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SPECIALTY MUSHROOM GROWER SURVEY REPORT

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Acknowledgements

Land acknowledgement

We acknowledge that Cornell University is located on Indigenous Lands of the Gayogohó:nq' (Cayuga Nation) and recognize their sovereignty and long-standing presence on this land, which precedes the [establishment of Cornell](#), New York State, and the United States of America. Cornell also benefited from the profits created from the dispossession of indigenous lands far beyond New York State (1862 Morrill Act), mostly belonging to the Anishinaabeg Ojibwe people.

Today, these places are still home to the Gayogohó:nq' and Indigenous people from across Turtle island, and we are grateful to have the opportunity to work on this land and work in support of their sovereignty as independent nations.

Research acknowledgement

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Specialty Mushroom Grower Survey – The Marketing Report

Specialty mushrooms are defined by the USDA as any species that is not *Agaricus bisporus*, more commonly known as the common button, crimini, and portobello. *A. bisporus* overwhelmingly dominate the U.S. mushroom industry. Specialty mushrooms that are commonly cultivated include shiitake, oyster, lion’s mane, and king oyster, among others. These species tend to be more fragile to cultivate, pack, and transport. Thus, smaller producers have an opportunity to commercial grow and sell specialty mushrooms, especially to local markets which prioritize fresh and high-quality product.

According to the USDA National Agricultural Statistics Service (NASS), production and sales of all mushrooms, the common button as well as specialty mushrooms, rose rapidly between 2010-2017. This coincides with consumer interest and trends in purchasing foods that are healthy, nutritious, and medicinal. Since 2017, NASS only reports mushroom sales from eight of the 50 state. Understanding the current production trends for specialty mushrooms since 2017 is difficult. The eight states from which NASS collects mushroom data are the largest producers of the common button mushroom but not the specialty mushroom species. However, conversations with specialty mushroom growers suggest there is a high level of unmet demand.¹

In January 2021, the Cornell Small Farms Program conducted a survey of mushroom growers about their cultivation and marketing practices. The mailing list included participants from Cornell Small Farms mushroom-related programs over the last 8 years as well as growers gleaned from multiple internet searches. The survey was also promoted through the Cornell Cooperative Extension mushroom growers lists and Cornell Small Farm program channels (newsletter, press release, etc.) Although growers included in the lists were from across the U.S., the majority of those on the lists, as well as those responding, were from New York State.

This report summarizes the results from the marketing section of the survey. We received a total of 139 complete and eligible responses. In addition to the responses collected via the electronic survey, we conducted 26 phone interviews to gather more detailed information about their responses.

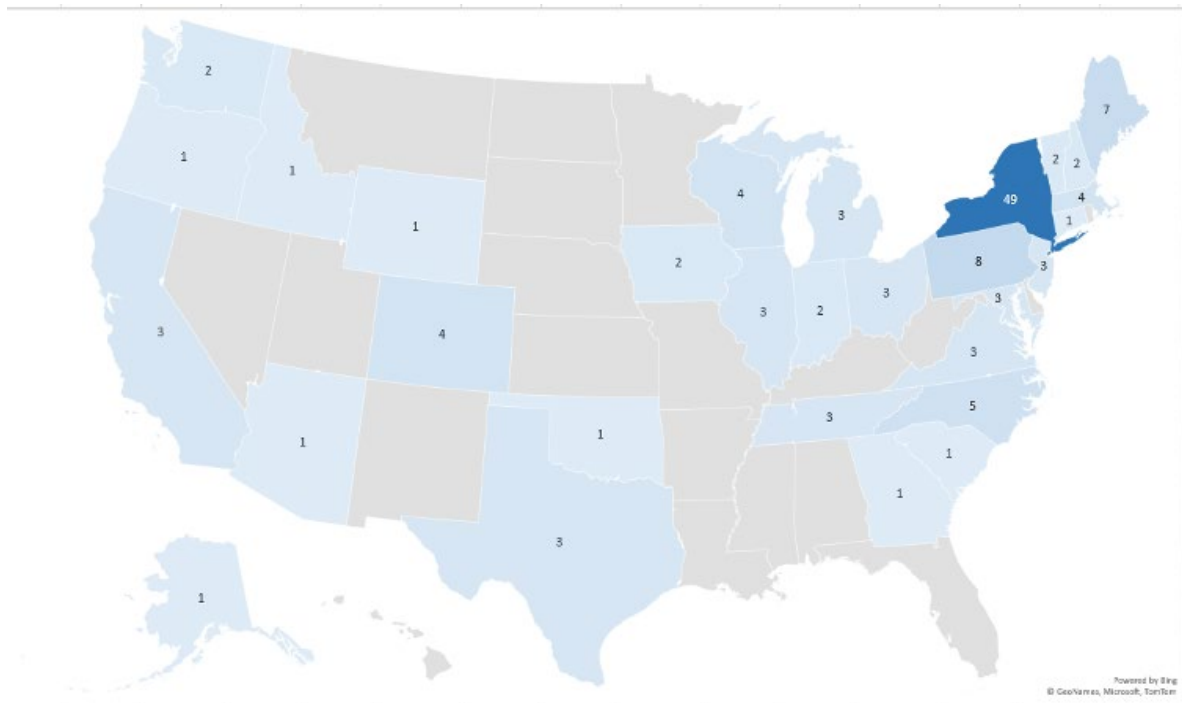
Most of the responding growers are not included in USDA specialty mushroom data. For purposes of their reports, USDA defines a specialty mushroom grower as “having at least 200 natural wood logs in production or some commercial indoor growing area, and \$200 or more in sales.” From our responses, 12.6% have completed a USDA survey in the past, while 78.5% have not, and 8.9% are unsure.

¹ Beginning in 2018-2019, data are reported from California, Florida, Illinois, Maryland, Oklahoma, Pennsylvania, Tennessee, and Texas. Source: U.S. Department of Agriculture, National Agricultural Statistics Service.

Demographics

Survey requests were sent to over 500 growers on a list compiled from multiple sources and internet searches. The survey was also promoted with a link through newsletters and mailings. Although respondents participated from 29 of the 50 states, 39% came from New York State alone (Figure 1).

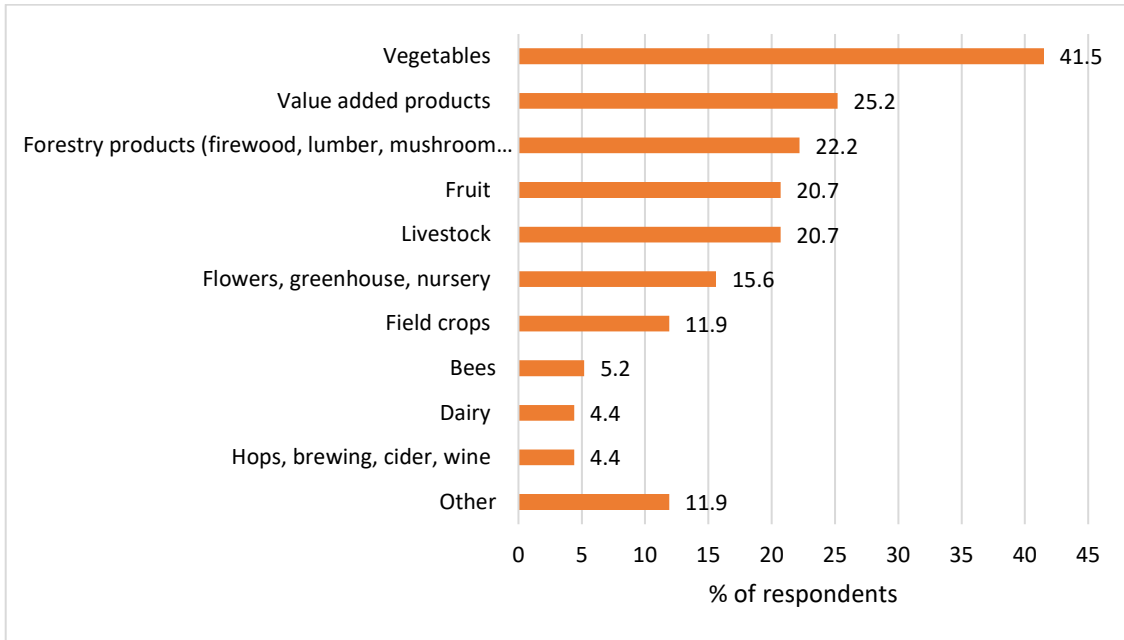
Figure 1. Geographic Distribution of Survey Respondents across the U.S.



Note: Distribution map shows 127 out of the 139 respondents.

The majority (67%) of respondents (139 total) grow specialty mushrooms as part of a diversified farm alongside other crops such as vegetables, forestry products, fruit, and livestock (Figure 2). Many growers also make value-added products from their mushrooms. Notably, one-third of study participants choose to be specialists and grow only fresh mushrooms as their saleable product. Of the respondents, 11.9% self-identified as belonging to a social disadvantaged group and 10.5% as veterans.

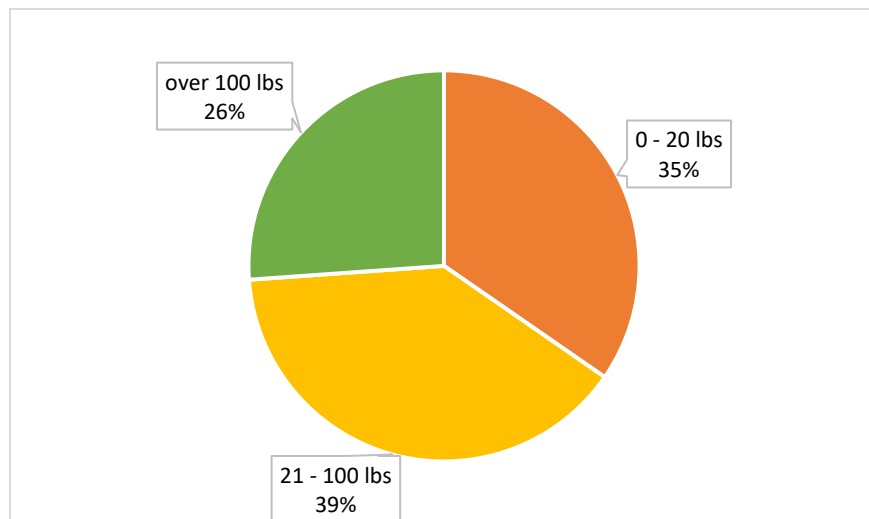
Figure 2. Other Crops Produced by Specialty Mushroom Growers



The respondents, in general, are smaller farm operations, with 72.9% of respondents selling less than \$50,000 in annual farm gross receipts. Growers use an average of 3.3 persons for their workforce, which was reported as self, family, or outside labor.

Over one-third of the respondents target their production for 20 pounds or fewer per week, while just over one-quarter (26.1%) have a production target of over 100 pounds per week (Figure 3). For the purposes of this report, we describe those respondents producing less than 20 pound per week as small, medium respondents producing 21-100 pounds per week and large producing over 100 pounds per week.

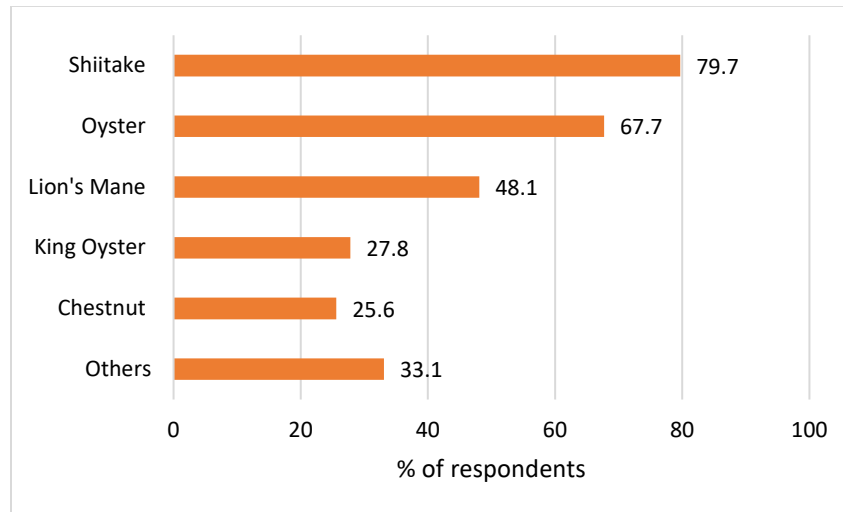
Figure 3. Target Weekly Production by Percent of Respondents



Popular Specialty Mushroom Products

Shiitakes are the most popular specialty mushroom species, grown by 79.7% of respondents. Although shiitake is the most popular, oyster and lion's mane cultivars are also very popular as well as several other emerging species including king oyster, chestnut, maitake, and others. (Figure 4)

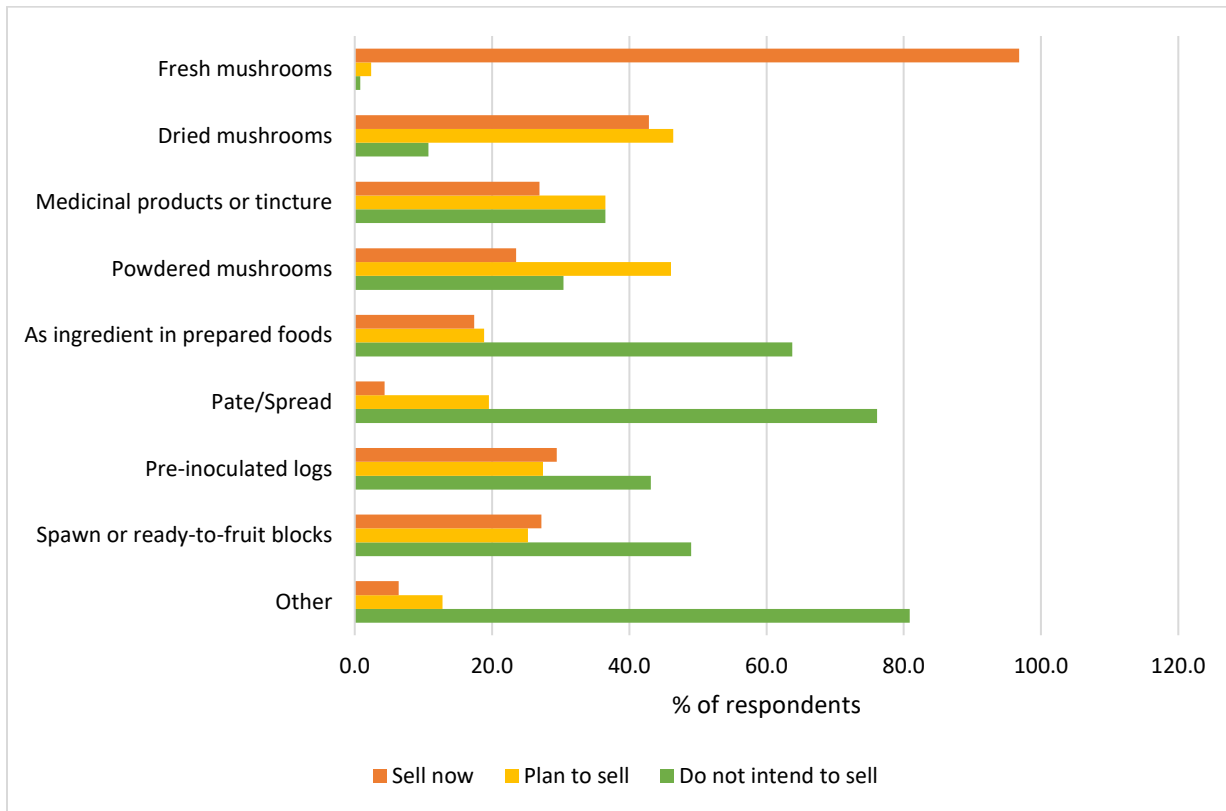
Figure 4. Total Production by Specialty Mushroom Cultivar



In addition to fresh mushrooms, about two thirds of growers sell value-added products, including pâtés, dried mushrooms, powders, and others. Dried mushrooms are the most popular value-added product sold by respondents, and just as many respondents, although not selling them currently, plan to do so in the future (Figure 5). One step away from dried mushrooms is powdered, sold as a condiment. Although not as many respondents are currently selling powders, 46.1% plan to in the future.

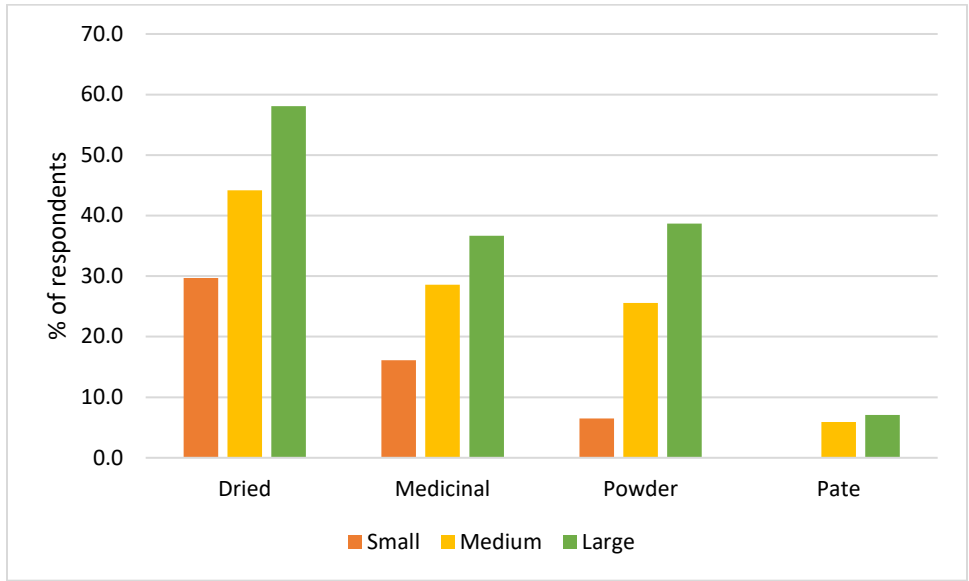
Several also sell production supplies such as pre-inoculated logs, spawn, or ready-to-fruit blocks. Some respondents are specialty mushroom companies that only sell these latter products and do not offer fresh mushrooms for sale. Pre-inoculated logs and spawn or ready-to-fruit blocks are also fairly popular and are sold by many respondents (29.4% and 27.2% respectively). Many respondents are not prepared to sell these and reported that they do not plan to sell in the future.

Figure 5. Mushroom Products Sold by Respondents, Current and Future Items



Offering value-added products was significantly correlated to respondent size as illustrated in Figure 6. Whether the product is dried, medicinal, powder, or pate, the larger the grower, the more apt they are to sell a value-added product. Although grower size coincided with value-added offers, value-added products were also important to small growers. Almost one third, 30%, of small growers, those that produce from 0-20 pounds of mushrooms per week, said they sell dried mushrooms. Sales of value-added products appear very important to specialty mushroom growers overall.

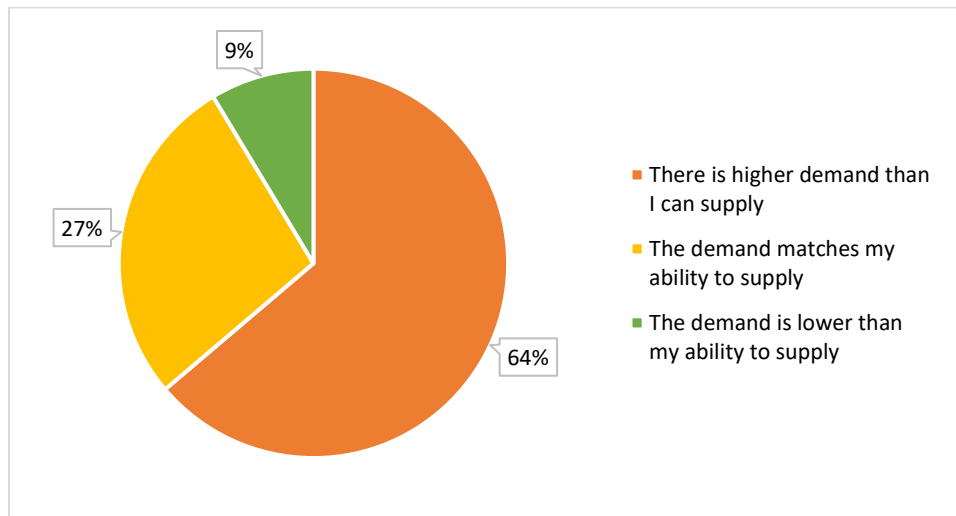
Figure 6. Mushroom Products Currently Sold by Respondents, by Size of Grower



Marketing & Sales

Demand for specialty mushrooms was high for many respondents, 64% of them reported higher demand for their mushrooms than they could supply (Figure 7). This was true for respondents regardless of size.

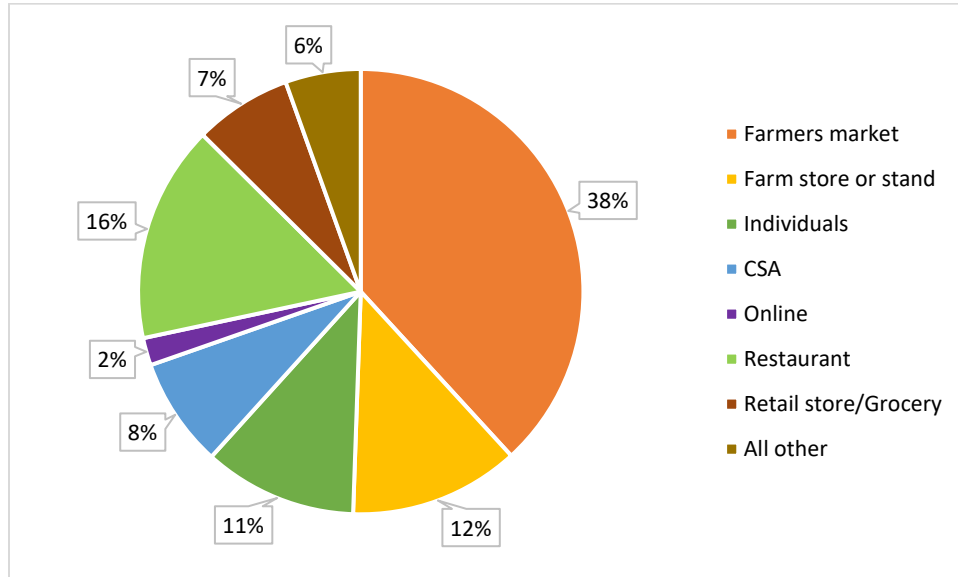
Figure 7. Demand for Growers' Specialty Mushrooms



As a whole, respondents rely on farmers markets as the most important way to sell their mushrooms, accounting for 38% of mushroom sales. When combining farmers markets with other direct-to-consumer markets, such as farm stores and stands, individuals, CSAs, and online

stores, a total of 71% of respondents' mushroom sales were made through direct-to-consumer markets (Figure 8). Mushroom sales through direct-to-institutions (such as schools and hospitals), restaurants, and retail stores were 23% of all sales. Residual sales after the above (6%) were to distributors and food hubs.

Figure 8. Percent of Specialty Mushroom Sales by Market Channel



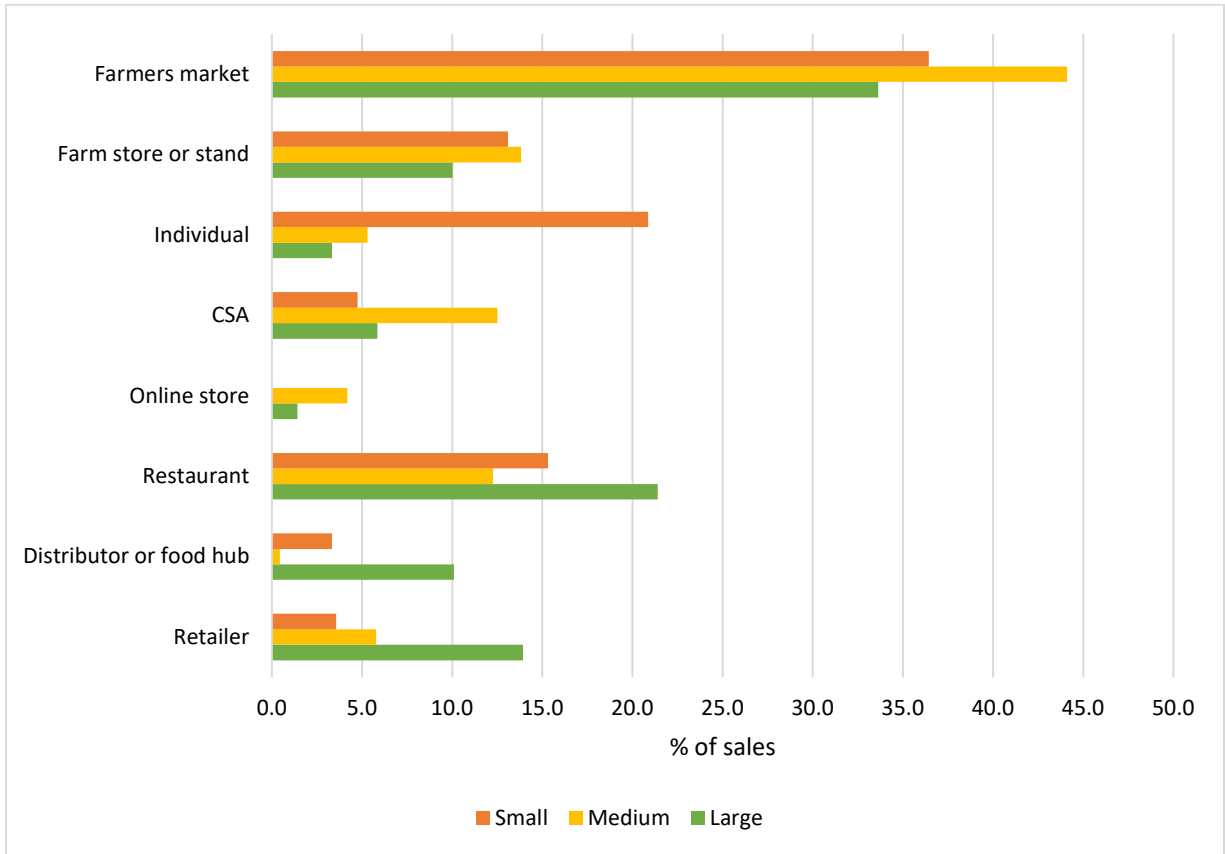
Farmers markets remain the most important market when we looked at differences among scales of production, even for those who produce over 100 pounds per week.

Farm stores and stands and restaurant sales are the next most important for all farm sizes (Figure 9). Various market channels are significantly more important to different size farms. These differences include:

- Distributors and food hubs are significantly more important to large farms than to medium farms,
- Retailers are more important to large farms than to small farms
- Individuals buying through word of mouth, such as friends, family, and co-workers, are more important to small farms than to medium and large farms.

In Figure 9, CSAs and farmers markets appear to be more important to medium size farms; however, this was not statistically significant.

Figure 9. Percent of Specialty Mushroom Sales by Market Channel and by Farm Size

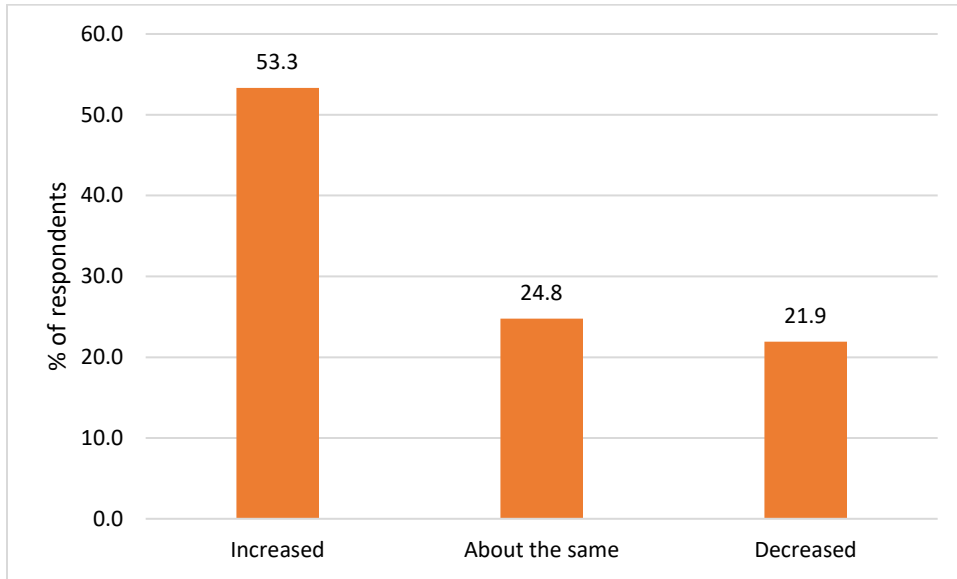


Note: For the purposes of this survey, we defined small respondents as producing less than 20 pound per week, medium respondents 21-100 pounds per week and large over 100 pounds per week.

2020: Changes in sales

In 2020, sales increased for just over half of the respondents (Figure 10). For 24.8% of respondents, however, sales did not change. For 21.9% sales decreased. This pattern was the same for respondents of all sizes whether small, medium, or large.

Figure 10. Change in Specialty Mushroom Sales Occurring in 2020

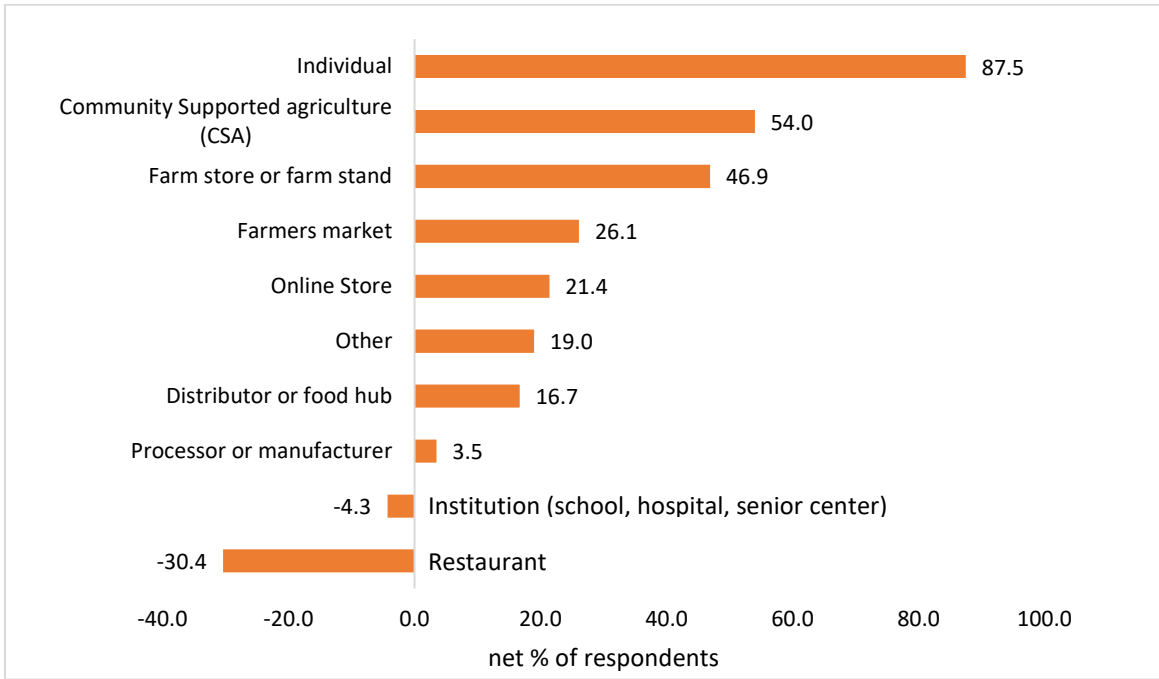


When farms were asked if sales through specific marketing channels increased, decreased, or stayed the same, many farms commented about the loss of restaurant sales in 2020. We looked at respondents who answered "increased" and subtracted those who answered "decreased", coming up with a net % of respondents who gained or lost in each marketing channel. Farms lost sales primarily with restaurant and institution accounts.

Although more farms reported a loss of sales to restaurants and institutions (due to COVID19), farms reported sales increased to all other market channels (Figure 11). A net of 87.5% of respondents indicated their sales to individuals increased rather than decreased. Twenty-six percent more respondents indicated their sales through farmers markets increased rather than those who said they decreased.

The unique circumstances of the pandemic provide some insight in how markets can rapidly change.

Figure 11. Respondents Reporting Changes in Sales to Various Market Channels in 2020



Important product characteristics

Understanding how customers feel about a product is fundamental to understanding how to market and sell that product. When a product or characteristic is important to consumers, they will often be willing to pay more for it or be a returning and frequent customer.

In this survey, growers rated how important certain product characteristics are to their customers. We asked them to rate a selection of the following characteristics on a scale from 1 = not at all important to 5 = very important as shown in Figure 12.

Figure 12. Mushroom Characteristics Rated by Importance



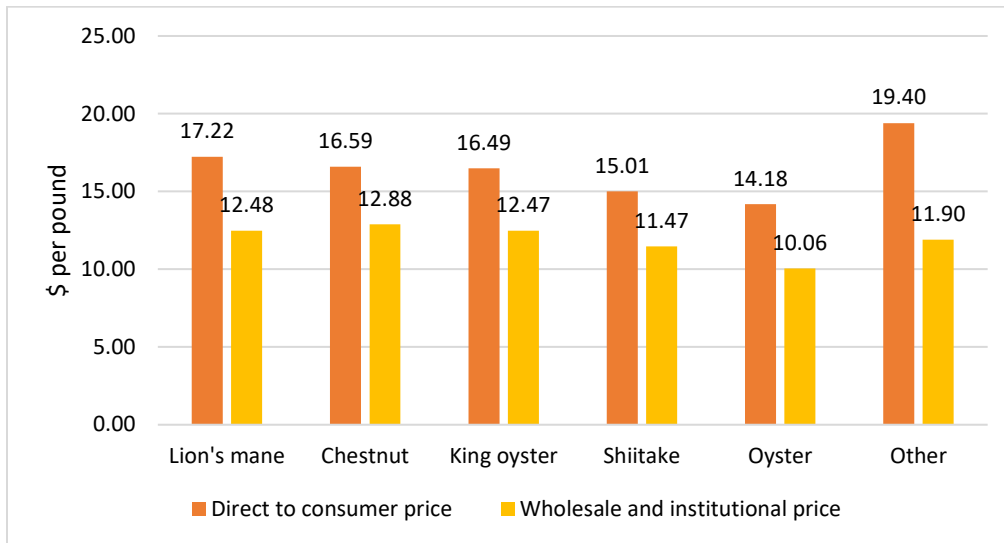
We asked growers to rate how important they feel various mushroom characteristics are to their customers. Our respondents feel that mushroom quality is the most important characteristic to their customers, ranking it 4.6 out of 5 (Figure 12). Respondents also rated being local as very important at 4.2 out of 5. Other characteristics that were rated above a midpoint of 3 were customer service and customer familiarity with mushrooms.

Certifications or labels and production methods were not rated as being important characteristics in this survey. Nor were price and nutritional and medicinal properties. Does this mean that customers don't care about them? We recommend that individual growers understand what their own customers are looking for and what they respond to. For instance, while respondents indicated that certification was not important overall, this is likely because direct-to-consumer markets are most important to these respondents. Larger wholesale producers might respond differently as labels and certifications tend to matter more in these outlets.

Prices

Survey respondents reported the average prices they received from various market channels (Figure 13). Prices for direct-to-consumer markets were higher than prices for wholesale markets, such as restaurants, retailers, and institutions. The average direct-to-consumer price for all specialty mushrooms was \$15.99 while the average wholesale and institutional price was \$11.62, which was \$4.37 less than the direct price.

Figure 13. Comparison of Direct-to-Consumer versus Wholesale Prices



Based on our respondents, in direct-to-consumer markets, "other" mushrooms were the highest priced (\$19.40). These 'other' mushrooms included wine cap, pioppino, strophia, maitake, coral tooth, black pearl, morel, lobster, bears head, reishi, almond, comb's tooth, chanterelles and chicken of the woods. Many of these types of mushrooms are often either foraged and therefore not cultivated, or are very specialized. Lion's mane (\$17.22), chestnut (\$16.59), King oysters (\$16.49) and shiitake (\$15.01), were priced in the middle, and oysters were the lowest priced (\$14.18). These are the more popularly known and grown specialty mushrooms.

The most important characteristics of 'quality' and 'local' influence how much growers can charge. The high quality and local nature of a product may support higher prices. Some other factors influencing price (but not reported here) may include proximity to urban markets or a tourist areas as well as competition from other producers are in markets.

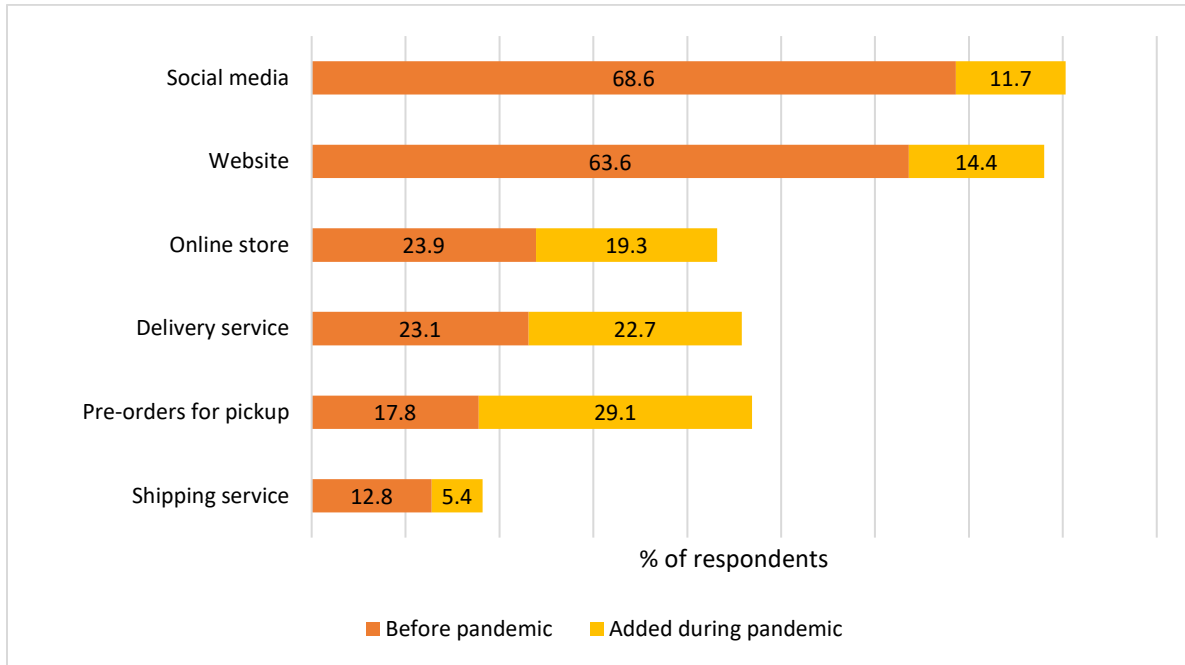
Farmers can usually charge higher prices to consumers than to grocery stores or other wholesale channels. When setting prices for products, it is important not to just copy what is seen "in the market" but also balance the demand with the ability to pay for all production, marketing, and ownership labor and management costs. Growers need to understand how to price their products as a critical function of their enterprise. See the resources at www.CornellMushrooms.org for more information.

Strategic Marketing Changes during 2020

Digital technology offers a number of useful business and marketing tools. We asked growers what technology they used before and during 2020 as part of their marketing strategy. The majority of growers were on social media before the pandemic and had a website (68.6% and 63.6% respectively) (Figure 14). But less than one quarter had an online store, delivery service, pre-orders for pickup, or shipping services.

During the pandemic, many growers added marketing services. Almost 12% added social media and 14.4% added a website (Figure 14). Roughly twice as many growers offered an online store, delivery service, and pre-orders for pickup during 2020.

Figure 14. Web Marketing used by before and during 2020.



The survey asked growers about the changes made in marketing mushrooms. Forty-seven provided insights into whether changes made in 2020 would be kept as part of the business. A summary of their comments indicate:

- Many are keeping their added marketing features, such as a website, an online store, and pre-ordering capability for pickup,
 - "I will keep all the new changes as they have become what my customers expect as well as easier for me to conduct business."
 - "The online pre-orders for pickup at the farmers market have been great and will continue."
 - "We'll keep all of them. We realize that increasing our fulfillment options has made our business much more resilient."
 - "I will keep all the added features, except I will probably stop offering delivery."
- While some of these are also keeping delivery and shipping, others will drop shipping and others delivery.
 - "We are keeping delivery because Square is not charging us, but delivery requests have decreased recently."

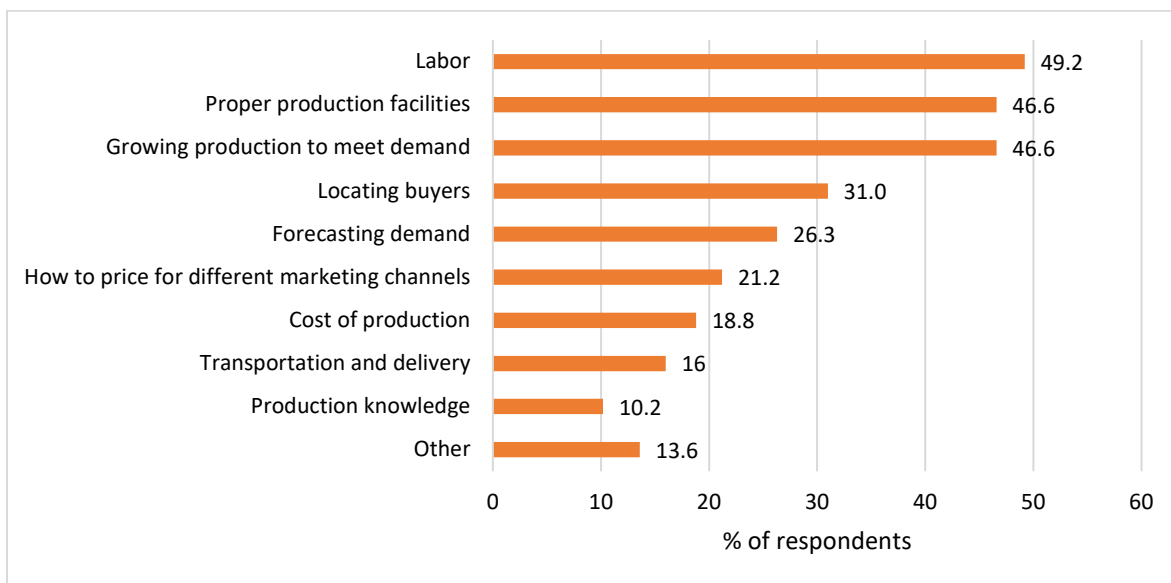
- Several plan to decrease their reliance on restaurants and increase their focus on markets that are consistent and reliable markets, such as farmers markets, food hubs and distributors, and grocery stores.
 - "I will stay in Farmers Markets and kill myself with work because the money is very good and reliable. I will add on restaurants but not trust them for the stability of my business."
 - "Food distributors/food hubs are a good way to have consistent business, people still need to eat but may not always go to a restaurant."
 - "Will try to hang on to increased grocery sales; CSA pick-up on-farm worked really well and freed up time."
- A few are using value added products to increase farmers market sales and find them conducive to delivery/shipping.

Barriers to growth

Many, although not all, of the respondents were interested in selling more mushrooms and growing their businesses. An important objective of the survey is to understand what specialty mushroom growers need in terms of business development. Understanding growers' barriers to growth helps educators develop appropriate materials targeted to help overcome these barriers.

Growers were asked to rate whether selected business factors were "low", "neutral", or "high" barriers. "Labor", "proper production facilities", and "how to grow production to meet demand" were rated as "high" by almost 50% of survey respondents (Figure 15).

Figure 15. Business Factors Rated as "High" Barriers to Achieving Growth



Growers of all sizes were in agreement with the business factors that were rated as "high" barriers to growth, with only one exception. Fewer medium size growers rated "proper production facilities" as being high than did small and large growers. Whether medium growers were of a size more compatible with their current facilities or for some other reason is unclear. Clearly, "labor" and "growing production to meet demand" were of similar importance and were "high" barriers to respondents of all sizes.

When we asked growers to describe what other barriers they experience, one grower described their barrier to growth as "Trying to find appropriate farm scale." This is a barrier frequently encountered by business owners, along with "funding" and "capital". Other responses defined specific needs, such as:

- Sourcing logs
- Educating customers on cooking, flavor profiles, nutritional content, etc. as many have never seen specialty mushrooms
- Regulations on wild foraging, selling dried mushrooms, and medicinal products
- Short growing seasons for outdoor production in colder climates
- Inability to earn enough from the enterprise to replace off-farm income

Final thoughts

We want to thank the growers for providing this valuable information which benefits the specialty mushroom industry and helps our program better define ways we can support through research and education in the future. Based on increasing demand for information in the last decade, our sense was that the interest and adopting of mushroom farming was on the rise and offered a promising crop for farmers to consider.

The survey results seem to offer a promising opportunity for established and new growers, where market demand remains higher than supply, high quality and locally produced mushrooms are valued, and where pricing remains high on a per pound basis. The price points and reporting on high demand is notably still positive almost ten years after we first heard this from growers, in a previous grant project focused on [log grown shiitake](#).

The [specialty mushroom](#) project of the Cornell Small Farms Program will take these research results and continue to develop useful, targeted materials for specialty mushroom growers. There are many supporting resources available at the main site, www.CornellMushrooms.org, including growing guides, webinar recordings, and information on marketing, regulations, and other aspects of running a specialty mushroom enterprise.

Appendix: Online Survey

Specialty Mushroom Grower Reporting

Q2 **Specialty Mushrooms** are defined by the USDA as any species other than *Agaricus bisporus* (Button/Crimini/Portabello) produced in the USA. The purpose of this survey is to collect information from active specialty mushroom enterprises in the United States, including basic production information, marketing strategy, and research and education needs to grow this industry.

Anyone who **grew and sold at least \$100 of fresh specialty mushrooms in 2020** is encouraged to complete the survey.

Your response will help us develop targeted educational and technical resources to support your success and better understand and communicate the needs of this emerging industry. This survey should take 15-20 minutes to complete. THANK YOU!

Your participation is completely voluntary, and you may exit the survey at any time. Your responses will be kept confidential and only aggregated data will be shared publicly.

We appreciate your time and interest in our efforts to support the specialty mushroom industry. Please complete this survey by February 26th and you will be entered to win one of FIVE \$100 gift certificates for mushroom supplies and spawn!

If you have questions or need help in English, contact Steve Gabriel at sfg53@cornell.edu.

Si necesita ayuda con la encuesta, envía un correo electrónico a yg88@cornell.edu

Q9 Did you sell \$100 or more of specialty mushrooms in 2020?

Yes (1)

No (2)

Skip To: End of Survey If Did you sell \$100 or more of specialty mushrooms in 2020? = No

Skip To: Q1 If Did you sell \$100 or more of specialty mushrooms in 2020? = Yes

Q13 About Your Farm

Q1 Name of Farm:

Q57 Email address for contact:

Q6 Name(s) of farm owners:

Q7 Business structure

- DBA (Doing Business As) (1)
- Partnership (2)
- Sole proprietor (3)
- LLC (Limited Liability Company) (4)
- Corporation (7)
- Cooperative (8)
- Non-Profit (5)
- Other (6) _____

Q60 In what year did you start this farm business?

Q8 In what year did you first file a Schedule F (Profit or Loss from Farming)? *If you have not but intend to, enter "NOT YET".*

Q11

How many people worked on your farm in 2020, including family and paid employees?

0 1 2 3 4 5 6 7 8 9 10

Full Time ()	
Full Time (seasonal) ()	
Part Time ()	
Part Time (Seasonal) ()	

Q34

Do any **farm owners** self-identify as belonging to one or more socially disadvantaged groups as defined by USDA? (optional)

Socially disadvantaged farmers and ranchers, for the purposes of USDA, are defined under the 1990 farm bill (P.L. 101-624) as members of a socially disadvantaged group, which is defined to mean those whose identity in a group has subjected them to racial or ethnic prejudice without regard to their individual identity.

- Yes (1)
- No (2)
- Not sure (3)

Q36 Are any of the farm owners active military or veterans? (optional)

Yes (1)

No (2)

Q12

Does your farm produce any of the following, in addition to specialty mushrooms? Check all that apply.

Dairy (1)

Field crops (2)

Fruit (3)

Flowers / Greenhouse / Nursery (4)

Hops/Brewing/Cider/Wine (5)

Livestock (6)

Vegetables (7)

Forestry products (firewood, lumber, mushroom bolts) (8)

Bees (9)

Value Added Products (please list) (10)

Other (11) _____

Q14 What was your total gross farm sales across **all farm products** in 2020?

Less than \$1000 (1)

\$1000 - \$10,000 (2)

\$10,001 - \$49,999 (3)

\$50,000 - \$99,999 (4)

\$100,000 - \$249,999 (5)

\$250,000 - \$349,999 (6)

\$350,000 - \$999,999 (7)

over \$1,000,000 (8)

Q15 Roughly what percentage of these sales was comprised of specialty mushrooms in 2020?

Less than 1% (1)

1 - 9% (2)

10 - 19% (8)

20 - 29% (9)

30 - 39% (3)

40 - 49% (4)

50 - 59% (5)

60 - 69% (6)

70 - 79% (7)

80 - 89% (10)

90 - 100% (11)

Q10 Have you ever completed the USDA annual mushroom survey distributed by the National Agricultural Statistics Service?

- Yes (1)
- No (2)
- Not sure (3)

Q69 Do you utilize any of these certification programs? (check all that apply)

- Organic (1)
- Certified Naturally Group (2)
- Good Agricultural Practices/ Food Safety (3)
- Other (please list) (4) _____

Q36 Mushroom Production on Your Farm

Q16 Which specialty mushroom species do you **consistently** grow for markets? Please check all that apply.

- Shiitake (1)
- Oyster (2)
- Lions Mane (3)
- Chestnut (4)
- King Oyster (5)
- Others (please list) (6) _____

Q33 Please estimate the percent of your total mushroom production from each species. The total should equal 100.

- Shiitake : _____
- Oyster : _____
- King Oyster : _____
- Lions Mane : _____
- Chestnut : _____
- All Others : _____
- Total : _____

Q73 What is the approximate length of your growing season? (If you grow year round, select Jan for Start to Dec for End month)

Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)

Q42 What is your target weekly production of all species during your sales season?

- Under 10 lbs (1)
- 10 - 20 lbs (2)
- 21 - 50 lbs (3)
- 51 - 100 lbs (4)
- 100 - 200 lbs (5)
- 201 - 499 lbs (6)
- Over 500 lbs (7)

Q42 In addition to cultivating mushrooms, do you forage and sell wild mushrooms as part of your enterprise?

- Yes (1)
- No (2)

Q19 Do you grow shiitake mushroom on logs, outdoors?

- Yes (1)
- No (2)

Display This Question:

If Do you grow shiitake mushroom on logs, outdoors? = Yes

Q23 Total number of logs currently in production:

Display This Question:

If Do you grow shiitake mushroom on logs, outdoors? = Yes

Q39 How many new logs do you inoculate each season?

Display This Question:

If Do you grow shiitake mushroom on logs, outdoors? = Yes

Q38 What are your future plans for log-grown shiitake on your farm?

- I plan to increase the number of logs (4)
- I plan to keep the same number (5)
- I plan to decrease the number of logs (6)

Display This Question:

If Do you grow shiitake mushroom on logs, outdoors? = Yes

Q24 Where do you source logs?

I cut them myself (1)

I purchase them from a supplier (2)

I cut some and purchase some (3)

Other (please list) (4) _____

Display This Question:

If Do you grow shiitake mushroom on logs, outdoors? = Yes

Q47

What types of shiitake mushroom strains do you use on the farm? Check all that apply.

Cold weather (1)

Warm weather (2)

Wide range (3)

Q20 Do you cultivate specialty mushrooms indoors?

Yes (1)

No (2)

Display This Question:

If Indoor Cultivation? = Yes

Q53 What steps in the indoor production process are done on farm? Check all that apply.

I make my own spawn (1)

I inoculate substrate materials and make blocks or bags (2)

I fruit, harvest, and sell mushrooms from blocks or bags (3)

I buy in ready-to-fruit blocks from a supplier (4)

Display This Question:

If Indoor Cultivation? = Yes

Q51 What substrates do you use on a regular basis? *Check all that apply.*

Straw (1)

Sawdust (2)

Fuel pellets (3)

Supplements (grain hulls, coffee grounds, etc) - please list (4)

Other - please list (5) _____

Display This Question:

If Indoor Cultivation? = Yes

Q52 What treatment methods do you use for preparing substrates? Check all that apply.

- Heat pasturize (1)
- Lime (2)
- Hydrogen peroxide (3)
- Atmospheric Steam (4)
- Pressure canner / Autoclave (5)
- Other (6) _____
- NONE: I only buy in ready-to fruit blocks (7)

Display This Question:
If Indoor Cultivation? = Yes

Q43 Which best describes the primary space where you grow mushrooms?

- Dedicated building designed for mushroom production (1)
- Warehouse (7)
- Farm outbuilding or barn (2)
- Shipping container (3)
- High tunnel / Greenhouse (4)
- Basement or garage (5)
- Other (please describe) (6) _____

Display This Question:
If Indoor Cultivation? = Yes

Q56 What is the total square footage of the space you use for growing mushrooms?

Display This Question:
If Indoor Cultivation? = Yes

Q25 What are your future plans for growing indoor mushrooms?

- I plan to continue producing at a similar level (1)
- I plan to increase annual production (2)
- I plan to decrease annual production (3)

Q21 Marketing & Sales

Q31 How would you describe demand for your specialty mushrooms?

- There is higher demand than I can supply (1)
- The demand matches my ability to supply (2)
- The demand is lower than my ability to supply (3)
- I am not sure (4)

Q28 What mushroom products do you sell today and which do you plan to sell in the future?

I sell these now (1)	I plan to sell in future (2)	I do not intend to sell (3)
Fresh Mushrooms (1)		
Dried Mushrooms (2)		
Powered Mushrooms (3)		
Pate/Spread (5)		
Medicinal products/ tincture (6)		
Pre-inoculated logs (7)		
Mushroom Spawn or Ready to Fruit Blocks (8)		
Used as ingredient in prepared foods (list) (4)		
Other (list) (9)		

Q29 *Approximately* what percent of your specialty mushroom sales in 2020 were to each of the following customer types? The total should equal 100.

- Farmers market : _____ (1)
- Farm store or farm stand : _____ (2)
- Community Supported Agriculture (CSA) : _____ (3)
- Distributor or Food Hub : _____ (4)
- Retail Store/Grocery : _____ (11)
- Restaurant : _____ (5)
- Processor or manufacturer : _____ (6)
- Online Store : _____ (7)
- Institution (school, hospital, senior center) : _____ (8)
- Other (please list) : _____ (10)
- Total : _____

Q67 In the past year, how have these percentages changed? (leave blank if you don't sell to that outlet)

	Increased (1)	Decreased (2)	Stayed the Same (3)
Farmers market (1)			
Farm store or farm stand (2)			
Community Supported agriculture (CSA) (3)			
Food hub (4)			
Restaurant (5)			
Processor or manufacturer (6)			
Online Store (7)			
Institution (school, hospital, senior center) (8)			
Other (please list) (10)			

Q30 From your experience marketing specialty mushrooms, how important are the following product characteristics to your customers. Please slide the bar to rate from 1 = *NOT AT ALL IMPORTANT* to 5 = *VERY IMPORTANT*. If you are unsure, leave the slider at "0"

Not at all important	Moderately important	Very important	Not Applicable
0	1	2	3
			4
			5

Locally-grown ()	
Quality (i.e. the freshness, appearance, aroma of the mushrooms) ()	
Price (i.e. cheap / middle / high end) ()	
Customer service (i.e. packaging, ease of procurement, reliability of supply, consistency) ()	
Customer familiarity with the mushroom ()	
Nutritional and/or Medicinal Properties ()	
Third-Party Certification (Organic, Naturally Grown, GAPs) ()	
Production Method (indoor vs outdoor, log vs sawdust, etc) ()	

Q34 If you sell mushrooms via **direct market channels (CSA, farmers market, farm stand)**, what is the average price per pound you received in 2020?








	3	6	9	12	15	18	21	24	27	30	
Shiitake ()	Not Applicable										
Oyster ()	Not Applicable										
King Oyster ()	Not Applicable										
Lions mane ()	Not Applicable										
Chestnut ()	Not Applicable										
Other (list) ()	Not Applicable										
Other (list) ()	Not Applicable										

Q70 If you sell mushrooms via **indirect market channels (Restaurant, Institution, Distributor)**, what is the average price per pound you received in 2020?

Click to write Label 1

Not Applicable

3 6 9 12 15 18 21 24 27 30

Shiitake ()	
Oyster ()	
King Oyster ()	
Lions mane ()	
Chestnut ()	
Other (list) ()	
Other (list) ()	

Q68 Overall, what varieties of mushrooms were most popular this year? (drag items to rank in order of popularity)

- _____ Shiitake (1)
- _____ Oyster (2)
- _____ King Oyster (3)
- _____ Lions Mane (4)
- _____ Chestnut (5)
- _____ Other (6)
- _____ Other (7)

Q44 Given that 2020 was a unique year with the pandemic, how would you describe your overall mushroom sales?

- My sales were about the same (1)
- My sales decreased (2)
- My sales increased (3)
- Other (4) _____

Q61 Did your normal market outlets change as a result of pandemic? If so, please describe how:

Q62 What was your web presence **before** the pandemic?

I had a website (1)

I was present on social media (facebook, instagram, twitter, etc) (2)

I had an online store (3)

I offered pre-order for pick up service (4)

I offered delivery service (5)

I offered shipping services (6)

ALL OF THE ABOVE (8)

Other (please describe) (7) _____

Q65 How did your web presence change **as a result** of the pandemic? (check all that apply)

My web presence was pretty much the same as in other years (1)

I built a website for the first time (2)

I became present on Social media for the first time (3)

I added an online store for the first time (4)

I offered pre-order for pick up service for the first time (5)

I offered delivery service for the first time (6)

I offered shipping services for the first time (7)

Other (please describe) (8) _____

Q63 Any comments about the changes to markets you experienced this year? What aspects will you keep in the future?

Q72 Rate the following list of potential barriers to increasing your mushroom production in the future.

	Low Barrier (1)	Neutral (2)	High Barrier (3)
Transportation and delivery (1)			
Cost of Production (11)			
Labor (2)			
Proper facilities for production (3)			
Production knowledge (4)			
Locating buyers (5)			
Knowing demand to plan production (6)			
Knowing how to price for various channels (7)			
Growing necessary volume to meet demand (8)			
Other (please list) (9)			
Other (please list) (10)			

Q46 What resources have you used in the past to develop your mushroom enterprise? Check all that apply.

YouTube videos (1)

Cornell Mushroom website / PDF / factsheet / video (2)

Cornell Mushroom webinars (3)

Attended a Cornell mushroom class (4)

Hired a consultant (7)

Attended a class by another organization. Please indicate the host(s). (5)

Use other written materials. Please share helpful titles. (6)

Other (8) _____

Q45 What research questions do you want answered that would support your enterprise?

Q71 What marketing support would be helpful as you continue to develop your mushroom enterprise?

Q22

What educational support would be helpful as you continue to develop your mushroom enterprise?

Q45

What regulatory/legal support would be helpful as you continue to develop your mushroom enterprise?

Q54 Would you be willing to participate in a follow-up call (lasting about 30 minutes total) with our project staff to further discuss marketing experiences for our research effort?

Yes (1)

Maybe (2)

Not at this time. (3)

Q59 If Yes, what is good **email address (or phone number)** to reach you at for scheduling?

Q55 By clicking the arrow at the bottom of this page, you agree to allow us to utilize this information as aggregated data summarizing the specialty mushroom industry. We will never share individual information. THANK YOU for responding.