



MARKET SNAPSHOT
HAY

Dec. 31, 2021

Executive Summary

Drivers for the hay industry include regional drought, crop input prices and export demand.

- Low inventory will keep hay prices elevated in 2022.
- Rising crop input prices will weigh on producer profitability.
- Export demand remains robust despite shipping disruptions.

12-Month Profitability Outlook

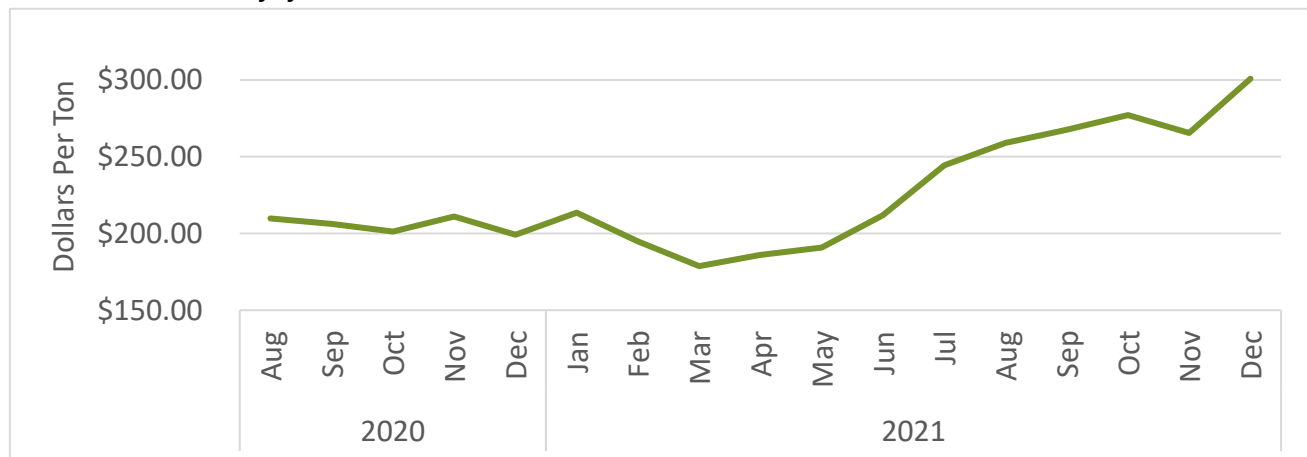


Northwest FCS’ 12-month outlook for the hay industry calls for profitable returns. Extremely low inventory will keep hay prices elevated through much of 2022. Rising input prices will provide headwinds to producer profitability.

Northwest Situation

The USDA estimates total Northwest hay production is down 20% year over year. Accordingly, hay prices have increased. Northwest average prices for large (square and round) bales of premium alfalfa rose from around \$175 per ton in March to around \$300 per ton in December. High hay prices will carry through into early cuttings and much of 2022. Livestock producers must first rebuild hay inventory before hay prices will ease.

Northwest Premium Alfalfa Price

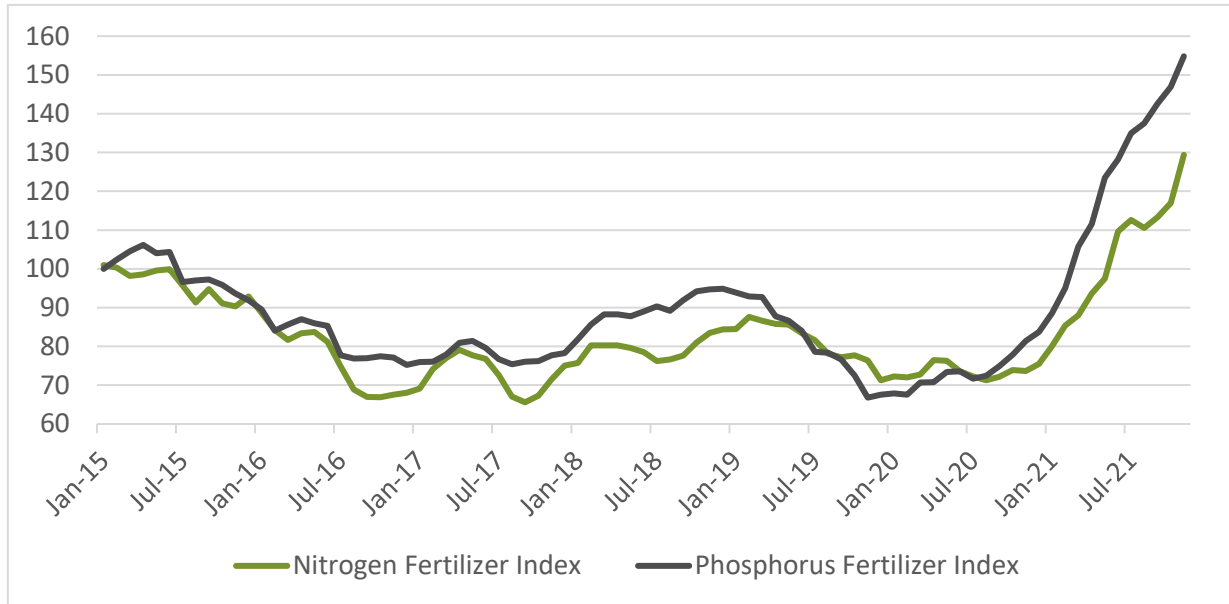


Source: USDA AMS, Compiled by Northwest FCS.

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Inflation and rising input costs will impact producer profitability. Headline inflation was 6.8% in the last year. Anecdotal reports indicate Northwest producers are expecting total expenses to increase 20%-30% from rising costs of fertilizer, fuel, labor and other expenses. Hay producers will need to carefully manage their expenses to remain profitable in 2022 despite record high hay prices.

Nitrogen and Phosphorus Fertilizer Indices



Source: Federal Reserve Economic Data. Dec. 14, 2021.

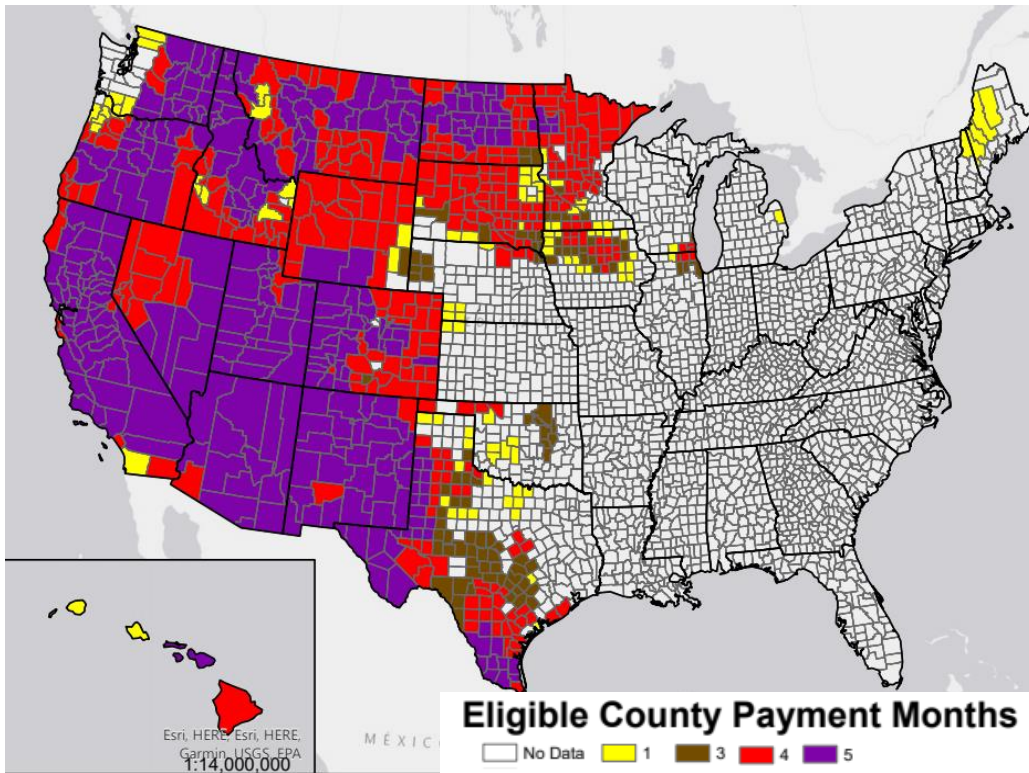
USDA Disaster Programs

Livestock Forage Disaster Program

The Livestock Forage Disaster Program provides payments to help livestock producers with grazing losses caused by drought. Payments are based on 60% of feed costs for one to five months. The number of months a producer receives payments for is based on the severity of drought, as assessed by the drought monitor, or the duration of grazing disruption. Nearly every county in the West is eligible for a payment. The Farm Service Agency does not provide direct support for hay growers. However, this program benefits livestock producers who also grow grazed forage crops. Support to livestock producers indirectly supports hay prices.

County Drought Rating	Loss during normal grazing period	Assistance payments equal to:
D2 (severe drought)	At least eight consecutive weeks	One month
D3 (extreme drought)	At any time	Three months
D3 (extreme drought)	At least four weeks	Four months
D4 (exceptional drought)	At any time	Four months
D4 (exceptional drought)	Four weeks, not necessarily consecutive	Five months

Livestock Forage Program, Native Pasture Eligible County Payment Months



Source: USDA Farm Service Agency. Dec. 16, 2022.

Dairy

Milk price future contracts began increasing during the third quarter of 2021. Dairies utilizing active risk management and diligently managing breakeven costs will likely be able to lock in prices at or above breakeven. Class III milk futures suggest milk prices around \$19.50 per cwt for the first half of 2022. While this is a historically high milk price, rising feed, fuel and labor costs will limit dairy profitability. Demand for dairy hay will be tepid as milk producers balance rations using alternative feeds.

Exports

The port of Los Angeles/Long Beach has not implemented the \$100 per container fee, put forward in September as a way to alleviate port congestion. However, the number of "long dwelling" containers (those sitting more than nine days) has decreased 37%. There's also a new queueing system for ships based on departure date from their last port of call. This will work to gradually alleviate port congestion.

Importers of consumer goods plan to restock inventory in the second quarter of 2022, which means a push for more imports in the first half of 2022. This suggests companies will have "just-in-case" inventory for fall of 2022. This comes as widespread supply chain disruptions have, partially, broken "just-in-time" inventory management across the economy. Shipping disruptions will continue to plague the hay export industry until a new balance between "just-in-time" and "just-in-case" inventory management is found. Additional import demand may contribute to more containers returned empty in the first half of 2022.

On July 1, 2022, the contract between the Pacific Maritime Association (PMA) and the International Longshore and Warehouse Union (ILWU) expires. This contract applies to 15,000 ILWU members including longshore workers,

marine clerks and foremen at 29 west coast ports. In 2014, contract negotiation led to port slowdowns that were economically damaging for hay exporters. The contract was successfully renegotiated once in 2019. Exporters and their suppliers should be aware of the possibility of more disruption associated with contract negotiations.

Despite widespread shipping disruptions, grass hay exports increased in the first ten months of the year when compared to pre-pandemic levels. Alfalfa exports increased a staggering 9% compared to pre-pandemic, 2019 levels. This comes as China nearly doubled alfalfa purchases. Japan, Saudi Arabia, South Korea and the UAE all purchased less hay compared to pre-pandemic levels. Likewise, grass hay exports remained robust. Grass hay exports to Japan were robust through the first ten months of 2021, up 11%. Additional trade with Japan more than offset losses to other markets like South Korea, Taiwan and the UAE. While grass hay trade with China remains relatively small, it's now larger than the grass hay trade with the UAE. This makes China the fourth largest destination for export U.S. grass hay.

Port congestion in the U.S. disrupted shipments to China. From July to October, shortages of hay in China drove hay prices higher. This, coupled with widespread rain, disrupted silage harvest in the Hebei, Shanxi and Henan provinces. Disruption in the silage harvest added additional demand for forage. Shipments throughout fall were active. While it's uncertain how much hay China has on farm or in warehouses, demand will remain robust. Many Chinese buyers have booked hay orders through April. Strong Chinese demand is driven by an ever-growing dairy herd. China currently has around 5.8 million dairy cows. The U.S. has 9.3 million by comparison. By the end of 2022, China may have as many as 6.4 million head. The milk price in China continues to support feed purchases. In 2019, the milk price was 3.8 yuan per liter (approximately \$27.58 per cwt). In 2021, the milk price increased to 4.2 yuan per liter (approximately \$30.48 per cwt). As in the United States, milk prices need to remain at these elevated to offset feed cost inflation.

U.S. Alfalfa Exports (January-October)

Destination	2019	2020	2021	Difference 2019-21 (metric tons)	Percent Change
China	677,908	970,065	1,323,651	645,743	95%
Japan	556,999	508,549	498,705	-58,294	-10%
Saudi Arabia	383,301	265,489	188,655	-194,646	-51%
South Korea	196,034	187,052	187,520	-8,514	-4%
United Arab Emirates	248,383	133,405	56,253	-192,130	-77%
Taiwan	61,460	79,257	85,523	24,063	39%
Other	72,531	102,657	62,779	-9,752	-13%
Total	2,196,616	2,246,474	2,403,086	206,470	9%

Source: U.S. Census Bureau. Dec. 6, 2021.

U.S. Grass Exports (January-October)

Destination	2019	2020	2021	Difference 2019-21 (metric tons)	Percent Change
Japan	631,663	673,069	699,561	67,898	11%
South Korea	278,319	266,823	260,426	(17,893)	-6%
Taiwan	109,075	95,779	104,396	(4,679)	-4%
China	16,636	23,128	40,825	24,189	145%
United Arab Emirates	47,252	27,377	30,568	(16,684)	-35%
Canada	16,269	10,819	11,938	(4,331)	-27%
Other	22,715	17,964	18,687	(4,028)	-18%
Total	1,121,929	1,114,959	1,166,401	44,472	4%

Source: U.S. Census Bureau. Dec. 6, 2021.

Alfalfa Guidelines for Domestic Livestock Use and Not More Than 10% Grass

Quality	ADF	NDF	RFV*	TDN** (100%)	CP
Supreme	<27	<34	>185	>62	>22
Premium	27-29	34-36	170-185	60.5-62	20-22
Good	29-32	36-40	150-170	58-60	18-20
Fair	32-35	40-44	130-150	56-58	16-18
Utility	>35	>44	<130	<56	<16

*Relative Feed Value calculated using the Wisconsin/Minnesota formula. **Total Digestible Nutrients calculated using the Western formula. Quantitative factors are approximate; many factors can affect feeding value. Values are based on 100% dry matter. Guidelines are to be used with visual appearance and intent of sale (usage).

Source: USDA Agricultural Marketing Service.

Additional Information

Northwest FCS Business Management Center

www.northwestfcs.com/Resources/Industry-Insights

Hay & Forage Grower

www.hayandforage.com

USDA Livestock and Grain Market News

<https://www.ams.usda.gov/market-news>

Progressive Forage

www.progressiveforage.com

USDA Hay Reports

<https://www.ams.usda.gov/market-news/hay-reports>

Australian Fodder Industry Association

<https://www.afia.org.au/>

The Hoyt Report

<http://thehoytreport.com>

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