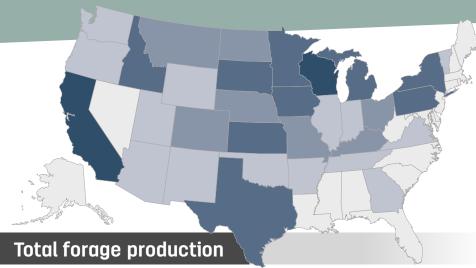
2022 U.S. forage statistics

2022 national forage review



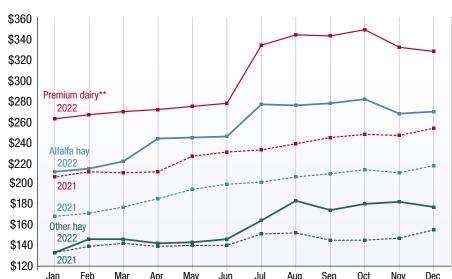


- More than 15.000 thousand tons
- 10,000 to 15,000 thousand tons
- 5,000 to 10,000 thousand tons
- 2,000 to 5,000 thousand tons
- \square 0 to 2,000 thousand tons

Total forage production is represented by the total of alfalfa, other hay, silage and

(dollars per ton)

U.S. monthly average* prices, alfalfa, 2021-22 other and Premium dairy hay



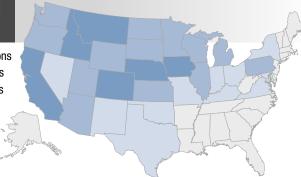
- * Average prices paid in 27 major hay-producing states
- **Weighted average price for Premium/Supreme alfalfa hay in the five largest milk-producing
- states: California, Idaho, New York, Texas and Wisconsin

Source: USDA National Agricultural Statistics Service

For market reports updated monthly, visit progressiveforage.com

Total alfalfa hay production

- More than 5,000 thousand tons **3.000** to 5.000 thousand tons
- 1.000 to 3.000 thousand tons
- 100 to 1,000 thousand tons
- □ 0 to 100 thousand tons

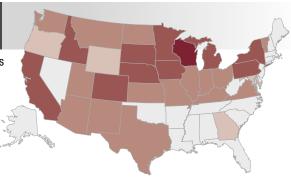


Total other hay production

- More than 5,000 thousand tons
- **2,000** to 5,000 thousand tons
- 1,000 to 2,000 thousand tons ■ 500 to 1,000 thousand tons
- 0 to 500 thousand tons

Total corn silage production

- More than 10,000 thousand tons ■ 5,000 to 10,000 thousand tons
- 1.000 to 5.000 thousand tons
- 500 to 1,000 thousand tons
- $\ \square$ 0 to 500 thousand tons



Total greenchop production

- More than 5,000 thousand tons
- 2.000 to 5.000 thousand tons
- 1,000 to 2,000 thousand tons ■ 500 to 1.000 thousand tons
- □ 0 to 500 thousand tons



Progressive Forage Editor Dave Natzke

Prices for all classes of dry hay rose through most of 2022 (see line graph)

The 2022 price for dairy-quality alfalfa hay peaked in October at \$348 per ton, \$95 higher than the peak a year earlier. It ended the year averaging about \$304 per ton, up \$73 from 2021's average.

Spurred on by both domestic and export demand, 2022 U.S. prices for all alfalfa hay* averaged more than \$252 per ton, up \$56 from 2021. Monthly average prices peaked at \$281 per ton in October.

Prices for all other hay averaged \$160 per ton in 2022, up about \$17 from 2021, topping out at \$183 per ton in August.

Alfalfa hay carried a premium over other hay for most of the year, topping \$112 per ton (\$276 per ton of alfalfa versus \$164 for other hay) in July.

Nationally, dry hay production in 2022 was marked by declines in both harvested acreage and yield. Compared to a year earlier:

- All dry hay: Production was estimated at 112.8 million tons, down 6% from 2021. Area harvested was estimated at 49.5 million acres, down 2%; average yield, at 2.28 tons per acre, was down 0.09 ton. Record-low harvested acres were estimated in Colorado, Delaware, Nebraska, Ohio, Oregon and Wisconsin.
- Alfalfa and alfalfa mixtures: Production was estimated at just under 48 million tons, down 3% from 2021. Harvested area, at 14.9 million acres, was down 2% while yield averaged 3.22 tons per acre, down 0.01 ton. Record-low harvested acres were estimated in Arkansas, California, Delaware, Rhode Island and Tennessee, while record-high harvested acres was estimated in Nevada.
- All other hay: 2022 production topped 64.8 million tons, down 9% from 2021. Harvested area, at 34.6 million acres, was down 2%; average yield was estimated at 1.87 tons per acre, down 0.13 ton. Record-low harvested acres were estimated in Indiana, Nebraska, Oregon and Wisconsin,

while record-high harvested acres and yield were estimated in Utah.

• Total forage: The USDA's total forage estimation program covers 17 states. Haylage and greenchop are converted to 13% moisture and combined with dry hay production to derive total forage estimates.

With dry hay, the 17-state total for all forage production was 75 million tons, down 8%. About 38.5 million tons were alfalfa and alfalfa mixtures, also down 8%.

All haylage and greenchop forages were harvested from 3.96 million acres in 2022, down about 4%, and slightly lower yields dropped total production to 28.16 million tons, down 6%.

- Corn silage: Production was estimated at 129 million tons for 2022, down 1% from 2021. Area harvested for silage was estimated at 6.86 million acres, up 6%; average yield was estimated at 18.7 tons per acre, down 1.4 ton.
- Sorghum silage: Production was estimated at 5.66 million tons, up 11% from 2021. Area harvested for silage was estimated at 525,000 acres, up 59% from the previous year; yield averaged 10.8 tons per acre, down 4.6 tons per acre.
- New seedings of alfalfa and alfalfa mixtures: After setting two-decade lows in 2021, acreage newly seeded to alfalfa in 2022 was estimated at 1.68 million acres, up 2% from 2021 but still the second-lowest total in 25 years. About 1.29 million acres (77%) of new seeding was concentrated in 22 of 24 major dairy states, but new seeding in those states was down about 26,000 acres compared to a year earlier.
- Hay stocks: Heading into the 2022 growing season, all dry hay stocks stored on U.S. farms on May 1, 2022, totaled about 16.77 million tons, down 7% from a year earlier. With lower production, hay inventories as of Dec. 1, 2022, totaled about 71.91 million tons, down 9% from Dec. 1, 2021, and the lowest December inventory since 1954. Sharpest year-over-year declines were located in an area from Texas to Iowa, including Nebraska,

Oklahoma, Missouri, Kansas and Colorado. That was offset somewhat by increases to the north in an area stretching from Oregon and Washington to Minnesota, including Idaho, Montana, Wyoming, North Dakota and South Dakota.

Hay "disappearance," a proxy for use, totaled 57.7 million tons for the period May 1 – Dec. 1, 2022, down 3% from the same period in 2020.

Strong demand from China supported alfalfa hay exports all year, but a weak December left 2022 alfalfa hay export volumes below 2021's record high. At 2.847 million metric tons, total 2022 alfalfa hay exports came in about 15,000 MT less than the year before. China was the destination for about 57% of all U.S. alfalfa hay exports during the year, topping 1.63 million MT. Exports of alfalfa hay peaked in August at more than 337,100 MT and averaged about 237,250 MT per month.

In contrast, exports of other hay continued to soften all year, with the annual total of just under 1.2 million MT, the lowest volume in at least 17 years. Japan maintained its spot as the top market, taking about 59% of other hay shipments during the year, followed by South Korea, at 24%. Monthly exports of other hay peaked in March-May and averaged about 99,590 MT per month, down nearly 17,000 MT from 2021.

Weather and drought

By Jan. 3, 2023, hay growers had endured 119 consecutive weeks in which drought covered 40% of the contiguous U.S. During 2022, national drought coverage peaked at just under 63% in October, an area stretching from the Pacific Coast to the western Corn Belt.

USDA Drought Monitor maps estimated U.S. hayproducing acreage considered under drought conditions fluctuated between a low of 30% in June to a high of 69% at the end of October. The area of droughtimpacted alfalfa acreage ranged from a low of 41% in June to a high of 69% in early November.

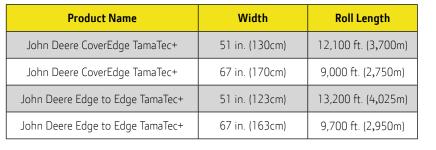
* Monthly average prices calculated by USDA are across all hay qualities. Among major hay-producing states, the range of monthly prices can vary by \$100 per ton or more.







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2022 U.S. forage statistics

total hay acres









