes is down 48%, alfalfa pellets is down 41%, alfalfa hay is down 41%, and grass straw is down 67% (January – July 1998) versus the same period in 1997. Recent orders indicate an increased interest in Oregon 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. These large drops in demand for imported forages are a direct result of the economic turmoil in the Pacific Rim which started in December 1997. The International Monetary Fund financial rescue and resultant belt tightening has reduced forage imports by Korea. These effects will likely last for 1 to 2 years. Korea will not become a large importer of United States hay, cubes, and straw quickly. But, a substantial market should develop over the next 5 to 10 years as the economy again improves. The potential size of this market is estimated to be one-quarter to one-third of the Japanese market or 500,000 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.

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 as imports dropped in 1996 and 1997 (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 Pacific Northwest exported 9.7% of its total hay production in 1997, while the Pacific Southwest exported 7.0%. This demand helps set the tone for hay prices on the West Coast. With Pacific Rim forage demand down in 1998, this is another contributing factor to the soft forage market in the West. Demand will again increase in the near future and 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
1997 U.S. FORAGE EXPORTS - PACIFIC RIM

<u>Country</u>	<u>Tonnage (mt)</u>	<u>%</u>
Japan	1,757,230	89.6
Korea	111,214	5.7
Taiwan	88,454	4.5
<u>Other</u>	<u>3,738</u>	<u>0.2</u>
Total	1,960,636	100.0

Source: Port of Portland

TABLE 2
ALFALFA CUBE IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January - December</u>							
	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
USA	555,298	553,853	573,427	614,859	540,579	528,196	482,712	479,950
Canada	142,623	148,129	175,797	166,904	166,816	189,203	158,003	150,736
Australia	14,742	16,824	12,675	8,734	7,337	---	2,467	7,977
Others	711	1,408	1,948	3,429	6,771	2,411	3,931	11,514
TOTAL	<u>713,374</u>	<u>720,214</u>	<u>763,847</u>	<u>793,926</u>	<u>721,503</u>	<u>719,810</u>	<u>647,113</u>	<u>650,177</u>

Source: Zen-Noh, Seattle

TABLE 3
BALED HAY IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January - December</u>							
	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
USA	754,112	905,725	962,898	1,102,849	1,088,711	1,189,197	1,223,485	1,462,265
China	50,092	60,160	47,449	48,427	63,993	51,101	58,867	69,228
Australia	19,640	43,619	46,040	48,930	61,284	48,098	85,461	115,081
Canada	10,973	25,232	38,366	39,550	60,721	88,074	89,309	104,906
Others	1,854	3,561	4,060	4,860	6,828	7,324	4,771	5,529
TOTAL	<u>836,570</u>	<u>1,038,297</u>	<u>1,098,813</u>	<u>1,244,616</u>	<u>1,281,537</u>	<u>1,383,794</u>	<u>1,461,893</u>	<u>1,757,009</u>

Source: Zen-Noh, Seattle

TABLE 4
ALFALFA PELLET IMPORTS (JAPAN)

Metric Tons

January - December

<u>Origin</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
USA	2,037	1,381	2,072	1,677	5,649	7,384	29,982	4,705
Canada	296,065	274,299	292,120	277,341	289,864	266,290	244,093	261,857
Others	112	---	307	612	282	486	2,230	312
TOTAL	298,214	275,680	294,499	279,630	284,795	274,160	276,305	266,874

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

+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

+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	17.1

+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	5,621	1,806	
1989	40,023	6,740	
1990	45,000	5,720	
1991	60,000	7,000	904
1992	56,000	35,000	4,629
1993	50,000	45,000	5,689
1994	64,155	42,770	8,287
1995	77,735	55,550	25,612
1996	65,264	57,226	64,277
1997	53,396	56,526	111,901

Source: National Hay Ass'n. Export Comm. & C.D.A.

*Estimated: Categories combined when reported in Korea

TABLE 9
KOREAN FORAGE IMPORTS – 1997
Metric Tons

	<u>Pellets*</u>	<u>Cubes*</u>	<u>Alfalfa Hay</u>	<u>Grass</u>	<u>Total</u>
U.S.	---	30,080	29,875	53,403	113,358
Canada	53,368	25,930	3,558	467	83,323
China	28	---	92	23,580	23,700
<u>Other</u>	---	<u>516</u>	<u>926</u>	---	<u>1,442</u>
TOTAL	53,396	56,526	34,451	77,450	221,823

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

*Estimated: Categories Combined in Korea

TABLE 10
KOREAN FORAGE IMPORTS (mt)
January – July 1998

	<u>Pellets*</u>	<u>Cubes*</u>	<u>Alfalfa Hay</u>	<u>Grass</u>	<u>Total</u>
U.S.	---	8,395	7,320	12,484	28,199
Canada	21,626	9,268	1,659	46	32,599
China	---	---	---	3,295	3,295
<u>Other</u>	---	<u>481</u>	<u>---</u>	---	<u>481</u>
TOTAL	21,626	18,144	8,979	15,825	64,574

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	<u>3,439</u>	<u>100.0</u>

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

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