

CURRENT TRENDS IN U.S. HAY EXPORTS AND FUTURE PROSPECTS

William A. Matthews and Daniel A. Sumner¹

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INTRODUCTION

The U.S. hay and forage crop industry has experienced impressive growth in exports over the past decade and remains the dominant supplier of forage products on the world market. Much of this growth comes from the increased demand for high quality forage products in China and increased demand from the Middle East. In this paper we discuss the fallout of trade turmoil that began in Spring 2018 with China and continues through 2019 and current trends on hay exports to the Middle East. We present data to show how U.S. alfalfa and grass hay exports have responded since turmoil began and discuss future prospects.

TRADE BACKGROUND

We can refer to a series of charts to review the recent trade pattern for US hay. Most of the hay produced for the export market come from the Western states of Arizona, California, Idaho, Nevada, Oregon, Utah and Washington, which, when combined, account for about 31% of US alfalfa production and 17% of all hay produced in the U.S. West coast ports, on the other hand, account for close to 100% of all U.S. exports of hay products. Figure 1 shows that through calendar year 2017, the value of both alfalfa and other hay exports have grown since 2002, 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. In Figure 3 we compare monthly alfalfa exports from West Coast ports for the three most recent years, 2017, 2018 and 2019. Exporters experienced exceptionally high sales volumes to China during early 2017. Alfalfa shipments from March through May 2017 were 20% to 30% greater than during the same months of 2018 and 2019. The differences in volumes is, in part, due to the trade turmoil between the U.S. and China, which began in the Spring of 2018. Alfalfa export volumes in 2019 have recovered somewhat from a decline in 2018 as monthly export volumes for July through October 2019 exceeded volumes during the same months of 2018 by as much as 10%.

The destination picture has also changed substantially in the past decade. As Figure 4 documents, in 2009 Japan was the dominant destination and China was just starting to immerge as a significant market for U.S. hay. Almost half of US total alfalfa exports went to Japan in 2009 while China accounted for less than 5%. Five years later, in 2014 China surpassed Japan as the largest purchaser of U.S. alfalfa exports accounting for 37% of total exports to Japan's 32%. From 2014 through 2018 China on average accounted for almost 40 % of U.S. alfalfa exports while Japan purchased 26%. It is projected that Japan will regain its spot as the top destination for U.S. alfalfa in 2019. A result of the trade turmoil between the U.S. and China.

¹William A. Matthews (wamatthews@ucdavis.edu) and Daniel A. Sumner (dasumner@ucdavis.edu), UC Agricultural Issues Center, UC Davis, 1 Shields Ave., Davis, CA 95616. In: Proceedings, 2019 Western Alfalfa and Forage Symposium, Reno, NV, Nov 19-21. UC Cooperative Extension, Plant Sciences Department, University of California, Davis, CA 95616. (See <http://alfalfa.ucdavis.edu> for this and other alfalfa conference Proceedings.)

Table 1 provides a more in-depth comparison of U.S. hay exports in 2018 and 2019. As expected, trade turmoil led to overall declines in shipments of Hay to China. All shipments of hay to China were down almost 27% in volume and 22% in value in 2019 compared to 2018. Alfalfa, which accounts for about 85% of all U.S. hay exports to China, was down 29% in volume and 24% in value in 2019 compared to 2018. A large portion of the declines in shipments to China were offset by increases in hay shipments to Japan. Shipments of alfalfa to Japan were almost 20% higher in volume and 25% higher in value in 2019 from the previous year. Shipments of U.S. hay to other top destinations of Saudi Arabia, UAE and Korea were all up in 2019. Increased shipments of alfalfa and grass hay to four of the five top export destinations and the rest of the world and higher prices diminished the effects of the China trade turmoil. Overall 2019 U.S. alfalfa export volumes were down 1.2% from 2018 but value of alfalfa exports exceeded the previous year by 2.7%. When including grass hay exports, all U.S. hay exports in 2019 were up 1.7% in total volume and 5.5% in total value.

CHINA AND SAUDI ARABIA

Figure 4 offers a view of the extent to which trade turmoil with China impacted U.S. alfalfa exporters. From February 2016 through to July 2018 monthly shipments of alfalfa to China were between 80,000 and 141,000 tons. In July 2018 China increased tariffs on alfalfa from 5% to 30%. Tariffs on grass hay also increased from 7% to 32%. As a result, alfalfa exports to China never exceeded 80,000 tons from August 2018 to June 2019. Alfalfa shipments in July 2019 surpassed 80,000 tons and continued to expand in August and September with September shipments exceeding 108,000 tons. One attributable factor to the recovery of U.S. alfalfa exports to China is the limited options that China has for sourcing its necessary forage products. As demonstrated in Figure 5 the U.S. continues to be the dominant supplier of hay products to China. In 2010, when China was emerging as a significant market for alfalfa and other hay products, the U.S. supplied 96% of all foreign shipments. By 2017 the volume of hay products to China had increased almost ten-fold and while U.S. hay exports had declined in share of total shipments it still accounted for 70% of China's purchased hay.

China's emergence as a significant market for U.S. hay products coincides with the growth in hay product exports to the Middle East. Starting in 2009, the United Arab Emirates (UAE) became a large export market for U.S. hay products. From 2009 to 2013 U.S. shipments of hay to UAE experienced explosive growth averaging over 780 thousand tons per year. Beginning in 2014 and continuing through 2019 export volumes to UAE have declined to around 360 thousand tons per year. More recently, Saudi Arabia has become a major Middle East destination for U.S. hay products. Shown in Figure 7 water policy changes in the Kingdom of Saudi Arabia have led to steady increases in monthly shipment of U.S. hay products. Overall, the change in policy in Saudi Arabia has led to a 13-fold increase in the volume of hay imports to the country over the past 7 years (Figure 8). In 2010 the U.S. shipped no hay products to Saudi Arabia but in the past 7 years the U.S. has become the dominant source of foreign hay accounting for 83% of all hay shipments.

POTENTIAL IMPACTS OF FUTURE HAY EXPORTS

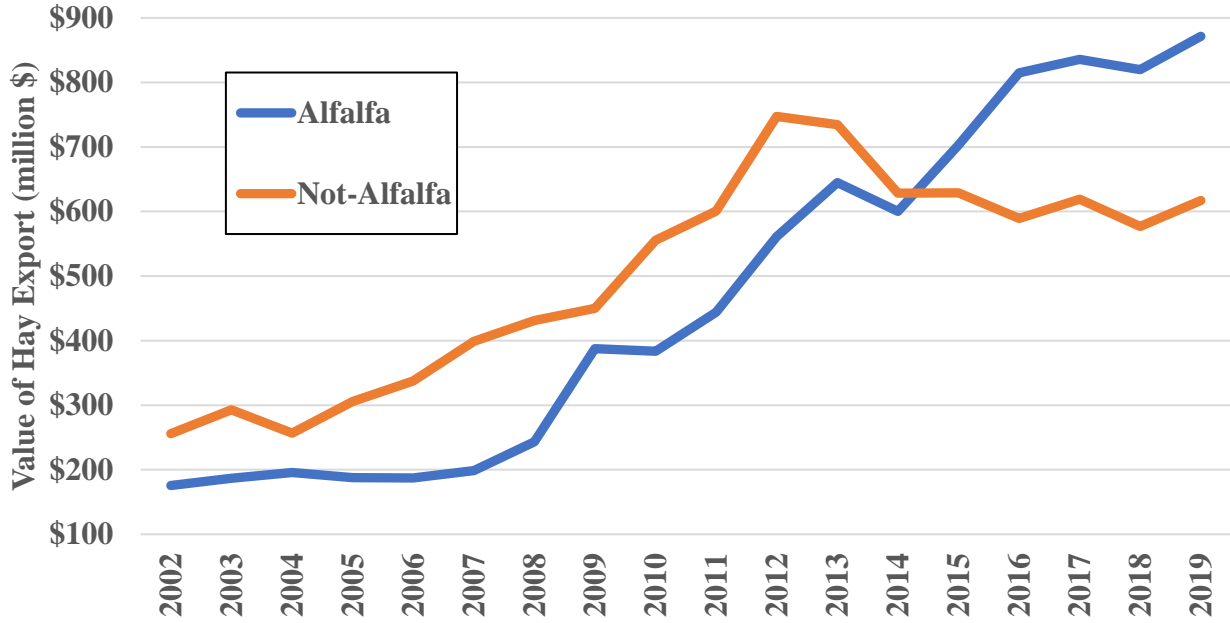
The on-going trade turmoil between the U.S. and China is fraught with uncertainty. It is difficult to predict when and how the dispute between the two countries will be resolved. Recent data indicate that despite the increased tariffs on U.S. export of alfalfa and grass hay China dairies continue to rely on U.S. suppliers for needed forage products. Furthermore, as China continues its goal of increasing and improving the nation's dairy herd the demand of U.S. hay will remain strong as competition from other countries is minimal.

Future U.S. exports could also be increased by the ratification of the Japan-U.S. free trade agreement, which was announced in September 2018. Although the agreement does not include any changes in trade terms for U.S. hay products it does include a reduction in trade barriers for U.S. supplied dairy products. Specifically, the agreement calls for timely reductions in tariffs for U.S. whey powder products, cheese and concentrated milk products over a 20-year period with some tariffs being eliminated immediately after agreement goes into force. This could influence the U.S. forage industry in multiple ways. For example, more open competition for dairy products in the Japanese market will reduce prices for consumers leading to an expansion in dairy demand. The increased demand will be met by either expanded milk production in Japan, requiring more forage product exports from U.S. producers or by the U.S. dairy industry, which consumes more U.S. forage products than the Japanese dairy industry.

CONCLUDING REMARKS

The export market continues to be a major source of revenue for U.S. producers, especially for producers in the Western U.S. Although trade turmoil has influenced exports of forage products to China over the past 18 months the U.S. remains the dominant foreign supplier to China. Furthermore, overall hay export volumes and values remained stable through 2019 demonstrating that U.S. producers remain highly competitive in supplying forage products to the world market.

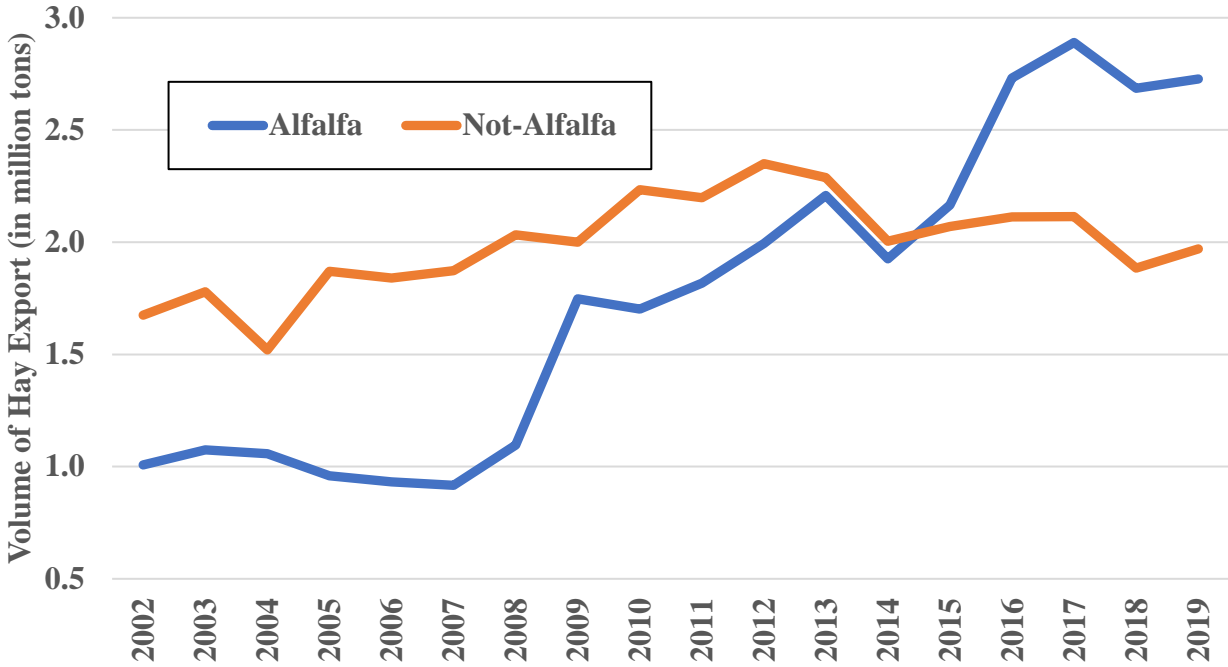
Figure 1 Value of U.S. Annual Hay Exports Through West Coast Ports, 2002-2019 (projected)



Source: U.S. Census Bureau (<https://usatrade.census.gov>)

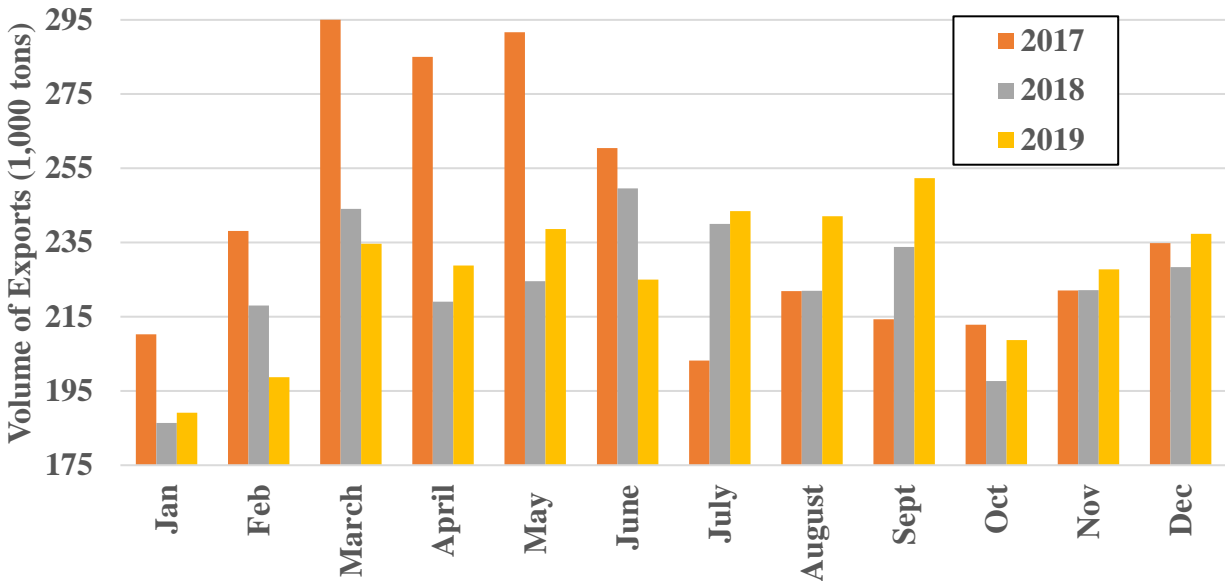
Note: Total exports for 2019 were projected using weighted averages from previous three years. U.S. hay exports through West Coast ports account for 95-99 percent of all U.S. hay exports.

Figure 2. Volume of U.S. Annual Hay Exports Through West Coast Ports, 2002-2019 (projected)



Source: U.S. Census Bureau (<https://usatrade.census.gov>)

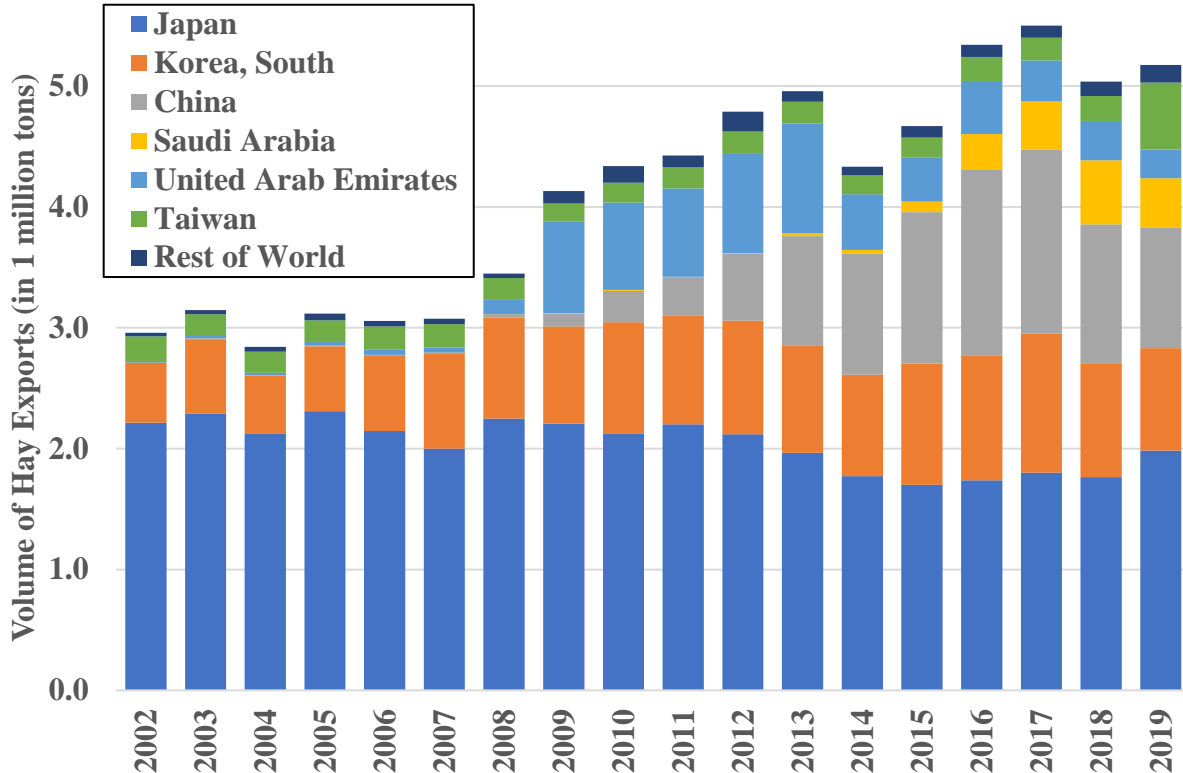
Figure 3. Monthly Volume of U.S. Alfalfa Exports Through U.S. West Coast Ports, 2017-2019



Source: U.S. Census Bureau (<https://usatrade.census.gov>)

Note: October through December 2019 projections are estimated using weighted averages for previous three years.

Figure 4. Top Destination for U.S. Hay Exports by Volume, 2002-2019 projected



Source: U.S. Census Bureau (<https://usatrade.census.gov>)

Note: Total exports for 2019 were projected using weighted averages from previous three years.

Table 1. Comparison of 2018 and 2019 US Alfalfa and All Hay Exports to Top Destination Countries from Western Ports

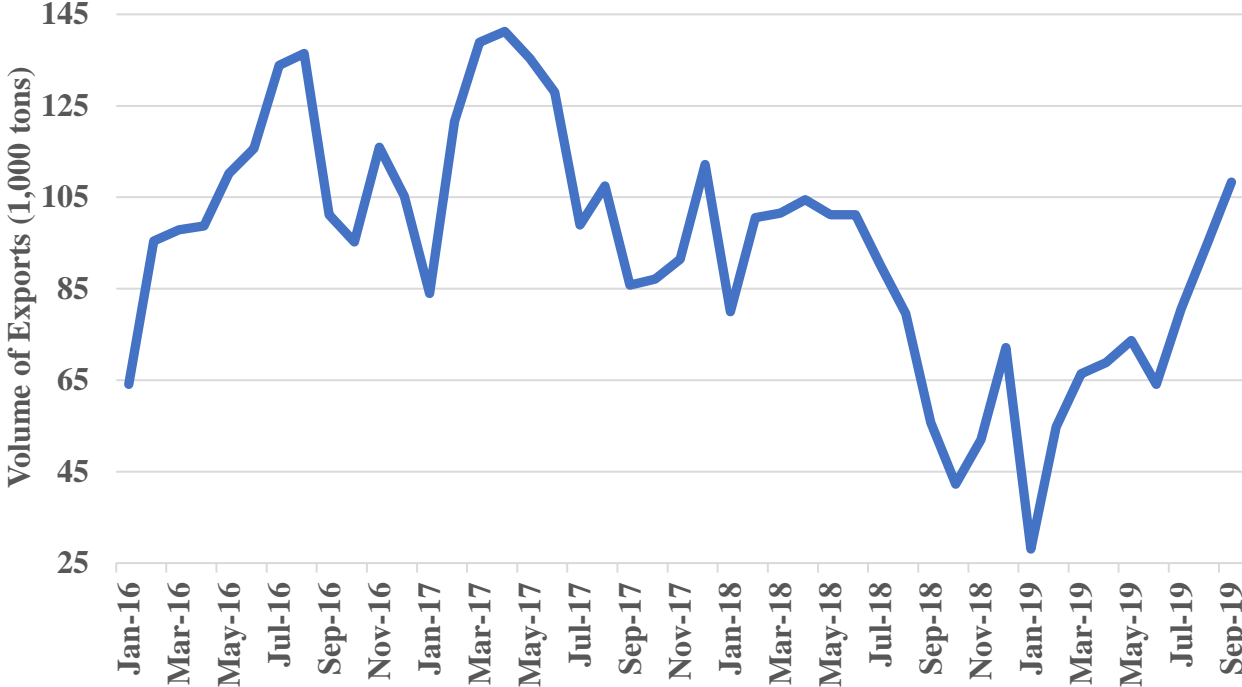
ALFALFA HAY						
	Value (\$ millions)		Percent Change	Volume (1,000 MT)		Percent Change
	2018	2019		2018	2019	
Japan	216	271	25.1	696	831	19.4
China	272	207	-23.9	890	633	-28.9
Saudi Arabia	155	160	3.1	481	500	4.0
United Arab Em	65	94	45.1	243	323	32.9
Korea	73	79	9.1	237	253	6.8
Rest of World	39	47	20.8	140	113	-19.3
Total Exports	820	842	2.7	2,686	2,653	-1.2

ALL HAY						
	Value (\$millions)		Percent Change	Volume (1,000 MT)		Percent Change
	2018	2019		2018	2019	
Japan	503	595	18.2	1,601	1,801	12.5
Korea	251	268	6.5	854	904	5.8
China	316	246	-22.0	1,039	763	-26.6
Saudi Arabia	155	160	3.1	155	160	3.1
United Arab Em	86	116	35.2	294	375	27.6
Rest of World	85	89	3.9	626	644	2.9
Total Exports	1,397	1,474	5.5	4,570	4,647	1.7

Source: U.S. Census Bureau (<https://usatrade.census.gov>)

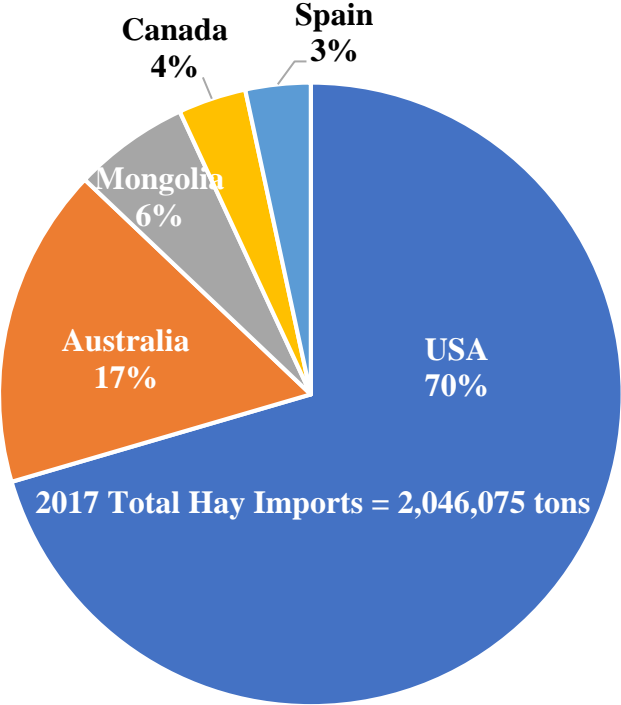
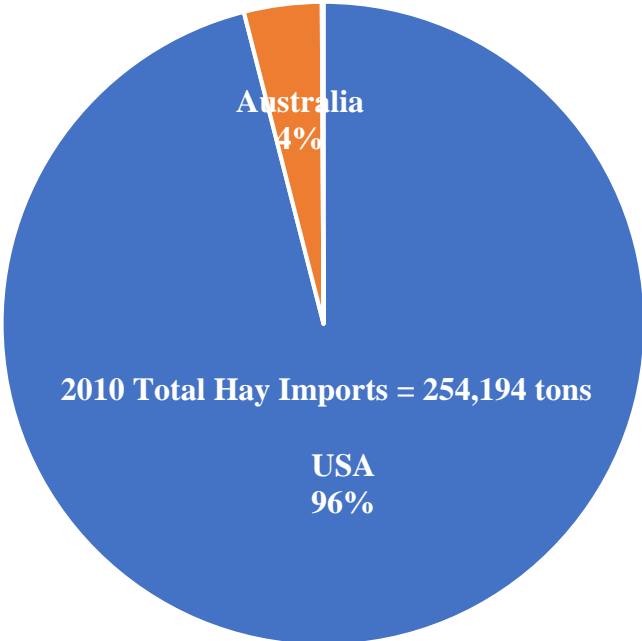
Note: 2019 totals are projected using weighted averages from previous three years.

Figure 5. Monthly Exports of U.S. Alfalfa to China, January 2016 to September 2019



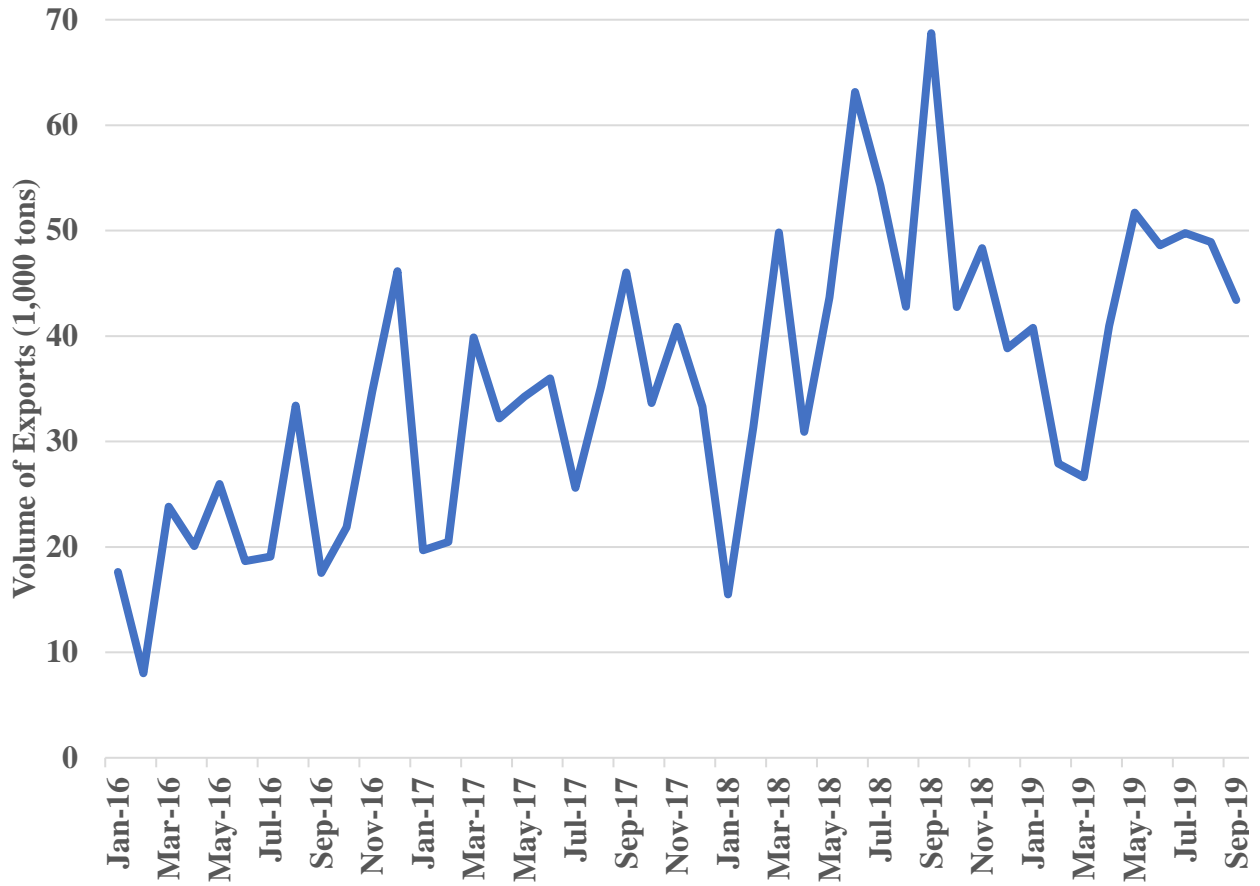
Source: U.S. Census Bureau (<https://usatrade.census.gov>)

Figure 6. Share of Total Hay Imports to China by Country, 2010 and 2017



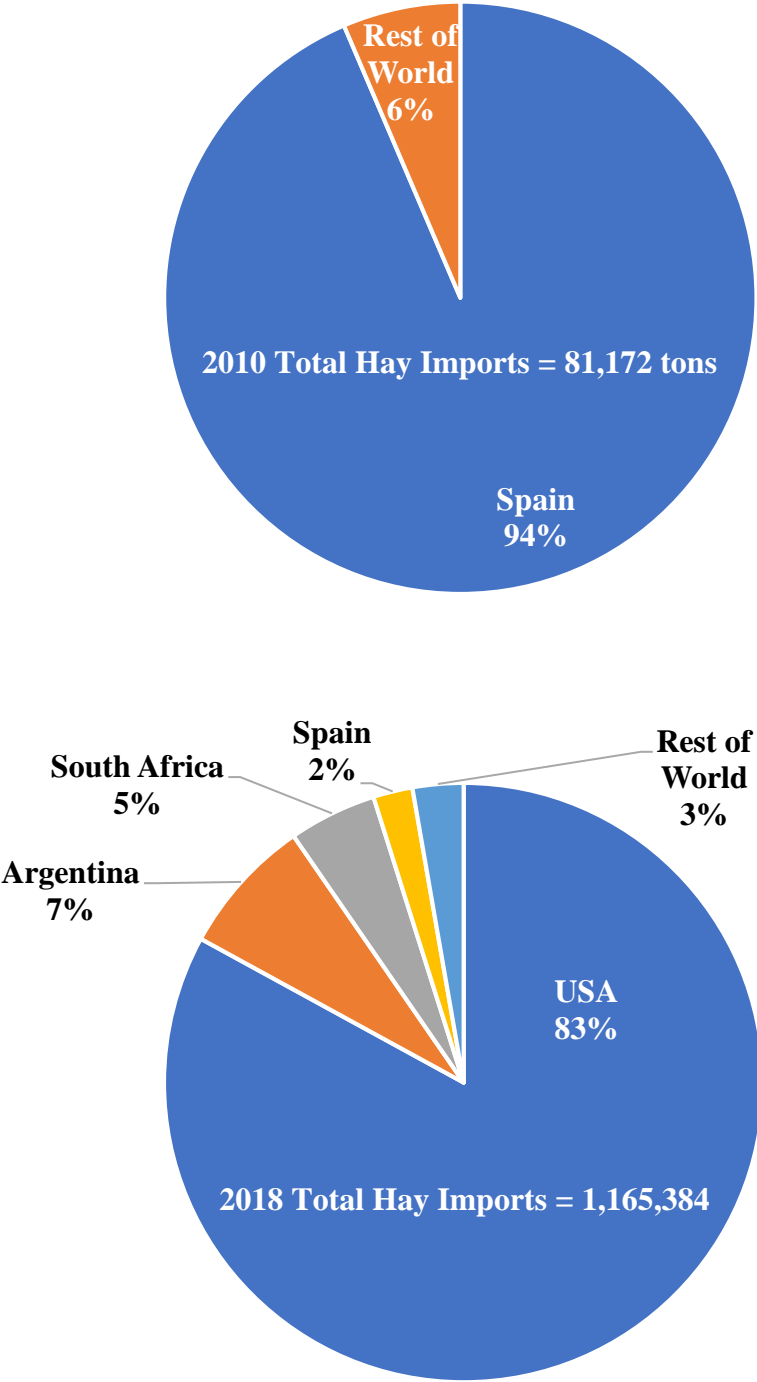
Source: UN Comtrade

Figure 7. Monthly Export of U.S Alfalfa to Saudi Arabia, January 2016 to September 2019



Source: U.S. Census Bureau (<https://usatrade.census.gov>)

Figure 8. Share of Total Hay Imports to Saudi Arabia by Country, 2010 and 2017



Source: UN Comtrade