

# INTERNATIONAL TRADE PROSPECTS AND POTENTIAL IMPACTS ON FORAGE CROPS, INCLUDING THE EVOLUTION OF THE FARM BILL

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## INTRODUCTION

The hay and forage industry has limited direct access to farm subsidy programs with the exception of the pasture and forage insurance program. This has meant the industry is especially focused on market demands compared to many field crops. At the time paper is being prepared no new farm bill has yet been finalized. The landscape has shifted with the 2018 elections, but it is still not clear if a new farm bill will be completed in 2018 and if not prospects are for more extensive changes.

Trade issues have dominated US agricultural prospects in the last half of 2018 as US trade measures have engendered retaliations from trading partners. This has dimmed prospects for hay exports as well as exports for soybeans and other crops. The overall situation suggests low prices. In this paper, we review the trade situation for hay and draw some implications. We also consider potential mitigation in the context of easing trade policy turmoil and the farm bill.

## TRADE BACKGROUND

We can refer to a series of charts to review the recent trade pattern for US hay, most of which comes from western states and leaves through pacific ports. Figure 1 shows that through calendar year 2017, the value of both alfalfa and other hay exports have grown since 2000, with other hay peaking at almost \$800 million in 2012 and alfalfa export values continuing to grow to more than \$800 million in 2017. The pattern in volumes in Figure 2 are similar, with again alfalfa exports exceeding other exports since 2014. As a share of Western states production, Figure 3 shows that exports of grass has fluctuated around 40% in recent years, while alfalfa export have grown to more than 17 percent of western states production. The destination picture has also changed substantially in the past decade. As Figure 4 documents, in 2007 Japan was the dominant destination with more than two-thirds of US total alfalfa exports of 930,000 tons. In 2017 China was much larger than Japan and accounted for more than 40% of total exports of 2.9 million tons. This China total and share is crucial for understanding prospects into the near future.

Table 1 provides some detail on 2017 imports by two important Asian destinations, Japan and Korea. Using import data from those countries we find that the United States is the dominant supplier accounting for about 70% of the value of Japanese hay imports. Korean imports from the United States accounted for about 80% of the value of Korean total imports of hay. These share are important as we consider potential US expansion in those markets.

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## CURRENT INTERNATIONAL TRADE SITUATION AND ISSUES

After more than a year of aggressive rhetoric, the United States has been engaged in a back and forth of tariff escalation and responses with significant trade partners. For hay the main action has been with China. The United States announces several sets of trade actions against China and China responded with a substantial increase in tariffs and other less formal government responses to discourage imports of US agricultural products.

Table 2 summarizes the 25 increases in tariffs placed on hay imports from the United States. These tariffs are subject to change and are accompanied with other trade measures that may have informal discouragements to import US hay.

Figure 5 shows the volume of US alfalfa exports to major destinations for 2017 and 2018 through September of each year. All exports are roughly equal in the two years except for a large decline in exports to China, a sizeable increase in exports to Saudi Arabia and a small decline in exports to UAE. Figure 6 shows the 2018 month-by-month decline in exports to China compared to recent years. The exports began 2018 well above 2016 and near to the record setting 2017 exports. But, 2018 did not match the winter and spring export boom to China that occurred in 2018. Then beginning in the May of 2018 and accelerating through September exports declines precipitously, especially compared to strong exports in the prior two years.

In order to assess the potential for a severe trade action and to evaluate alfalfa hay losses we considered the implications if China were to block imports of US hay altogether. Table 3 shows the data that entered the calculations and the bottom line. We start with western production which averaged 16.9 million tons for 2016-2017. A representative price of \$297/ton is based on the port price of exports for those years. The quantity of exports to China averaged 1.18 million tons or about 7% of production. If that 7% of production must be sold in the remaining 93% of the market we estimate a price loss of about 7.5%, based on a price fall proportionate to the quantity increase in the remaining market (a demand elasticity of -1.0 and no opportunity to reduce output for the current season. Based on these assumptions loss to the Western Alfalfa industry is \$377 million.

## FINAL REMARKS

Losses from reduced exports can be mitigated if US exports could be shifted easily to other markets with no price decline. Based on Japan and Korean import information that seems difficult. There are no large amounts of competing sources to displace. Another mitigation could come from government compensation, but alfalfa was not on the list announced from USDA. A final source could be the 2018 farm bill, but it is not clear if the hay industry would benefit in the long term from beginning a practice of government subsidy.

### Reference

Putnam, D.H. W.A. Matthews, T.M. Hanon, D.A. Sumner. 2018. IN Proceedings. Second World Alfalfa Congress, Cordoba, Argentina. 11-14 November, 2018. Instituto Nacional de Tecnología Agropecuaria (INTA), <http://www.worldalfalfacongress.org/>

**Table 1. Alfalfa and grass Hay Imports into Japan and Korea from USA and other sources, 2017**

	<b>Japan</b>	<b>Korea</b>
Value of Imports (\$US Million)		
USA	1,540	1,061
Other	581	270
Quantity Imported (1,000 MT)		
USA	525	311
Other	203	82

Source: Trade Statistics of Japan, Ministry of Finance and Trade Statistics of Korea, Korea Customs Service. Note: The Alfalfa and Other Hay category covers both baled alfalfa hay and other grass hays, as well as some other hay products such as hay cubes. The 121490 HS code also covers fodder roots, but those have been excluded from these values.

**Table 2. Tariff Rates for U.S. Exports of Hay Products to China, 2018**

<b>Product</b>	<b>Most Favored Nation Rate July 1, 2018</b>	<b>Additional Retaliatory Rate July 6, 2018</b>	<b>Total Tariff Rate July 6, 2018</b>
Alfalfa Products	5%	25%	30%
Grass Hay Products	7%	25%	32%

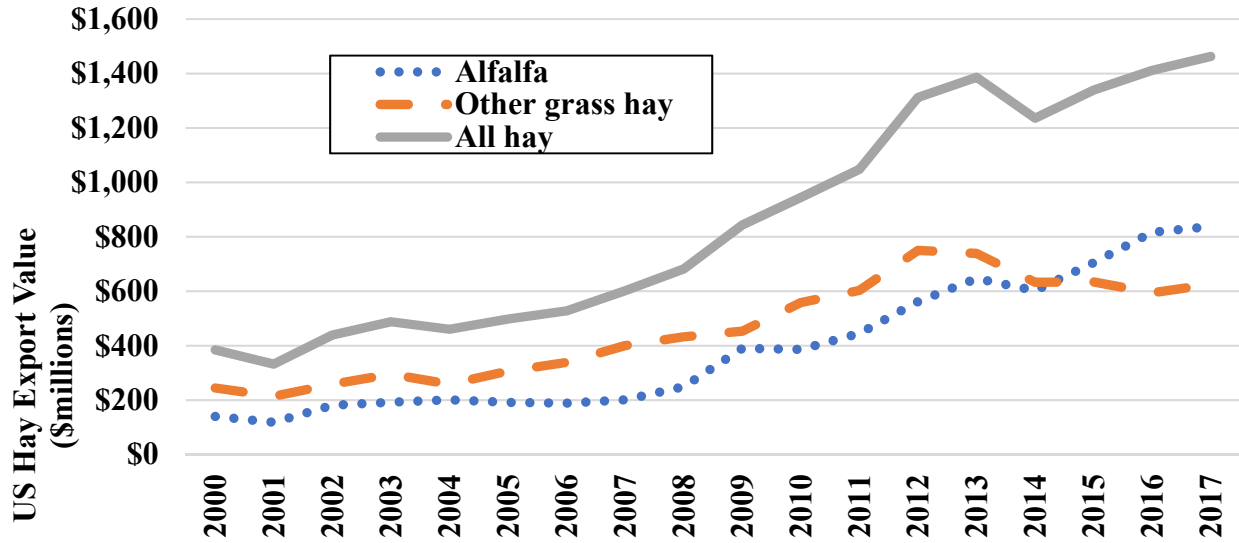
Source: USDA FAS Gain Report #CH 18034, 6/21/2018

**Table 3: Quantity and Value of Alfalfa Exports to China, and Calculated Revenue Loss from Price declines based on data from 2016-2017**

<b>Measure</b>	<b>Value</b>
Total Western Alfalfa Production Quantity (Million MT)	16.9
Western States Representative Price (\$/MT)	\$297/ton
Quantity of average exports (Million MT)	1.18
Share of China export in of western production	7.0%
Estimated Potential Price Decline (%) from China Trade Measures	7.5%
Estimate Alfalfa Revenue Loss, (\$Millions)	\$377 Million

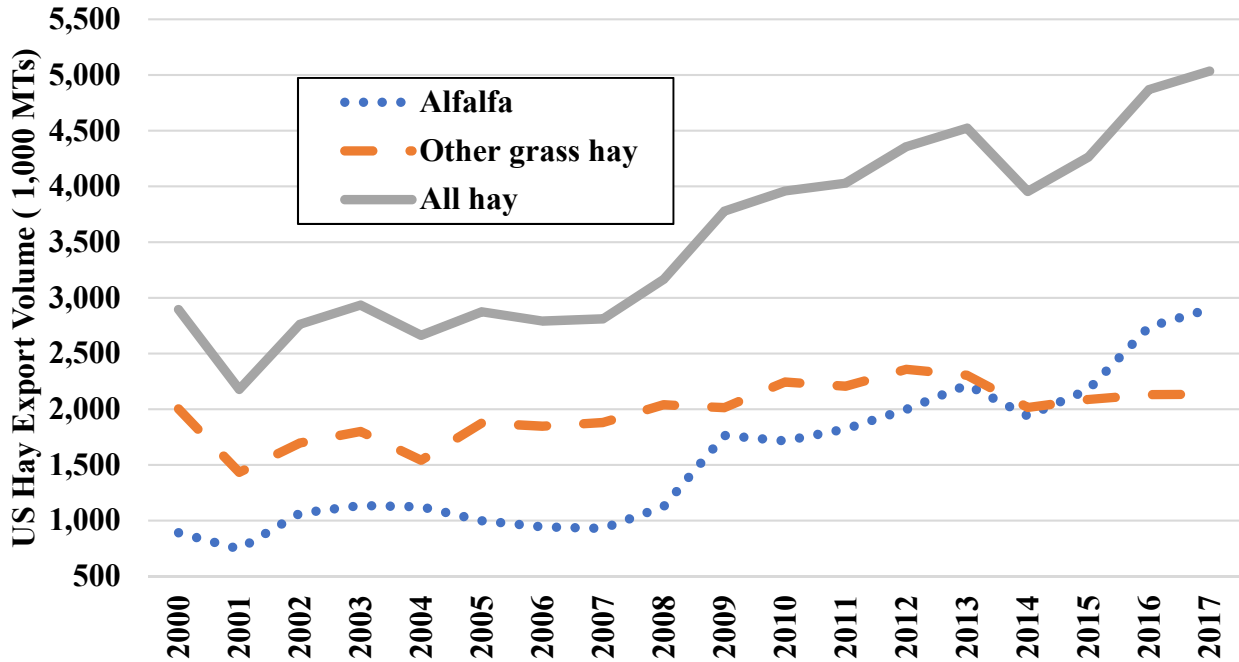
Source: U.S. Commerce Department, data available from the International Trade Commission Dataweb and author calculations. Assumes an alfalfa demand elasticity of -1.0.

**Figure 1: Value of Annual US Hay Exports, 2000-2017**



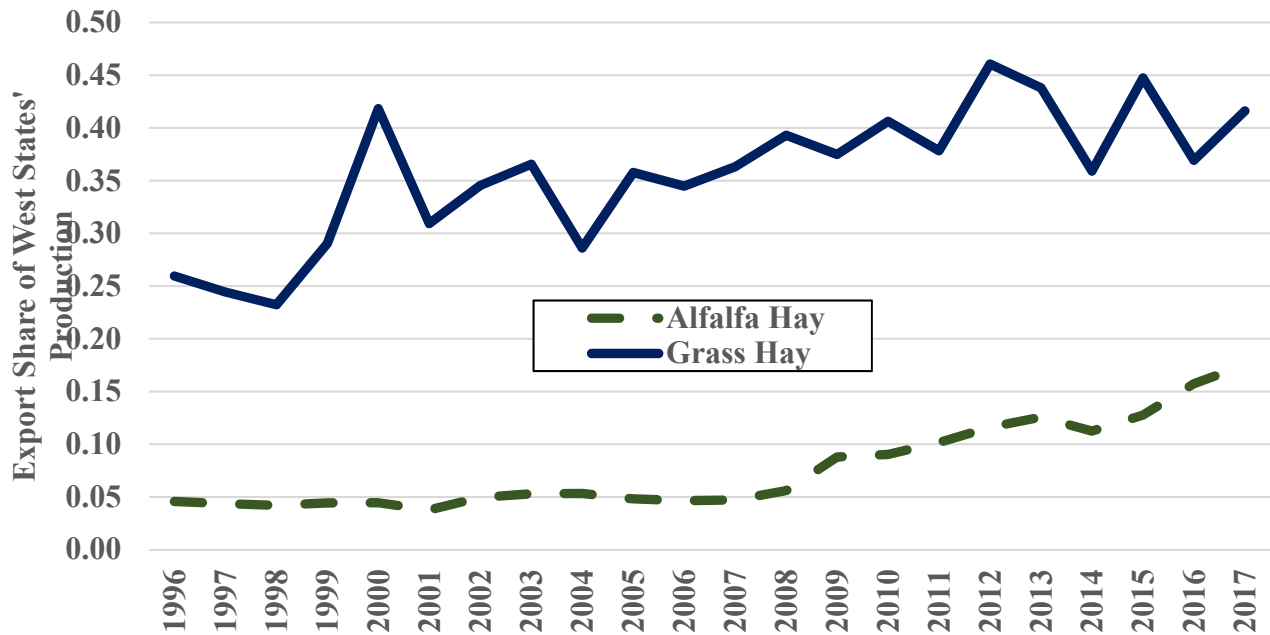
Source: U.S. Dept of Commerce

**Figure 2: Volume of Annual US Hay Exports, 2000-2017**



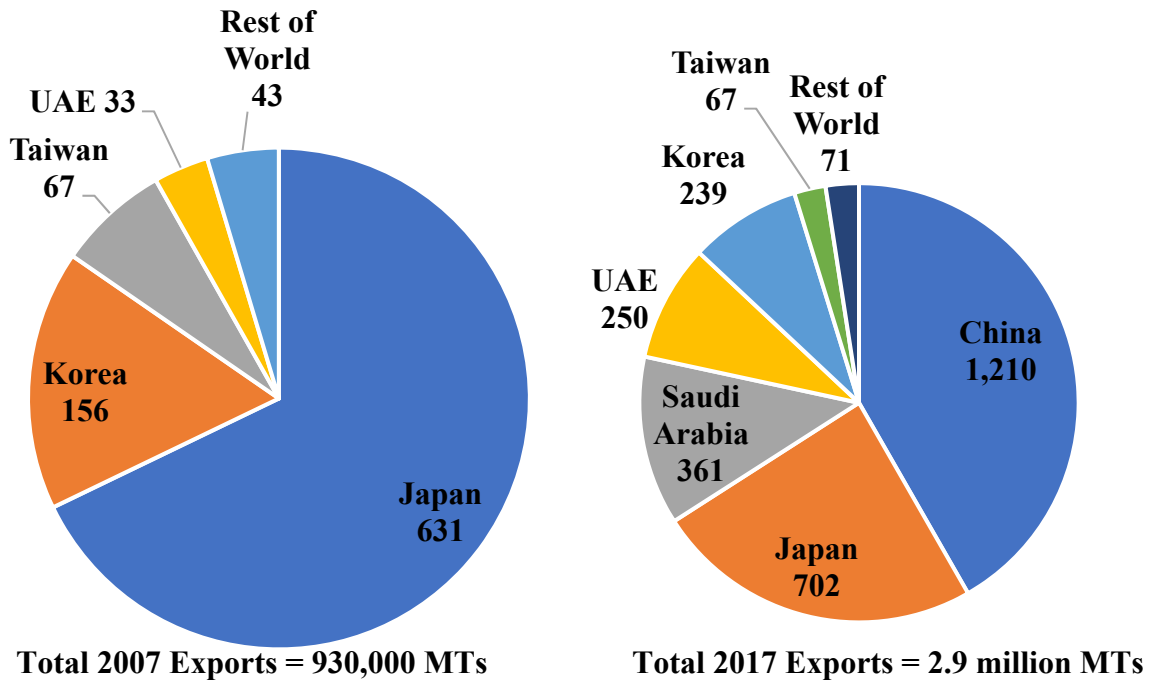
Source: U.S. Dept of Commerce

**Figure 3. Annual Export Volume of Hay as Share of U.S. Western States' Production, 1996-2017**



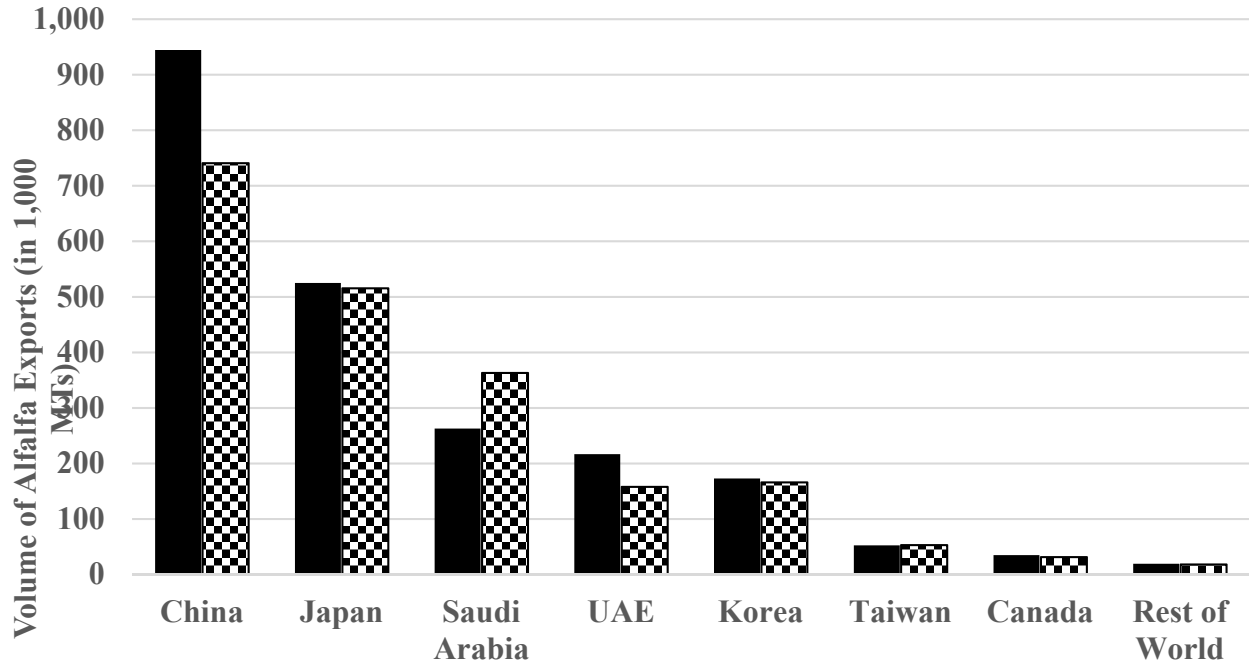
Sources: Export data from US Department of Commerce. Hay production data from USDA NASS

**Figure 4: Volume of U.S. Alfalfa Exports by Destination 2007 and 2017**



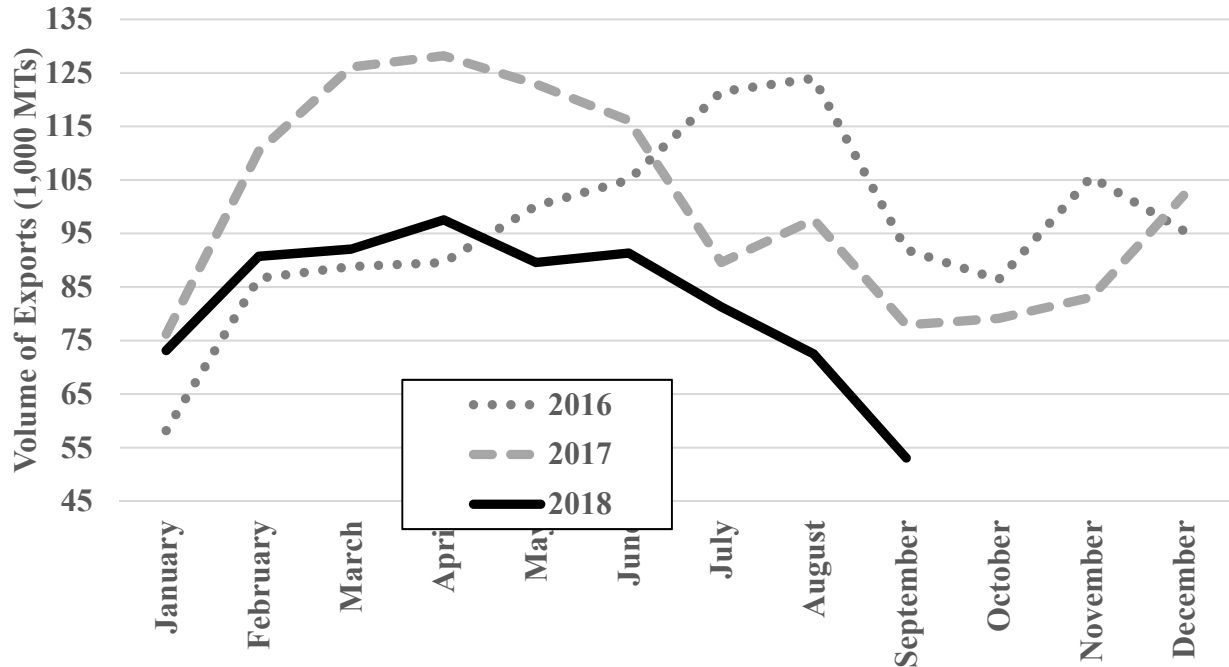
Source: US Department of Commerce

Figure 5. Comparison of U.S. Alfalfa Export Volumes to Top Destinations Through September for 2017 and 2018



Source: US Department of Commerce.

Figure 6. Volume of U.S. Alfalfa Exports to China by Month, January 2016 to September 2018



Source: U.S. Department of Commerce.