

AGECONMT

News and Posts

January 5, 2026

By [Nick Hagerty](#)

A Quick Guide to Irrigated Agriculture in Montana

Although irrigation makes up only a small share of Montana's agricultural land, it's good for ninth place in nationwide irrigated area.



Recently I was curious about some basic facts around irrigated agriculture in Montana. Now, irrigation doesn't play as big of a role in our state's agricultural sector as some other states around the West like Idaho or Colorado. But it's still quite important, especially in certain communities like the Hi-Line, those along the Yellowstone River, and valleys around Western Montana.

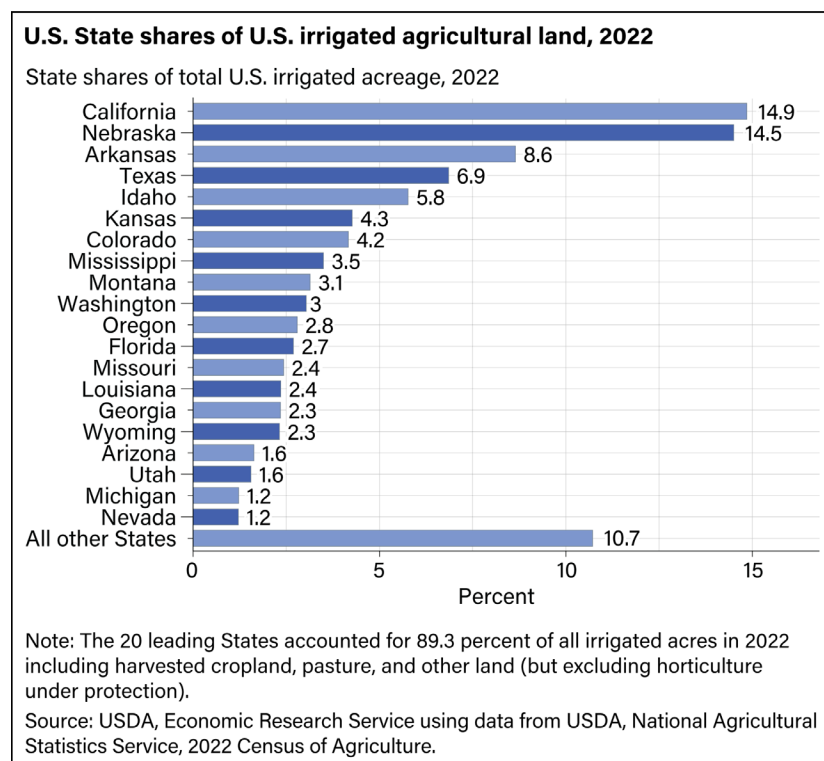
But exactly how big is irrigated agriculture in Montana? Compared with non-irrigated agriculture, in terms of land area? Or in terms of dollars? Compared with other sectors, in terms of water use? It was surprisingly hard to find basic statistics, so I decided to pull together some numbers myself.

Many of these statistics were only recently made possible to calculate, thanks to the U.S. Department of Agriculture's 2023 [Irrigation and Water Management Survey](#). Keep in mind there are flaws and limitations in all data sources, and my calculations have to make some assumptions and approximations. Still, this is the best available information, so far as I'm aware. (And if you think I'm missing anything, please contact me and let me know!)

1. How much irrigated land is irrigated?

Between 1.6 and 1.7 million acres, according to the 2023 IWMS or the 2022 Census of Agriculture. That includes 1.2 million acres of cropland and 370,000 acres of pastureland. Irrigated cropland makes up 7.4% of all cropland, or 11% of harvested cropland (although probably not all irrigated cropland is harvested). Irrigated pasture is 1% of all pastureland.

Those look like small percentages, but Montana is so big that they put us on the national leaderboard for irrigated land area – in ninth place. This graph from the USDA shows that Montana makes up 3% of all irrigated acreage nationwide. Excluding wetter states in the East, Montana has the seventh-most irrigated acreage in the country.

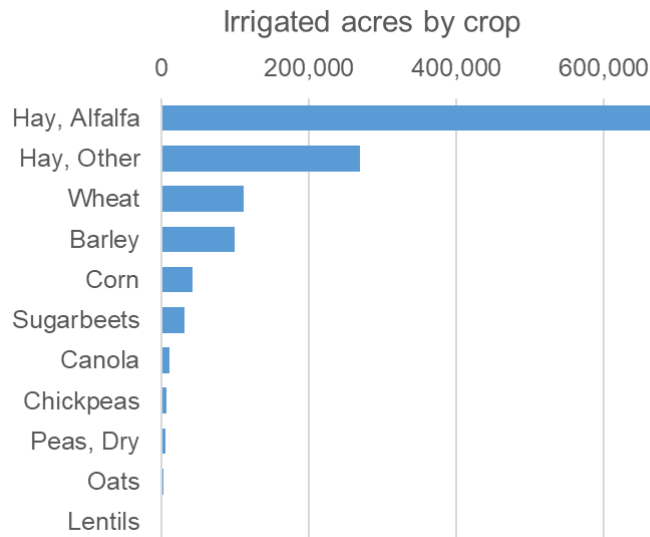


2. Where is the irrigated agriculture in Montana?

Instead of statistics, I recommend using [this link](#) to see a map of the DNRC's handy Montana Statewide Irrigation Dataset. In western Montana, the answer is in valleys. In eastern Montana it's highly concentrated along certain rivers, particularly the Yellowstone and its tributaries and the Milk River.

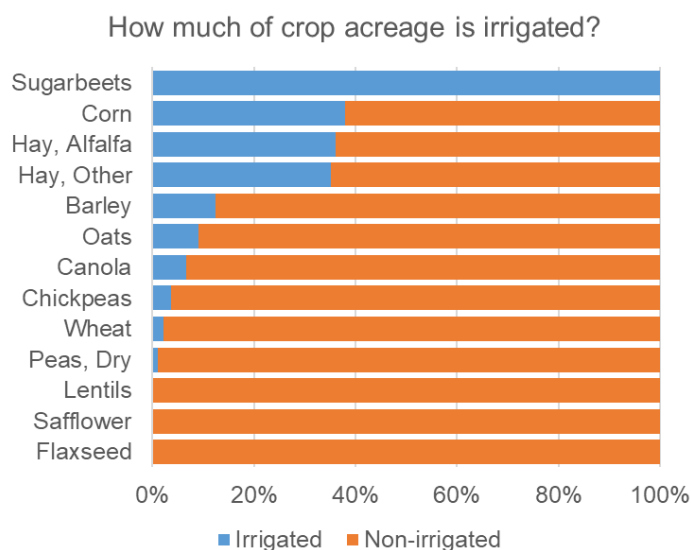
3. What crops are irrigated?

One way to ask this question is: *Which crops have the most irrigated area?* The answer is generally hay, as seen in the graph below (which uses data from the 2022 Ag Census). Alfalfa is the single crop with the most irrigated acres – it makes up more than half of all irrigated cropland in Montana. In other words, if you see a random field with irrigation equipment, the crop is more likely than not to be alfalfa. And three out of four irrigated acres are growing some type of hay (including both alfalfa and other types like grass). Most of the rest are wheat and barley.



Source: Graph created by Nick Hagerty, Montana State University, Department of Agricultural Economics and Economics

A very different way to ask this question is: *Which crops are most likely to be irrigated?* Although most irrigated acres are hay, most acres of hay are not irrigated! Only 36% of hay acreage is irrigated. The only crop in Montana that's mostly irrigated is sugarbeets. In fact, 100% of sugarbeets are irrigated. All other crops are mostly not irrigated.



Source: Graph created by Nick Hagerty, Montana State University, Department of Agricultural Economics and Economics

Note this is just in terms of land area – it is still possible that most hay *production* is irrigated! Fields that are irrigated can get more cuttings per year, so higher yields per acre can make up for fewer acres.

So that's Montana's irrigated agriculture in terms of land area. What about in terms of economic value? In my next post, I'll show some new calculations about how important irrigation is to Montana's agricultural sector in terms of production and revenue.