

**CULTIVATION SNAPSHOT**

# U.S. Wholesale Marijuana Prices and Supply



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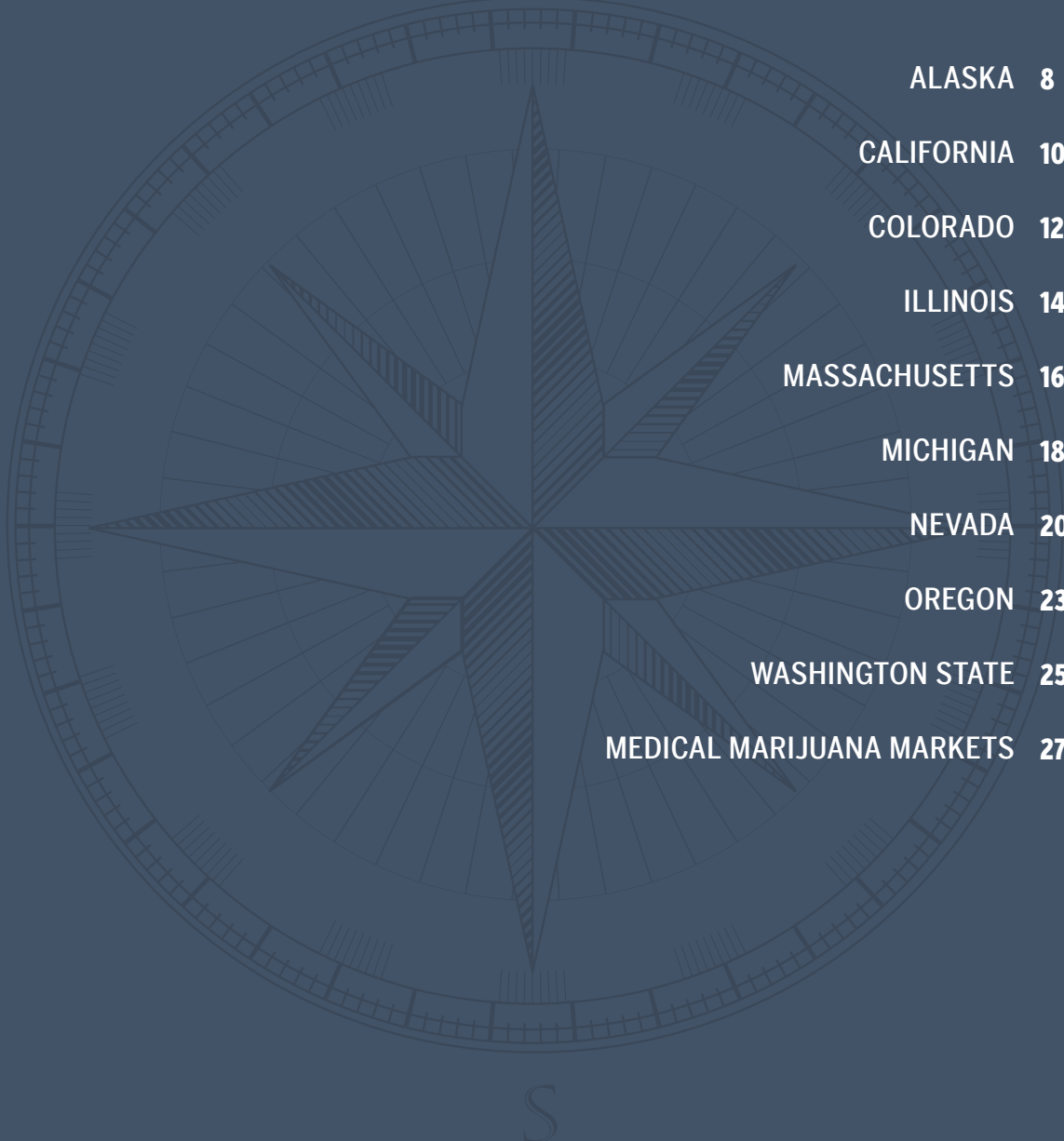
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# CULTIVATION SNAPSHOT: U.S. WHOLESALE MARIJUANA PRICES AND SUPPLY



**Bart Schaneman**  
*MJBizDaily*  
Cultivation and  
Extraction Reporter

Welcome to the second edition of the “Cultivation Snapshot: U.S. Wholesale Marijuana Prices and Supply,” produced by the research team at *Marijuana Business Daily*.

When we published our first report in 2018, we were covering six recreational cannabis markets. Today, we have nine.

In the past couple of years, more mature adult-use markets such as Colorado, Oregon and Washington state have experienced dramatic peaks and troughs. Prices bottomed out because of oversupply, leading to market attrition, but they have recovered somewhat as demand continues to swell.

The newer recreational markets of Illinois, Massachusetts and Michigan started out strong with high prices and constrained supply as cultivators work to build out facilities to meet fervent consumer demand.

Meanwhile, medical marijuana programs are all over the map. Some of the longer-standing markets are reaching their potential and prices are evening out, and others are still catching up to expanding patient counts and have the high prices to go along with it.

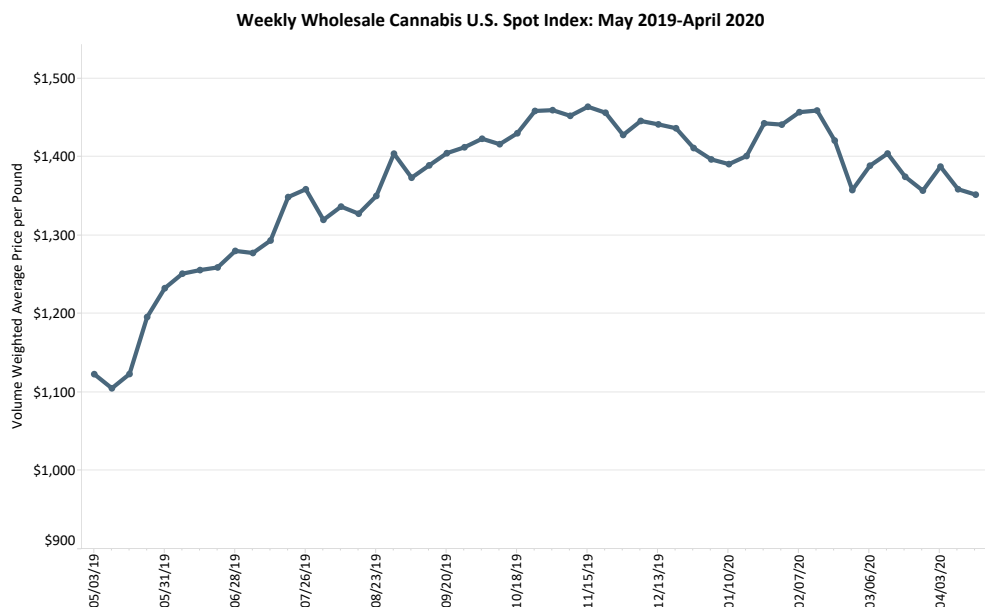
This report provides information about and analysis of the wholesale cannabis supplies and price situations in:

- Alaska
- California
- Colorado
- Illinois
- Massachusetts
- Michigan
- Nevada
- Oregon
- Washington state
- Medical marijuana markets (in summary)



**Bart Schaneman**  
 MJBizDaily  
 Cultivation and  
 Extraction Reporter

### Weekly Wholesale Cannabis U.S. Spot Index: May 2019-April 2020



Source: Cannabis Benchmarks  
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The information in this report is derived from dozens of interviews with growers and retailers in the aforementioned markets. Hard data is difficult to obtain in today’s federally illegal cannabis industry, making the most reliable source the men and women in the field. The data is presented in ranges, not averages, of what the markets are experiencing.

Where available, we provide a year-over-year comparison of prices. This data was not available for states where the recreational market began in the past year.

Another important note: As of press time, the coronavirus pandemic was in its early stages, and much of this research was conducted before the global outbreak. Keep that in mind as you look to benchmark your own performance.

If you have any questions or want to provide feedback, please contact me at [barts@mjbizdaily.com](mailto:barts@mjbizdaily.com).

Best regards,



**Bart Schaneman**  
 Cultivation & Extraction Reporter

# ALASKA

Wholesale prices for recreational marijuana flower in Alaska remain high, though rates have fallen slightly as more growers build out facilities.

While prices are strong compared to other mature recreational cannabis markets, an arduous tax burdens cultivators to the tune of \$800 per pound of wholesale flower.

This drives some legal companies out of the market, giving illicit businesses a competitive advantage and pushing the need for licensed companies to vertically integrate to succeed.

In a more direct way than other recreational cannabis markets, Alaska's wholesale cannabis flower sales are clearly driven by THC potency.

Cannabis that tests at less than 18% THC can be difficult to sell, but growers still must pay the full tax rate.

## TAX BURDEN

Some growers have dropped out of the market because regulations—in particular, taxes imposed on flower sales—are not business friendly.

Alaska taxes growers \$50 an ounce on wholesale transactions, which adds up to \$800 per pound of flower—the highest tax on flower sales among mature recreational cannabis markets.

In 2018, Alaska regulators allowed a separate tax for lower-grade material, primarily that for extraction, of \$250 per pound. Some growers opted to not renew their licenses because of the taxes, which creates an advantage for the illicit market.

The artificial floor created by the \$800-per-pound tax has also kept wholesale flower prices high.

## DISTRIBUTION CHALLENGES

Operating as a wholesale flower provider in a state as geographically large as Alaska is fraught with challenges, and one of the largest is distribution.

Alaskan growers are often forced to ship product via airplane, which can be costly, inefficient and time-consuming, particularly if the Transportation Security Administration worker at the airport decides to make life difficult.

The Alaska Marine Highway System—the state-run network of ferries—has been mostly nonoperational this year, forcing cannabis companies to either drive, if possible, or fly product to stores around the state.

Aside from the distribution problem, the overall cost of living in Alaska is significant, with basic goods and utilities often costing more than they do in the lower 48 states. Smaller growers in the state also struggle if they don't also own a retail store.

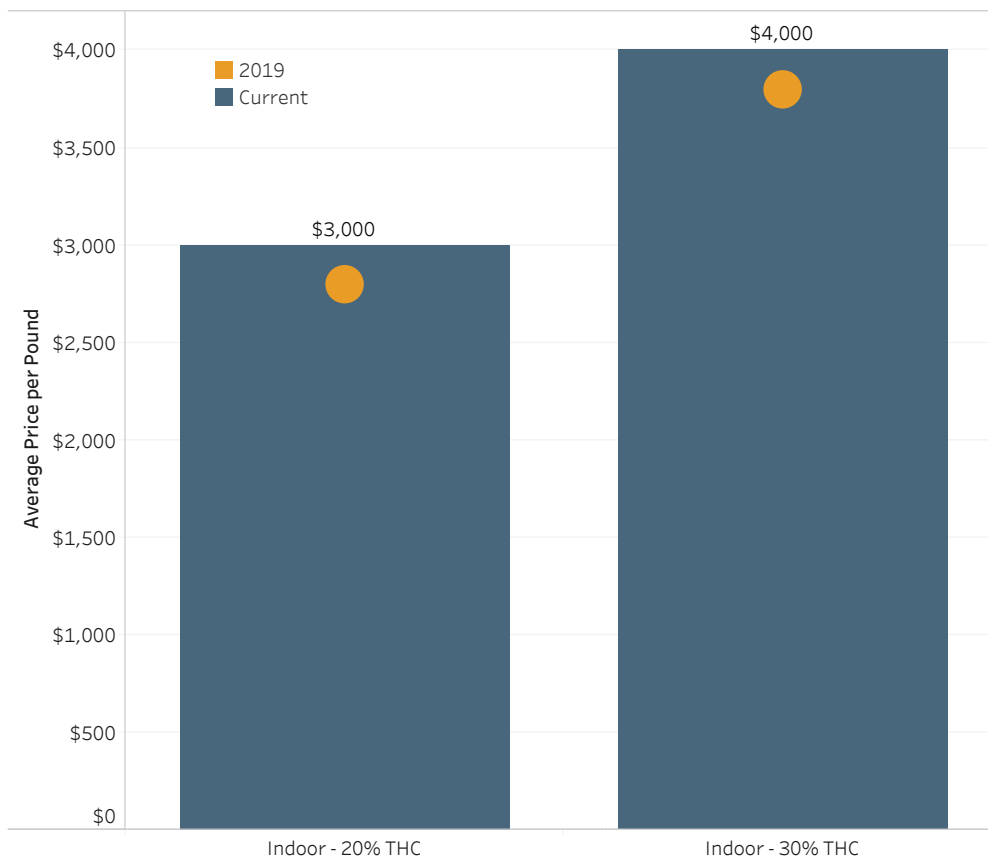
## ALASKA CULTIVATION SNAPSHOT

<b>Licensed recreational cultivators:</b>	<b>Standard: 115 Limited: 95</b>
<b>Licensed recreational retailers:</b>	<b>108</b>
<b>Estimated recreational sales:</b>	<b>\$150 million - \$180 million 2019</b>

*“Prices have come down over time,” said Keenan Hollister, co-owner of Pakalolo Supply Co., a vertically integrated business with retail stores in Fairbanks and Anchorage as well as a cultivation facility. “They were quite inflated for a while.”*



### Wholesale Cannabis Prices in Alaska



Source: *Marijuana Business Daily*  
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### LOOKING AHEAD

As demand continues to grow, with more consumers trying cannabis for the first time and regular customers consuming more, a growing number of businesses are building out cultivation facilities and maxing out existing space.

The market isn't likely to become oversupplied because the number of new companies being licensed to grow cannabis has slowed considerably.

Some business owners are working to open spaces for social consumption. No cannabis company in the state has opened such a spot yet, but a few endorsements have been issued.

## CALIFORNIA

California cannabis growers report a favorable wholesale market with increasing demand despite a lack of retail outlets and continued opposition to legal recreational marijuana from the majority of municipalities and counties in the state.

The positive upward trend of both prices and demand has some businesses maxing out capacity and increasing production.

Prices started rising last summer, owing to fewer competitors as many of the cultivators who had temporary licenses before 2018 either failed to acquire annual permits or went out of business.

However, growers report some significant challenges persist, including:

- More retail outlets are needed to create an adequate marketplace.
- Most municipalities across the state still aren't on board with licensing cannabis businesses.
- Taxes are too high. Flower is taxed at about \$150 regardless of the price it fetches on the market, which cuts into profits.
- The illicit market continues to thrive, both in the cultivation and retail sectors.

In midwinter, wholesale flower prices typically fall to the lowest point in the year because outdoor growers flood the market, and prices usually remain depressed well into the spring.

But several growers reported that prices are already rebounding as demand grows, and the outdoor harvest hasn't impacted supply as strongly as expected.

### OVER THE HUMP

The dearth of local approval of cannabis licenses has limited the number of retail stores throughout the state. Although there aren't nearly as many retail outlets as there should be in the state—only 618—it's getting better.

Some growers are worried about the market becoming oversupplied in the near future because almost 70% of the counties in the state don't allow legal cannabis businesses. There are fewer cultivation licenses today than there were in 2018, with more stores and more consumers.

### LOOKING NORTH

Up in the Emerald Triangle, where much of the California flower supply originates, some growers expect prices to start going up dramatically. Buyers from all over the state are looking toward the region for product, which means that reserves are running low in other areas. The outdoor harvest appears to be weaker than expected.

### CALIFORNIA CULTIVATION SNAPSHOT

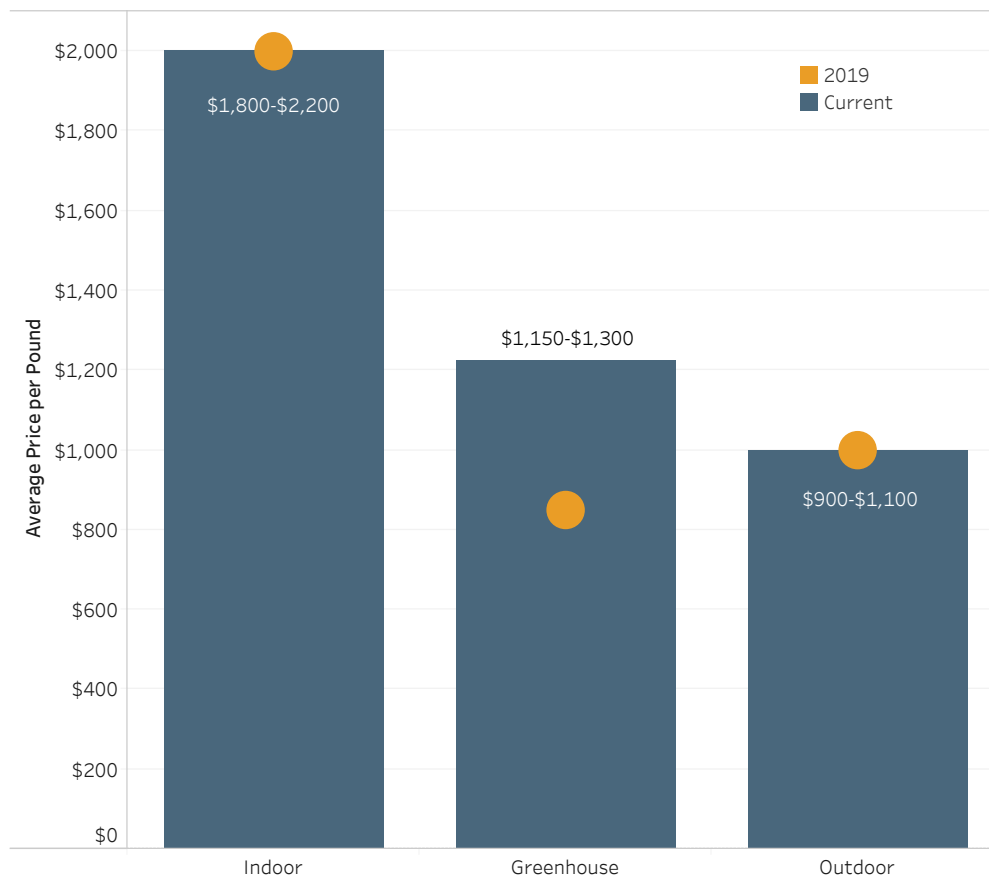
Licensed recreational cultivators: 2,697

Licensed recreational retailers: 857

Estimated recreational sales: \$3 billion  
2019

*“There are more licensed stores open today than there ever have been, and there will be more by the end of 2020 than there are today,” said Graham Farrar, president of Glass House Group, a vertically integrated cannabis company in Santa Barbara County. “For those who are persevering, it’s a great place to be in.”*

## Wholesale Cannabis Prices in California



Source: *Marijuana Business Daily*

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Cultivators expect to see prices move up to around \$1,200 a pound for wholesale outdoor flower—maybe even reaching up to \$1,600 a pound by the summer.

Most buyers want stronger potency strains that hit the 23% THC mark or higher.

One reason product is scarce: A lot of cultivators in the region have gone out of business because there aren't enough outlets to sell into, and prices on the wholesale market were too low.

### MIDDLEMAN ISSUES

Growers also would like to see more direct sales with end users. The distribution model in the state makes it difficult for cultivators to build relationships with individual stores. A product can go through one to three brokers before it gets to the retailer.

Another change cultivators would like to see: allowing growers to have trade samples so growers can find new buyers and build relationships with retailers. Distributors could be struggling to make money in the market, considering how tight margins are with the added taxes.

Companies that will be able to survive long term will be vertically integrated, according to one grower. It's going to be very challenging for anyone who doesn't have their own cultivation or dispensary.

## COLORADO

Colorado cannabis cultivators report strong prices for wholesale flower, reflecting healthy demand and fewer growers after competition forced out weaker operators.

The state recently opened its cannabis industry to outside investment, leading to a wave of consolidation in which larger, healthier marijuana companies bought up smaller retailers, manufacturers and growers.

That, in turn, drove up wholesale demand for cannabis while the larger vertically integrated businesses helped stabilize supplies.

Similar to other recreational cannabis programs such as Oregon and Washington state, the wholesale flower prices in Colorado started strong when sales began, then hit bottom after production ramped up and flooded the market.

The market stabilized because:

- Growers who couldn't survive record-low prices in 2018 dropped out, leaving the supply in the hands of financially steady operators.
- A rash of acquisitions last year left a large swath of business in the hands of a few bigger vertically integrated businesses that can absorb market variations.
- Longstanding relationships between growers and dispensaries helped to smooth out peaks and valleys in prices when supply and demand fluctuate.

One established market pattern: Prices peak in the summer as Colorado receives an influx of tourists who are spending time outdoors consuming marijuana and the outdoor-grown flower supply diminishes.

Once the outdoor harvest hits the market in early winter, prices fall to their lowest, then start to climb back up again around 4/20, the unofficial cannabis holiday.

### BOTTOM FELL OUT

This stability didn't come without a cost. At least one grower said the "market fell apart" in late 2017 and into 2018, when top-shelf flower sold for only \$600 a pound wholesale. It's estimated that about 500 growers have quit the business.

Prices began to rebound after the growers exited, with wholesale flower prices creeping back up to \$1,100-\$1,200 a pound before hitting a high of roughly \$2,000 a pound in late September 2019. The supply is steady, although there has been some market attrition. Last spring, growers that couldn't survive the low prices of 2018 went out of business.

### SATURATION AND DEMAND

Much of the state's outdoor cannabis supply comes from Pueblo, Colorado-based cultivation giant Los Sueños Farms, which Schwazze (formerly Medicine Man Technologies) acquired in 2019. Prices have fallen as the market has grown more saturated because of the outdoor-grown supply. Coupled with that is an increase in demand that can be attributed to consolidation in the market and the rise of larger, vertically integrated operators.

### COLORADO CULTIVATION SNAPSHOT

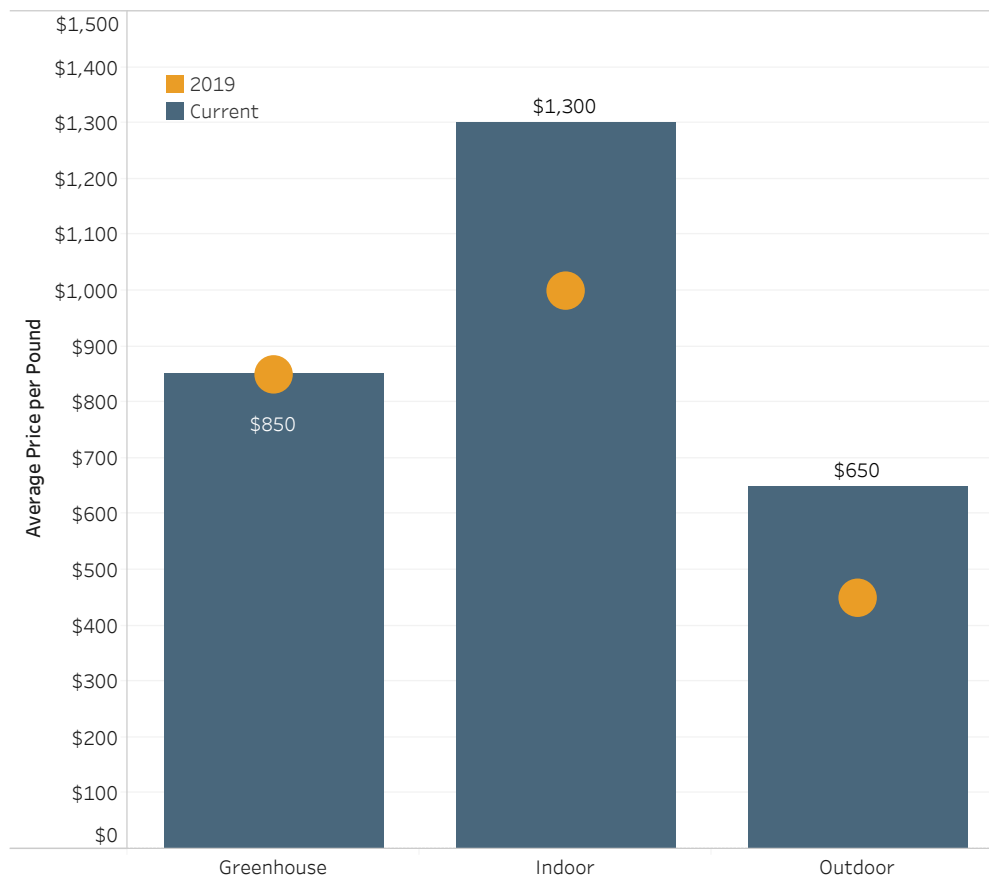
Licensed recreational cultivators: 681

Licensed recreational retailers: 583

Estimated recreational sales: \$1.4 billion  
2019

*"The market's looking like it finally stabilized," said Joshua Haupt, chief cultivation officer for Denver-based vertically integrated operator Schwazze (formerly Medicine Man Technologies).*

## Wholesale Cannabis Prices in Colorado



Source: *Marijuana Business Daily*

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The bigger businesses obviously need more product, and they often buy in large quantities in order to secure bulk discounts. This increased competition is forcing growers to operate as efficiently as possible.

The growing demand has also been explained as the result of more consumers trying marijuana for the first time as well as regular cannabis customers consuming more. Plus, Colorado isn't just a wintertime ski destination. The flood of warm-weather visitors are also hungry for marijuana products, though it's unclear what impact the coronavirus pandemic will have on the market.

### RETAIL PERSPECTIVE

The market stability is a welcome development. Some growers might be able to command a premium of up to \$2,000-a-pound wholesale based on quality, potency, terpene profile, brand reputation and exotic strains.

The overall quality of the indoor-grown flower has improved. Prices could also go back up in the summer as demand grows, but supply remains steady. One piece of caution for cultivation companies: Some stores have seen a shift away from flower to concentrates and vape pens. In fact, in some stores, concentrates outsell flower.

The relationships growers have developed with retailers has helped stabilize the market. Store owners know how to retain their clients (the growers) by adding loyalty programs, for example.

Some of the concern about future oversupply, however, has been assuaged by the fact people no longer see growing marijuana an easy way to make money.

# ILLINOIS

Wholesale marijuana flower prices in Illinois are soaring as strong demand in the state's nascent recreational cannabis program puts a strain on supply and cultivators scramble to build out facilities.

Illinois adult-use cannabis sales began in January, with retail sales hitting \$40 million in the first month—one of the strongest starts for an adult-use market in the United States.

What was once a medical marijuana market of 100,000 patients is now a market of 8 million legal-age state residents who are eligible to purchase cannabis plus nearly 100 million tourists visiting each year—and supply is tight.

*Marijuana Business Daily* projects the Illinois recreational program could generate up to \$2.5 billion a year once it reaches maturity, with the tourist market a large driver of sales.

## SUPPLY STRAIN TO PERSIST

Wholesale cannabis suppliers are selling out of their flower inventory every week, with no indication that the supply will catch up anytime soon.

The medical marijuana market sold about \$250 million worth of cannabis in 2019, and demand could be about five-10 times that going into 2023.

Smokable flower is the scarcest category of cannabis product because it's in highest demand and the hardest to produce.

That strained supply is leading to high costs being passed on to consumers. An eighth of an ounce of cannabis flower can cost as much as \$60 pretax at a store, which is considerable for a recreational marijuana market.

Those prices likely will fall as more capital is deployed to build out production and increase supply.

## FUTURE EXPANSION

The initial high cost is the results of large-scale operators spending so much money building out their facilities that they have to defer some of that cost to the consumer.

The support from regulators and legislators allowed businesses to build out a large footprint and understand what the rules required.

Some growers predict it will take until 2022 for the entire supply chain to be fully built out, to the tune of around \$500 million of capital investment.

Both medical marijuana patients and adult-use consumers are demanding flower, so businesses are focused on making it available.

## ILLINOIS CULTIVATION SNAPSHOT

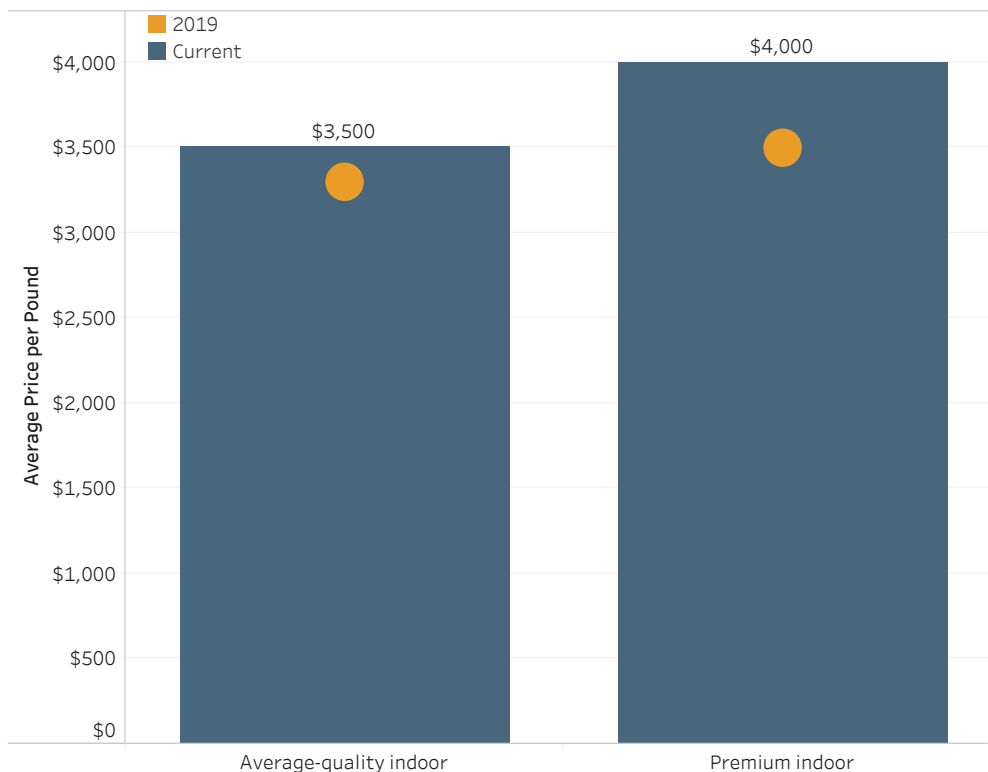
Licensed recreational cultivators: 21

Licensed recreational retailers: 54

Estimated recreational sales: Sales began Jan. 1

*“Demand is currently far in excess of supply,” said Donny Trivisonno, executive vice president of planning, insights and analytics for Chicago-based vertically integrated cannabis company Cresco Labs.*

### Wholesale Cannabis Prices in Illinois



Note: Illinois began recreational marijuana sales in 2020, so our prices for 2019 reflect only cannabis sold in the state’s medical market.

Source: Marijuana Business Daily  
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### REGULATORS GOT IT RIGHT

Cannabis business owners in Illinois seem pleased overall with the rollout of the state’s recreational market, praising regulators and lawmakers for creating a program that’s friendly to the industry.

More retail stores are coming online in 2020, which could lead to better access for patients and consumers—and an increase in sales for cannabis companies. The state could allow up to 185 recreational retail stores this year.

Cultivators are not worried that the market will become oversupplied as it has in other recreational marijuana markets such as Oregon and Washington state. The supply-and-demand dynamic is expected to stay well-balanced.

While Illinois could license up to a maximum of 500 stores in the coming years, that is still relatively few for a state with nearly 13 million people.

# MASSACHUSETTS

Prices for wholesale cannabis flower grown for Massachusetts' recreational market are some of the highest in the nation, as the state's producers slowly ramp up production to meet roaring demand.

*(Note: The impact of adult-use stores closing during the coronavirus pandemic was still unknown when this report was created.)*

As regulators gradually add more marijuana retail stores, supply could become even further strained before production facilities are built out to full capacity and catch up to the appetite for adult-use products. That means prices likely haven't hit an upper limit.

Similar to several other states' recreational marijuana programs, wholesale flower prices vary based on how the material is trimmed and its testing results. Hand-trimmed flower with high THC levels (20% or more) attracts higher prices.

Retail marijuana stores are passing on the stiff wholesale prices to consumers. An eighth of an ounce of recreational flower is selling for \$60-\$70 in Massachusetts stores.

When prices are this strong, vertically integrated companies have an advantage if they sell their own flower exclusively at retail or produce enough to sell into the wholesale market.

## DEMAND ECLIPSES SUPPLY

The steep wholesale rates are expected to peak this summer and then start to ease in the fall, when a limited outdoor harvest hits the market and more indoor growers have their facilities built out.

For now, demand is far outpacing supply, and prices could still go up.

When supply is this tight, vertically integrated companies with flower have significant leverage over buyers.

For instance, a vertically integrated company selling flower could say it'll sell the purchaser 20 pounds of flower, but the purchaser must also buy \$150,000 worth of infused products.

Not only is quantity lacking, but the limited supply means less variety of indica, sativa and hybrid strains. Some cultivators are buying from other growers to increase selection for consumers.

Cannabis executives in the state are predicting more retail stores will open their doors with or without enough flower to sell, increasing access and fueling demand.

## MASSACHUSETTS CULTIVATION SNAPSHOT

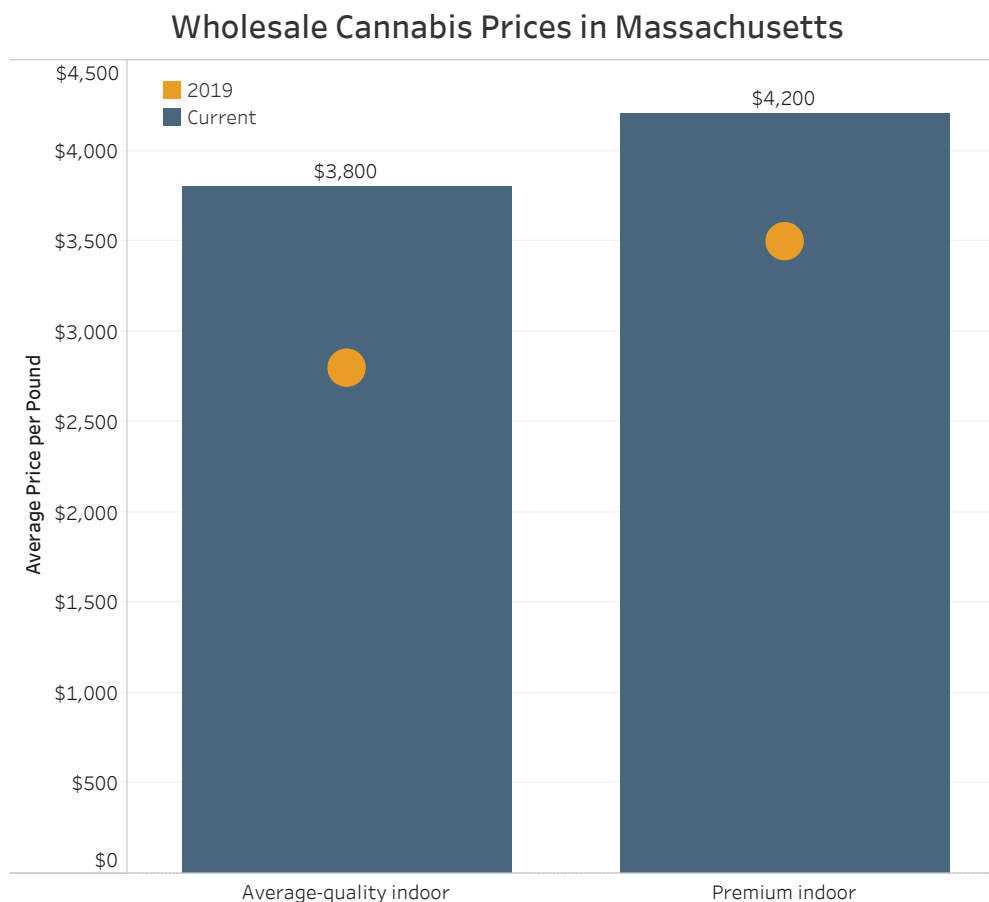
Licensed recreational cultivators: 125

Licensed recreational retailers: 161

Estimated recreational sales: \$445 million  
2019

***"It's incredibly competitive on the wholesale market," said Thomas Winstanley, director of marketing for Theory Wellness, a vertically integrated cannabis company in Great Barrington.***





Source: Marijuana Business Daily

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But that process could take months. The average wait time for an initial license review by the state's Cannabis Control Commission is 121 days, which has prompted the industry to ask regulators to speed up the process.

Some of the more urban areas have yet to see a substantial retail presence, which could drive sales.

Getting cultivation facilities to maximum capacity won't happen overnight, either. Capital is difficult to access, and it takes a while to build out facilities.

## OUTDOOR GROWING

Massachusetts might not have an ideal climate for growing cannabis outdoors, but some cultivation facilities are adding more greenhouse space to their operations.

That could help supply the market for extraction-grade flower and lower wholesale prices overall.

A few companies have sold a little outdoor-grown flower to retail stores, but most of it is allocated for extraction.

That cheaper product is desperately needed for processors.

# MICHIGAN

A tight supply of wholesale recreational marijuana flower in Michigan, one of the youngest adult-use markets in the United States, is leading to sharply higher prices as producers struggle to keep pace with growing demand.

Many of the state's municipalities remain opposed to recreational marijuana commerce, and strict testing standards are causing a bottleneck in the supply chain—both of which exacerbate the shortage as recreational growers bring cultivation facilities online.

Adult-use cannabis sales began Dec. 1, 2019, with first-month totals reaching almost \$6.5 million. Since then, cultivators have slowly increased production.

Annual recreational marijuana sales in Michigan could reach \$1.4 billion-\$1.7 billion when the market reaches maturity, according to *Marijuana Business Daily* estimates.

The market is expected to find its footing and increase supply, but that could be months away as production facilities take time to build out and growers need to dial in methods.

Michigan also has a robust program of medical marijuana caregivers who make up a significant portion of the flower supply and compete with the cultivation companies that work in both the medical and recreational markets.

## MORE MUNICIPALITIES NEEDED

When the adult-use rules were created in Michigan, regulators didn't limit the number of recreational marijuana businesses but gave municipalities the choice of whether to opt in or not.

As of December 2019, nearly 80% of the cities, towns and counties (about 1,400 communities) in the state had opted not to allow adult-use cannabis sales.

For example, Detroit, which could have roughly 50 retail locations, extended its ban of adult-use cannabis sales through March 31 so regulators could develop a social equity program. But more municipalities are expected to come around soon. Until that happens, however, prices are likely to go up.

With fewer towns on board, there will be less flower supply, but consumers are willing to travel to the areas that allow adult-use sales. The lack of cultivation companies pushes the cost onto consumers, which creates a challenge for retailers.

Although cannabis cultivation is not allowed in certain areas of the state, enough demand still exists in the areas that permit recreational sales to constrict the supply.

Some large greenhouses are in production, and it's expected that a lot of multistate operators will plant their flags in Michigan in the future.

## MICHIGAN CULTIVATION SNAPSHOT

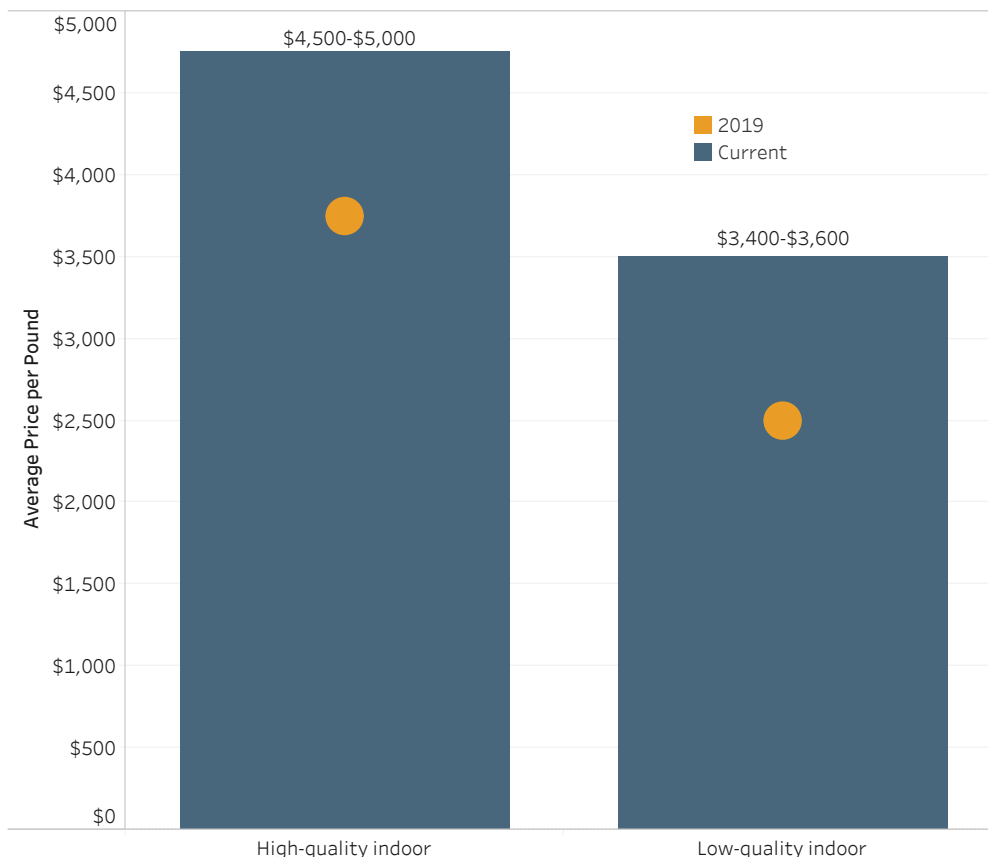
Licensed recreational cultivators: 26

Licensed recreational retailers: 59

Estimated recreational sales: *Sales began Dec. 2019*

***“It’s a good time to be a producer,” said Vishal Rungta, president and CFO of C3 Industries, a vertically integrated cannabis company based in Ann Arbor. “Pricing is high, and there’s demand for everything.”***

### Wholesale Cannabis Prices in Michigan



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### TOUGH TESTING

According to several industry insiders, stringent testing requirements are slowing the flow of the supply chain. Others say the regulators have moved the goal posts in regard to testing standards.

The state added a test for vitamin E acetate after the vaping health scare broke out in 2019, leading to a recall of more than 9,000 vape cartridges from one Detroit dispensary alone.

Michigan also recently included an expanded test for heavy metals. Multiple growers, both large and small, have failed testing and been forced to destroy product. One reason for that is Michigan has low limits for acceptable pesticides. Another is growers are still learning how to comply with the testing rules.

The industry is working to appeal to regulators to ease the limits somewhat, but that process is still ongoing.

The tough testing requirements have even caused some investors to shy away from building larger grows (300,000-500,000 square feet).

At least one cultivator has waited as long as three weeks to get products through testing.

## NEVADA

Supply of midgrade cannabis flower is on the increase in Nevada's adult-use industry, though demand remains robust and the market has not yet become oversupplied.

Growers report an average-quality pound of flower sells for around \$2,000 a pound wholesale, down from as high as \$2,800 a pound a year ago because the supply has increased.

As more producers come online and reach capacity, the market has seen an increase in middling-quality cannabis, which means the average price of cannabis has come down, though the state's wholesale per-pound flower prices are still higher than other more mature cannabis markets.

High-quality flower still commands a premium, with pounds of top-shelf material selling for well above \$3,000 wholesale because it's still hard to come by.

More people are trying cannabis for the first time, and regular consumers are buying more.

Plus, the major urban center in Nevada—Las Vegas—averages 45 million tourists a year, and Sin City's market steadily draws curious buyers visiting from other parts of the world. Despite the demand, prices for midgrade flower are still on the decline.

The overall cannabis market in Nevada continues to grow at a steady rate.

Marijuana tax data provided by the Nevada Department of Taxation shows that combined medical and recreational wholesale cannabis sales amounted to roughly \$250 million from January 2019 through October 2019. In Nevada, both medical and adult-use wholesale cannabis is taxed at a 15% rate on the first sale to a processor or retailer.

Nevada officials said marijuana tax revenue collection for the month of October 2019 was the largest since legal recreational sales began in 2017. The state collected \$36.7 million in cannabis taxes through the first third of the 2020 fiscal year, an increase of nearly 16% from the same four months of the 2019 fiscal year.

### NEVADA CULTIVATION SNAPSHOT

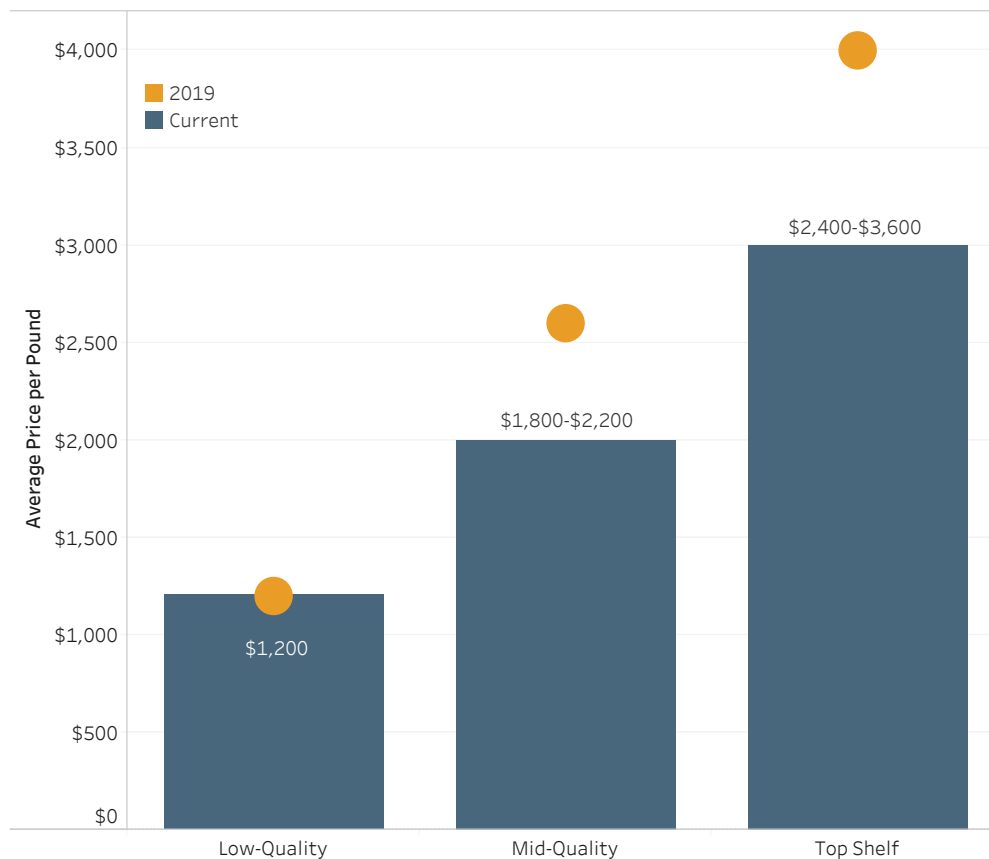
Licensed recreational cultivators: 134

Licensed recreational retailers: 68

Estimated recreational sales: **\$703 million**  
*total cannabis sales in 2019*

***“There’s huge demand for flower,”  
said Trip Hoffman, chief operating  
officer of Body and Mind, a  
vertically integrated multistate  
operator with a facility in Nevada.***

## Wholesale Cannabis Prices in Nevada



Source: *Marijuana Business Daily*

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## QUANTITY VERSUS QUALITY

A year ago, recreational cannabis was still new to Nevada, and the bigger growers hadn't built out their facilities.

Some cultivators have seen an influx of large-scale growers producing machine-trimmed, mediocre-quality flower that's selling for around \$2,000 a pound wholesale. But higher-quality flower is in short supply and selling for \$2,700-\$2,900 a pound wholesale. Those who can produce desirable, shelf-grade cannabis are selling out as fast as they can make it.

While there has been some downward price pressure, the overall wholesale price is pretty strong. A flood of mid- and low-quality cannabis has been hitting the market from large-scale cultivators. Some cultivators expect to see a reemergence of craft cannabis as growers pivot toward the higher price point.

Two other trends worth watching:

- Interest from more multistate and out-of-state operators who want the prestige of having an established brand in Las Vegas.
- Vertically integrated companies locking down shelf space and holding it for their own products.

## PESTICIDE QUESTIONS

When the Nevada Department of Agriculture lowered the allowable limits of pesticides in August 2019, wholesale prices went up as some growers failed testing and the market hit a snag.

A lot of cultivators were still using some pesticides in ways that had passed muster in the past.

Before the change in pesticide testing, one grower had been selling his flower for \$2,000-\$2,300 a pound but said in December the price went up to \$2,200-\$2,500.

But others in the state say they haven't seen a change in prices directly related to the change.

In 2017, when the state added a test for the fungus aspergillus, a lot of cultivators were failing testing, but many growers are now cultivating pesticide-free.

Growers can decide to eschew chemicals and learn new techniques to manage pests and fungicides, but the steps are not as easy.

For example, a grower using pesticides might spray the plants every three to four weeks, whereas one using organic or natural remedies might have to spray every two to three days.

Depending on the integrated pest-management system the cultivator uses, organic methods could cost \$50 to \$150 more per pound of dried biomass.

## TESTING LABS

Nevada regulators recently shut down a Las Vegas cannabis testing lab after tested flower was found to have three times the allowable limit of yeast and mold. Last year, the Department of Taxation launched an investigation into how the labs were operating.

The trend among consumers asking budtenders for the cheapest flower at the highest potency has led some companies to shop around for favorable lab results.

Nevada does have many high-quality labs that care about accuracy and standardization, although others might not hold themselves to the highest standards.

Increased scrutiny has led to the shuttering of more labs and a bottleneck in the cultivation supply chain, which slows supply and causes prices to inch up.

Many cultivators created their own pretests for their products to ensure they would pass when sent to the labs. Testing standards are expected to become even more strict as the industry progresses, similar to the tough standards imposed on the gaming industry.

## OREGON

Oregon marijuana growers report wholesale flower prices are improving, which is welcome news for recreational cannabis cultivators in one of the country's previously most oversupplied MJ markets.

The changed business climate is leading some growers to expand facilities and ramp up production.

Oregon regulators set a low barrier of entry to grow cannabis in the state, and steady overproduction drove the market to rock-bottom lows. But prices have begun to rebound for the following reasons:

- Many growers have gone out of business because the market wasn't lucrative enough, which decreased supply.
- Other licensed producers have not utilized their full canopy because the market was too unfavorable.
- More cannabis growers have pivoted to hemp production, seeking opportunities in the CBD market.

The cultivation companies that survived on strong reputations for high-quality flower and solid relationships with buyers are reaping the rewards of sticking it out.

One grower said his liquidity is good enough that most of his inventory doesn't last more than two or three weeks, and he recently sold a batch of flower for \$2,400 a pound, which is on the top side of the market.

### MARKET CULLING

The increase in prices is the result of many operators not making it through the toughest times of the oversupplied market.

At this time in 2019, a lot of marijuana was selling for \$300 a pound. That caused some culling. More farmers have left the market this year. Some of those businesses forced to shutter were probably under-monetized or were better at growing cannabis than the nitty gritty of running a company.

Aside from the companies that gave up on cultivation, many businesses also downsized and weren't growing at full capacity. In addition, there are a number of people licensed but not growing.

Several companies diverted production to the hemp market after the 2018 Farm Bill passed. The move from marijuana to hemp has been significant enough that state regulators instituted a raft of compliance rules that both marijuana and hemp companies must abide by in 2020.

Now, some cultivation companies can steadily command \$1,800 or more per pound based on brand reputation and quality.

Several growers are increasing production for 2020, including adding to both indoor and greenhouse capacity.

### OREGON CULTIVATION SNAPSHOT

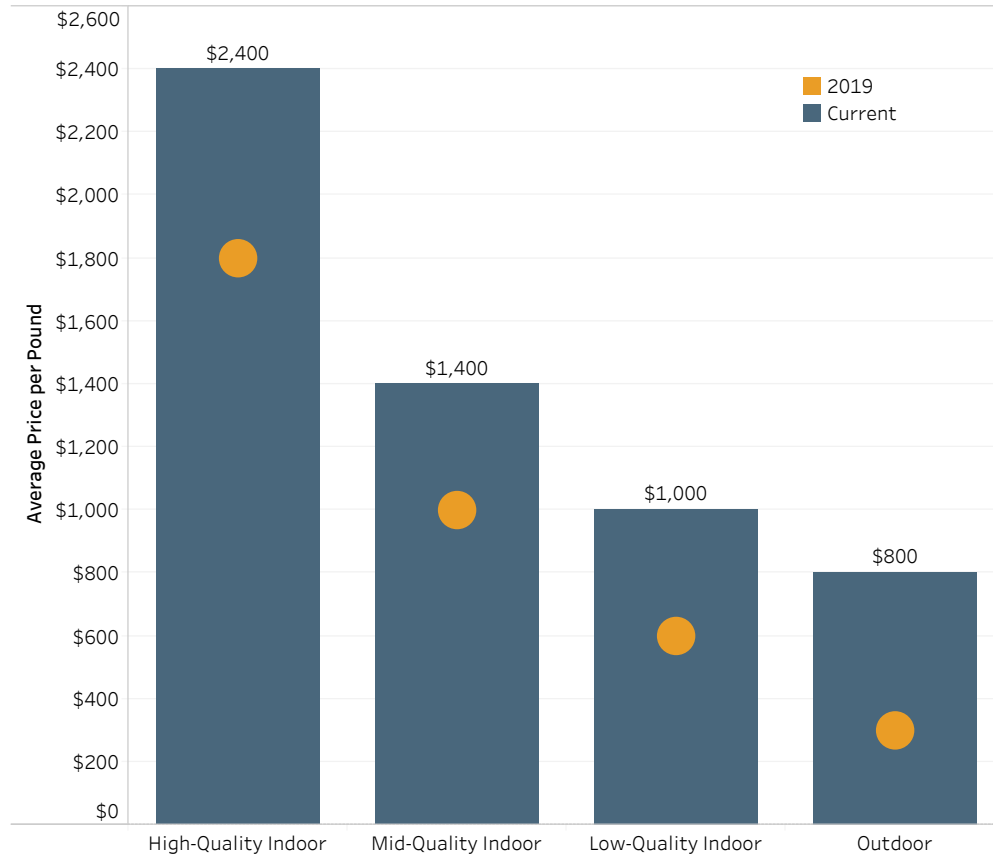
Licensed recreational cultivators: 1,162

Licensed recreational retailers: 664

Estimated recreational sales: \$682 million  
2019

*“The prices are much better than a similar time last year,” said Pieter Summs, lead grower for Otis Gardens in Hood River.*

## Wholesale Cannabis Prices in Oregon



Source: *Marijuana Business Daily*

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## PRODUCTION EFFICIENCY

Cannabis growers who have weathered the storm have by necessity been pushed to operate as lean as possible.

When prices dropped, it forced businesses to scrutinize their practices and cut unnecessary costs.

Some companies went as far as eliminating unnecessary pest-control measures and fertilizers.

Paying attention to the popular strains in the market also helps growers fetch a premium for product. Most cannabis flower needs to test at 27% THC or higher to command that premium.

Growers seeking \$2,400 a pound or more in the market should be cultivating strains such as MAC 1 or GMO, according to some cultivators.

Those who have survived are now being rewarded by a market with steadily increasing demand. According to a recent study, Oregon has more marijuana retail stores per capita than any other state.



## WASHINGTON STATE

Washington state's wholesale cannabis flower market is experiencing rising prices, but marijuana business owners don't expect that upward trend to last.

Although the state faced oversupply challenges for several years and wholesale flower prices were once some of the lowest in the country, the market has experienced an increase in prices in recent months for reasons that include:

- Smaller operators have gone out of business because the market was too competitive and profit margins were unfavorable.
- With prices at rock bottom, some licensees chose not to grow cannabis at all, driving down supply.
- Poor weather conditions, including overcast summer months and early fall frosts, led to suboptimal outdoor crops in 2019.

Despite those factors, demand remains strong and some industry insiders expect that as prices creep back up, growers will utilize more of their canopy and many of the dormant licenses will be put back into production—causing supply to increase and putting downward pressure on prices.

### BUSINESS ATTRITION

Washington state is one of the oldest recreational markets in the U.S., with retail sales having begun in 2014. But the state over-licensed canopy to the point that the wholesale market became oversaturated years ago.

While demand has increased since the market began, several growers say there is still too much cannabis in production for cultivators to succeed in the market. At least one grower said the Liquor and Cannabis Board (LCB) licensed way too much canopy and that regulators “changed course” by licensing up to 10 times the 2 million square feet they said would be the limit.

The state's market was hypercompetitive for several years, as many of the small businesses got involved based on the original promises by the LCB to limit canopy. Last year's oversupplied market hitting rock bottom forced many businesses to give up. The rash of people losing their businesses was a brutal market correction.

Other growers considered quitting last year but had enough capital and biomass shored up to cover expenses until prices rebounded.

### UNDERUSED CANOPY

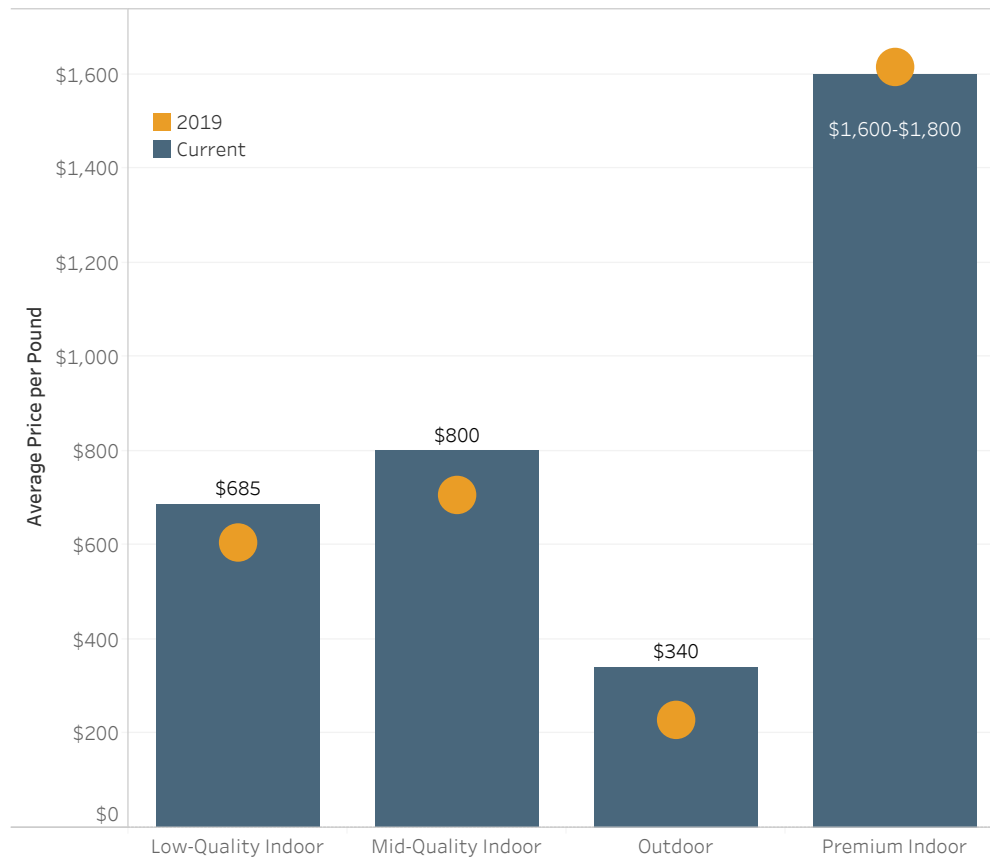
Another reason for the weakening of the oversupply came from growers choosing to stay on the sidelines because of the low prices. But the state still has 10 times more canopy licensed for production than is needed. Other growers say more companies need to go out of business for the rest to succeed.

### WASHINGTON STATE CULTIVATION SNAPSHOT

Licensed recreational cultivators:	1,205
Licensed recreational retailers:	504
Estimated recreational sales:	\$1.1 billion 2019

*“I really believe that this is the result of anomalous conditions that lined up to cause a real drop in production that we’re not going to see again,” said Micah Sherman, owner of producer/processor Raven Grass in Olympia.*

## Wholesale Cannabis Prices in Washington State



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When the LCB released its canopy report in 2019, it found that Washington state growers were using less than half their allotted canopy. Licensees are sitting on their permits to either wait for the market to improve or for a change in the law to allow for outside investment—in that case, licenses could be sold to out-of-state companies for pennies on the dollar.

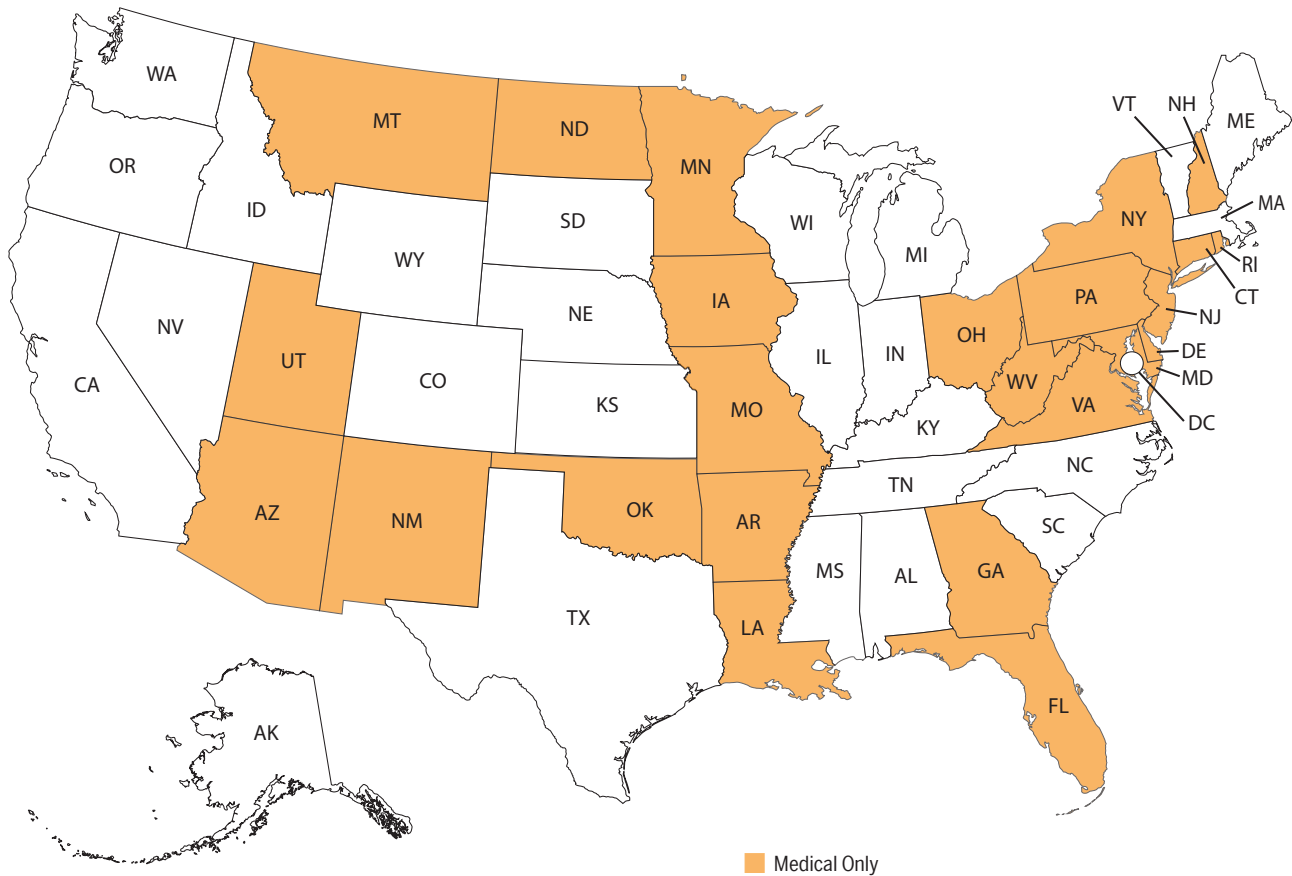
### BAD WEATHER

The state's 2020 yields were down 20%-30% from a normal year because of extended rainy, overcast and cool weather from June through August. Some plants reached only half the size of normal growth. The outdoor weather situation was the worst hit to the supply.

The poor weather—including temperatures that were lower than normal in the grow cycle—also caused immature flower that was more prone to mold.

Also on the horizon and on a lot of producers' minds in Washington state are three bills currently before state lawmakers:

- SB 6085 and HB 2263, which call for removing barriers to capital for minority business owners and seek to eliminate a residency requirement for potential investors in the marijuana market.
- HB 2279, which is intended to strengthen the market for small cannabis farmers, improve transparency and educational opportunities for the public and establish a regulatory framework for future improvements to small, owner-operated businesses.



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■ Medical Only

Note: This map does not include states that have legalized only CBD-based oils.

## MEDICAL MARIJUANA

Across the United States, medical marijuana business owners are reporting firm prices for wholesale flower, although actual price levels vary widely and largely depend on a market's maturity.

New programs, such as **Ohio** and **Pennsylvania**, report top-of-the-market dollar figures for flower, bolstered by a growing number of new patients entering the markets.

By contrast, older programs have seen MMJ prices level off along with demand for product.

The wholesale medical marijuana market increases in price as you travel from the western side of the country to the eastern side, with the newer markets more expensive.

Regulations and the number of licenses also influence that price. The fewer the businesses, the lower the supply and higher the rates for flower.

*“Demand has gone up,” said Sara Gullickson, CEO of Arizona-based CannaBoss Advisers. “It’s not a bad time for marijuana.”*

Demand has been strong for medical cannabis during the coronavirus pandemic.

From a marketplace perspective, we've seen operators and businesses stepping up to meet this demand for the industry and the country at large.

As far as further expansion, newer markets should continue to grow if their state's population is large and includes an extensive condition list.

But some older markets such as Arizona and New Mexico have seen their growth stabilize or slow.

After watching the **Oklahoma** medical marijuana space for a year and a half, one analyst pointed out that a state's MMJ regulations determine a market's economic potential.

The industry should expect to see further growth and expansion in Maryland, Missouri, Ohio and Pennsylvania, though that growth will slow eventually.

By the time the patient enrollment eases, those states should have adult-use cannabis laws.

In **Arizona**, high-quality indoor flower is selling for \$1,800 to \$2,200, which is about 20% higher than a year ago.

Supply is up as large-scale facilities improve production capabilities, but demand is also up because Arizona has more patients in the system and all the illegal delivery services were removed from the internet as of Jan. 1, 2020.

In **Oklahoma**, retail-quality flower is wholesaling for \$1,200-\$2,200 depending on quality and volume. That's down from a year ago, when prices were \$3,200-\$4,500 a pound.

Supply is up with more than 4,500 grower licenses and no limits on licensing. But retail demand is also up because there are more medical marijuana cards issued each week.

In **Illinois**, prices vary, but about \$3,900 a pound for MMJ flower is typical, similar to prices at this time last year.

Supply is up as production capacities have increased. Demand also has increased.

With adult-use coming online in Illinois, there has also been steady growth in patient count. More patients equal greater demand.

In **New Mexico**, wholesale flower is selling at \$2,000-\$2,400 per pound while trim and shake are selling for \$600-\$700 per pound.

Compared to a year ago, prices have remained relatively flat despite a steep jump in the state's patient count.

At the same time, New Mexico growers haven't seen dramatic wholesale price drops, largely due in part to the state-mandated plant limit.

In August 2019, a new plant count of 1,750 per producer went into effect.

Previously, MMJ businesses were operating at a maximum of 450 plants per producer.

Demand is also up because of an increase in patient enrollment over the past few years.

In February 2018, 49,000 patients were enrolled in the program. Today, about 83,000 patients are enrolled, which is roughly a 68% increase.

Expect to see demand continue to outpace supply until there's more product available for patients.