



Analysis of 2021 Minnesota Garlic Grower Survey

Survey conducted in the fall of 2021 as part of the 2019 Minnesota Department of Agriculture Specialty Crop Block Grant project: Premium Minnesota Garlic

Presented by Greg Schweser



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October 10, 2022

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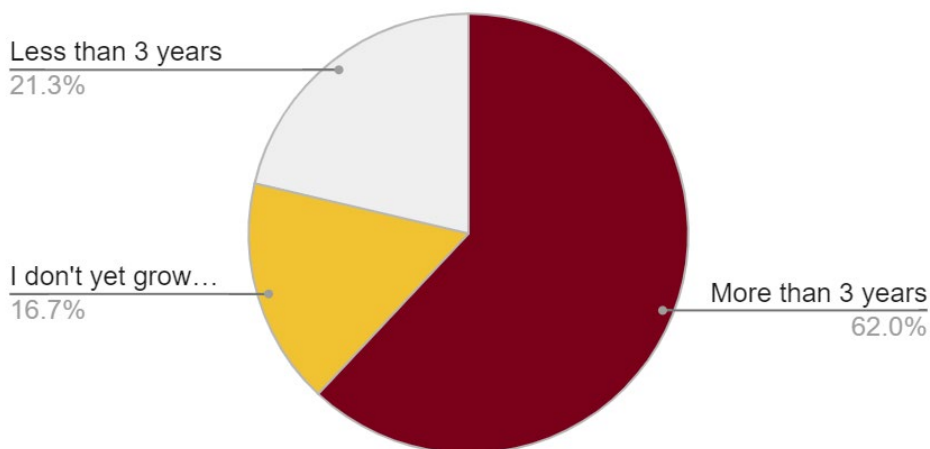
Background

In the fall of 2021, the Sustainable Farming Association of Minnesota (SFA) and University of Minnesota Extension Regional Sustainable Development Partnerships surveyed garlic producers to learn about experiences of garlic farmers in 2021 and to get an understanding of how sales, yields and production practices have changed over time. The intended universe of survey participants included garlic growers who grow or sell garlic in Minnesota. To access this group, the online survey was sent to garlic growers who have their farms listed in the Minnesota Grown Directory, farmers and garlic growers within the Sustainable Farming Association's private garlic grower's database and any attendees who have participated in, or attended garlic production workshops in the previous 5 years. Of the 666 survey recipients, 106 completed the survey for a response rate of 16%.

Characteristics of survey respondents by tenure:

The majority of respondents (61%) were experienced garlic growers with more than three years of experience growing garlic for sale. Just under 22% of respondents had only grown and marketed garlic for fewer than three years. Seventeen percent of respondents are not yet garlic growers, or do not sell for market. Between experienced and new growers, 88 total survey respondents grew and sold garlic for market.

How long have you been growing garlic for market? 106 responses



Characteristics of garlic growers by size of operations

The survey asked recipients how much garlic they harvested in 2021 to get a general idea of the various scales of garlic production among farmers. Since some farmers track the pounds they harvest and others track the number of garlic bulbs, the survey asked people to respond with one or the other. This difference in response type necessitates a large assumption of pounds to bulbs in order to compare each farmer with each other. For the sake of analysis, we assume that there are six bulbs per pound, fully recognizing that bulb size can vary considerably based on a large number of characteristics including garlic variety planted, genetics, weather, etc.

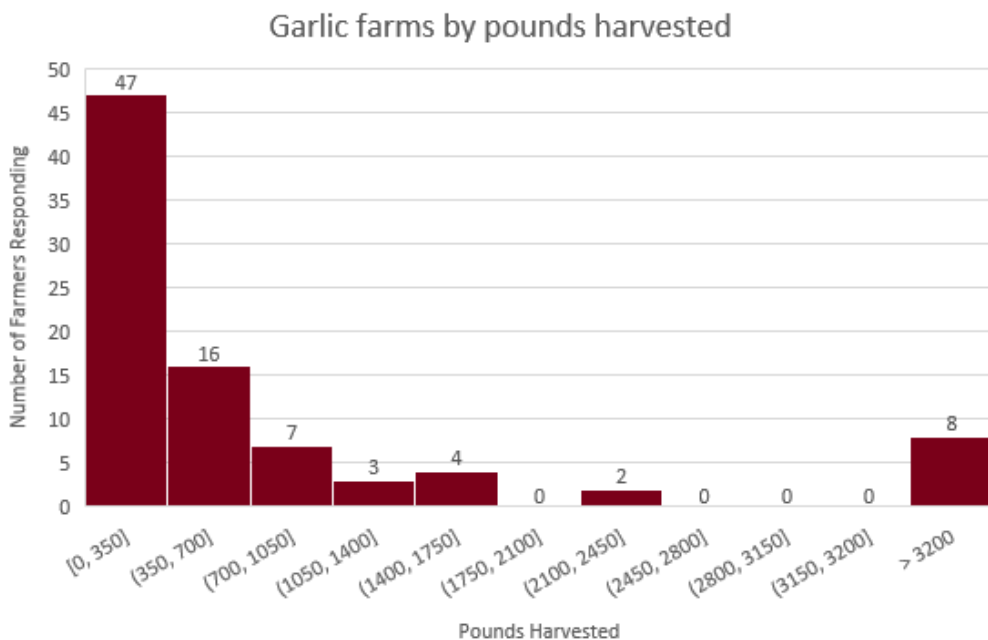


Image 1: One large garlic bulb



Image 2: Several garlic cloves

Of the 95 responses to this question, 48 reported the number of bulbs, 28 reported the number of pounds, 5 reported harvesting 0 bulbs or pounds and 14 did not specify bulbs or pounds. These 14 are excluded from analysis so the total number included in analysis is 81. Those numbers that were reported in bulbs were converted to pounds by dividing the number of bulbs by 6 under the assumption that there are an average of six bulbs per pound.

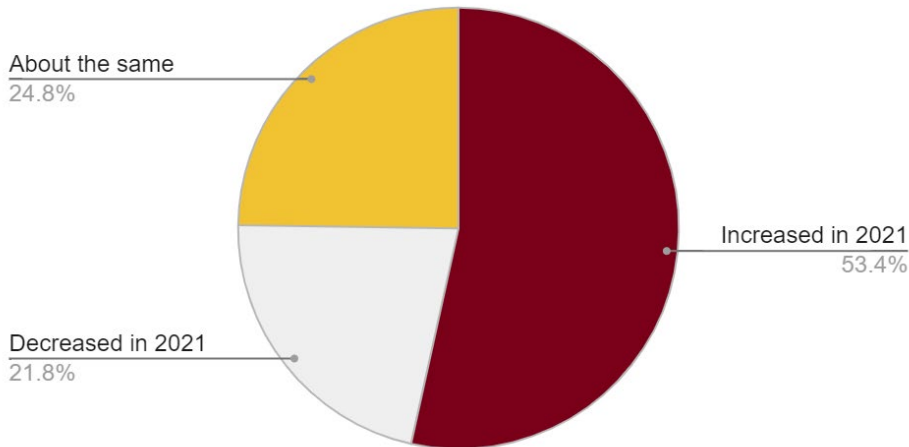


The above histogram shows the number of garlic farms (Y axis) by the number of pounds harvested (X Axis). Roughly half of growers harvested 350 pounds or fewer. Among this group, 27 (or 33% of total) harvested 100 pounds or fewer. An additional 23 growers (28% of total) harvested between 350 and 1050 pounds of garlic. The remaining 16% of growers harvested more than 1050 pounds with just four harvesting more than 3200 pounds. These figures show a large base of small growers (0-350 pounds), a smaller number of medium scale growers (350 to 2450 pounds) and a small number of large growers (more than 3200 pounds).

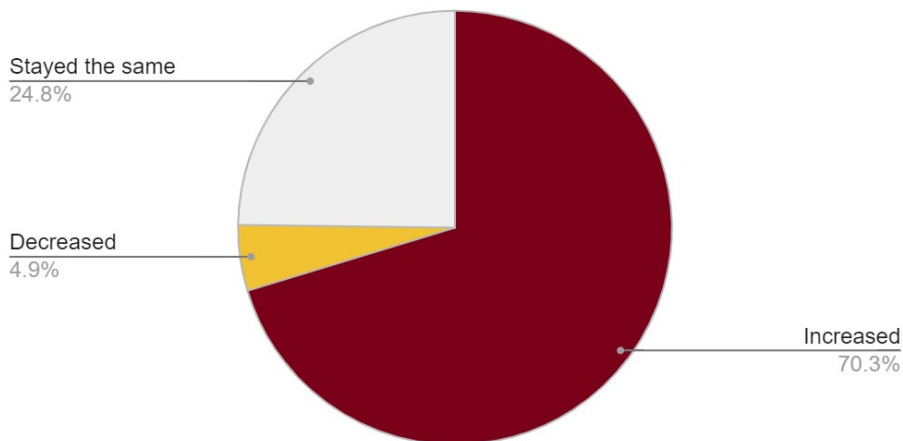
Characteristics of garlic growers by size of operations

The majority of survey respondents (54%) had increased production in 2021 from the previous year. A further 25% had about the same production and 22% decreased. Yet a much larger 70% showed increased production since the onset of the project in 2019 with only 5% showing a decrease in production.

How did your 2021 harvest compare with your 2020 harvest? 101 responses

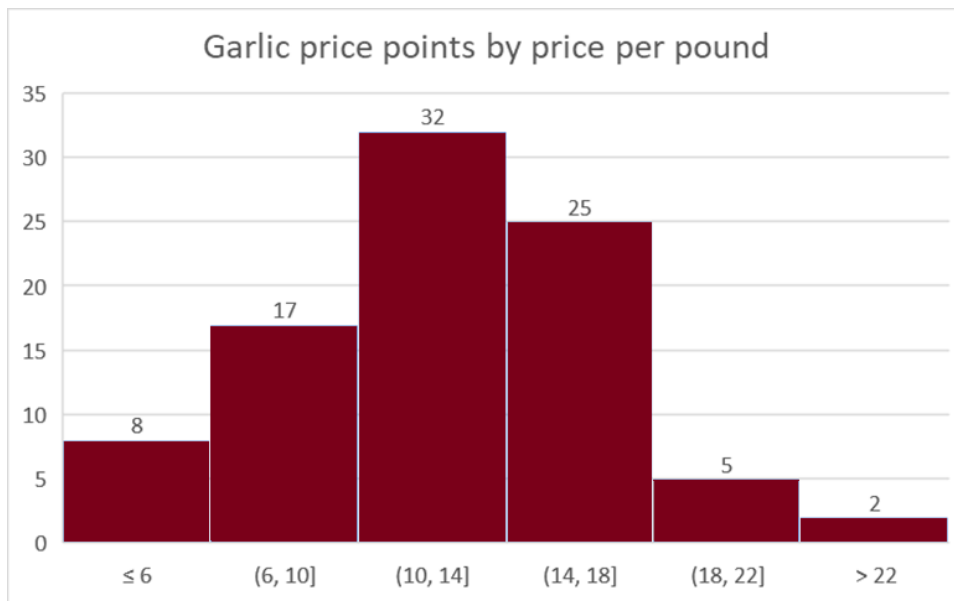


Since 2018 (or since the 1st year you started growing garlic after 2018) has your garlic yield generally: 10...



Garlic Prices

There are many considerations to account for when examining garlic pricing. Some garlic—usually the larger garlic bulbs— is often sold as seed stock while other garlic is sold as culinary garlic. Seed garlic generally is sold at a higher price. Some growers sell garlic as part of a CSA or as an ingredient in a value-added product. Growers were asked to report the price per pound of the garlic sold. A few growers reported prices per pound of seed garlic and culinary garlic separately while most growers did not specify. When growers reported multiple price points, a new entry was created for each price point. A few growers reported the price per bulb. When this occurred, the price was converted to pounds by using a multiple of six, which is the assumed number of bulbs per pound.



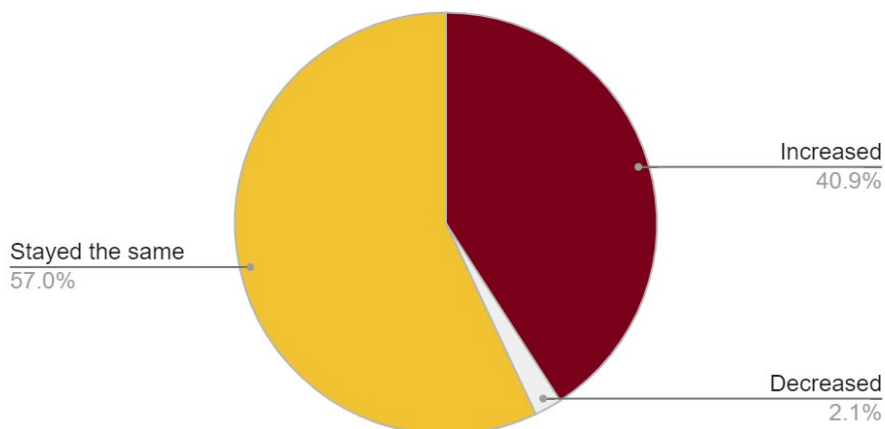
The above histogram shows the different price points (X Axis) for garlic sales among all survey respondents excluding those who reported that they did not sell garlic or sold garlic through a value-added or CSA arrangement where they did not estimate the price per pound of garlic sold. While the vast majority of respondents only indicated sales at one price point, a few did offer two or three different price points for different products (e.g., seed garlic, culinary garlic, small garlic). With those, we estimate the average total price per pound based on the available information.

The histogram shows a slightly left-skewed curve with a slightly larger number of vendors (Y Axis) pricing below the average price than above the average price. The average price was \$12.95 with a standard deviation of \$5.00 indicating that approximately 68% of garlic price points were between \$7.95 and \$17.95. This figure indicates that at least half of price points offered by garlic farmers are at a rate that could be considered a niche or premium price (above \$10/lb.). Only 8 prices offered were at a range that could be considered appropriate for wholesale sales (\$6 or less). This could be expected given the distribution of garlic growers by yield whereby only four respondents indicated harvests of more than 3200 pounds.

Prices over time

This survey was conducted in the fall of 2021. The following charts indicate the price changes in years between 2018 and 2021. It is likely that due to inflation prices may have risen higher than would be expected in 2022.

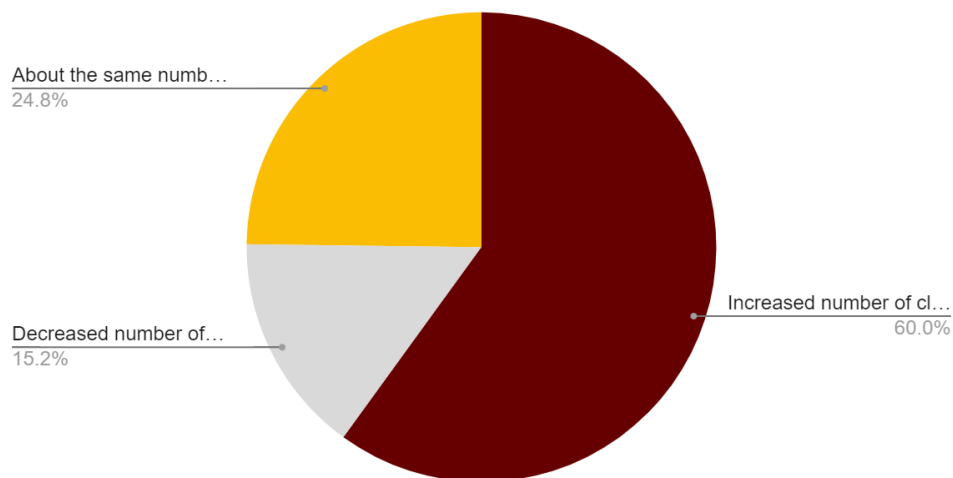
Since 2018 have the prices you charge for garlic:
93 responses



Fifty-three growers (57%) of the 93 responding to the question have kept their prices constant while 38 (just over 40%) have increased prices over the previous three years (2018-2021).

Planting changes over time

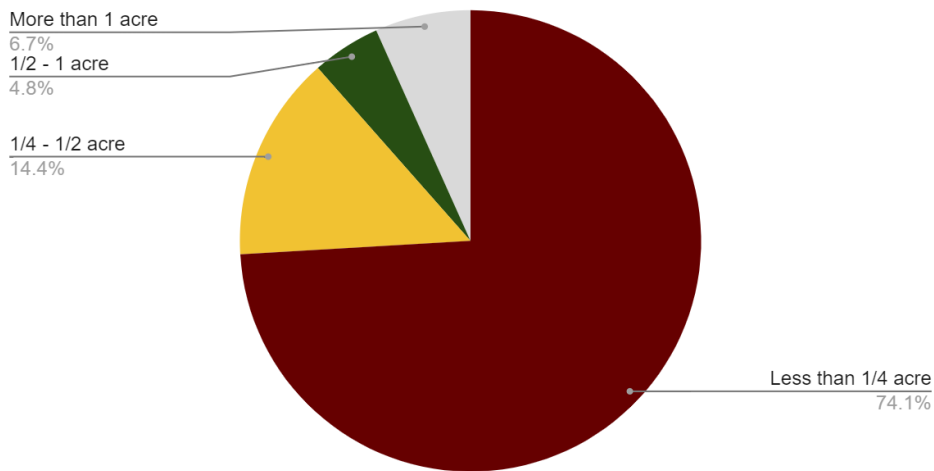
How did your planting this fall (2021) compare with your 2020 planting: 105 responses



Overall, growers increased their garlic production in 2021 compared to the previous year. Sixty-three respondents (60%) increased the number of cloves planted while 26 (25%) planted about the same amount as the previous year. Only 16 respondents reported planting fewer cloves than the previous year.

Land planted in garlic

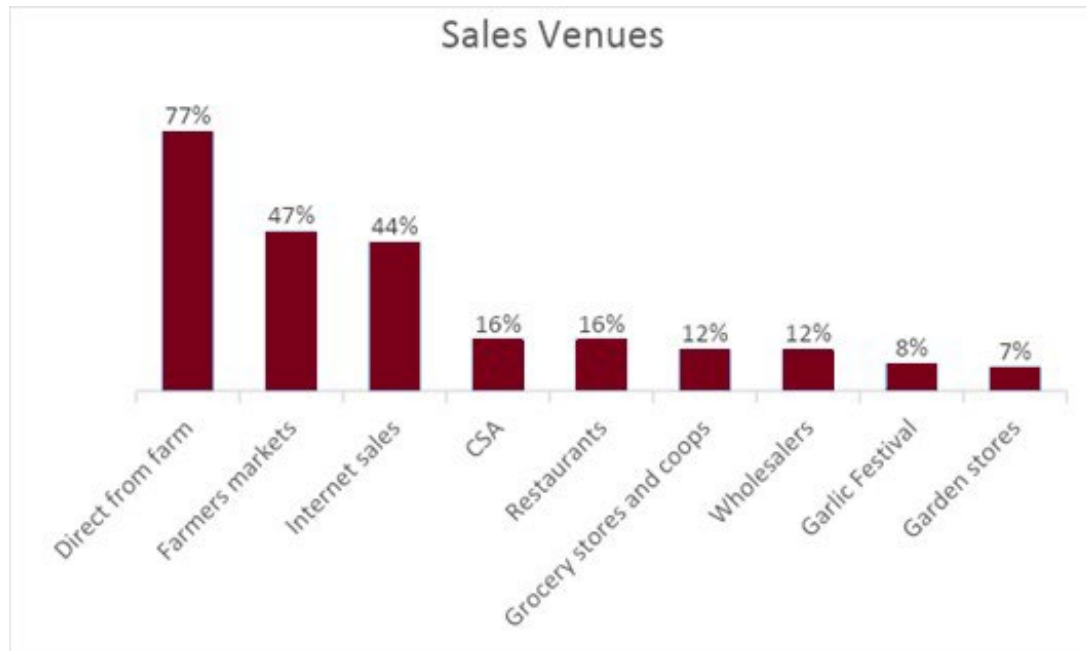
How much land did you use for planting garlic in fall, 2021: 104 responses



Almost all garlic growers responding to the survey grew less than an acre of garlic. Seventy-seven, or nearly three quarters of respondents grew garlic on less than $\frac{1}{4}$ of an acre. Fifteen respondents used between $\frac{1}{4}$ and $\frac{1}{2}$ acre. Five grew on $\frac{1}{2}$ to 1 acre and seven grew on more than one acre.

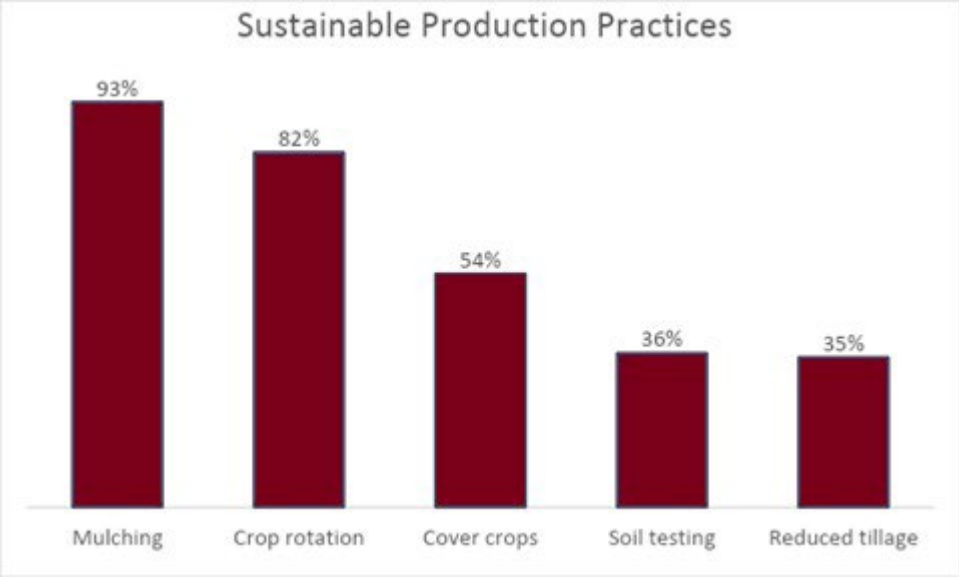
Garlic sales venues

Garlic growers were asked where they sold their garlic. Growers were allowed to select more than one outlet as well as provide additional outlets not mentioned in the survey. 104 respondents answered the question.



The majority of respondents (77%) sold garlic directly from their farm. Almost half (47% and 44% respectively) also sold through farmers markets and through internet sales. Following these venues, there was a drop off to 16% who reported selling through CSAs and restaurants, then 12% reporting grocery stores (including food coops) and wholesale suppliers. Finally, the Minnesota Garlic Festival and garden stores came in at 8% and 7% respectively. Other mentioned outlets included the Minnesota Salsa Festival, friends, Illinois Garlic Festival, neighbors and local festivals. (Both the Minnesota Garlic Festival and the Minnesota Salsa Festival are SFA sponsored events).

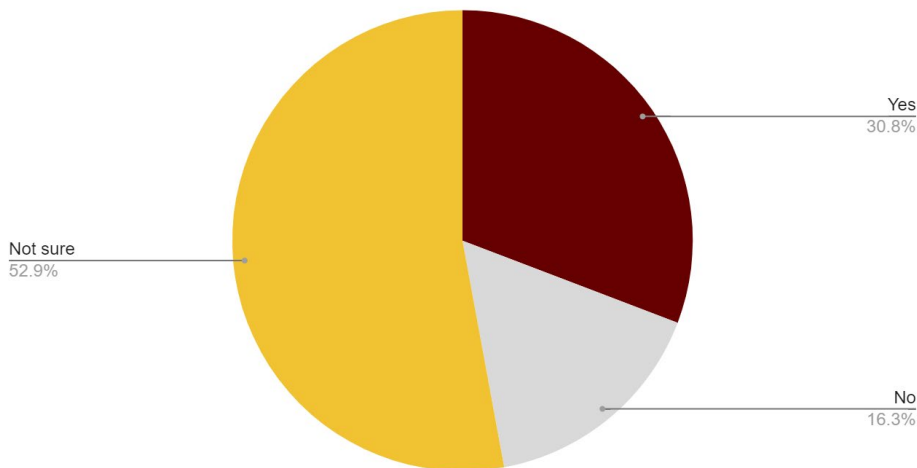
Use of sustainable production practices



Of the 104 respondents reporting on their sustainable production practices, most used mulch (97 or 93%) and crop rotation (85, or 82%). More than half (56, or 54%) used cover crops. Only about one third did soil testing (37, or 36%) to determine their nutrient requirements and 36 (35%) utilized attempts to reduce their tillage.

Reduction of inputs for garlic production

Has implementing these sustainable practices led to a reduction of inputs in proportion to the size of your production: 104 responses



Despite the large-scale utilization of sustainable agricultural practices, most notably cover cropping and crop rotation, it is less clear the degree to which these practices have resulted in reduced use of inputs. While 32 of the 104 respondents (31%) reported using fewer inputs, 55 (53%) were not sure and 17 (16%) reported NOT using fewer inputs. What is unclear, however, is the degree to which garlic producers were using inputs to begin with. Those using very few inputs might not report a decrease in input usage. Given this lack of information, the reporting that only 16% did not reduce input usage, and conversely 84% either reduced inputs or were not sure, can be considered a positive development as reducing input usage can both lower costs and reduce environmental impacts of production.

Summary

Garlic growers in Minnesota are primarily small-scale farmers that can sell in direct-to-consumer arrangements at prices that are higher than one would expect to see at retail stores. Most growers have increased their garlic production in recent years and there may continue to be limited opportunities to continue to do so and take advantage of high value niche markets. Some of these high value sales might include sales of seed garlic, which is typically larger and more expensive than culinary garlic. There are a small number of garlic growers that grow relatively large quantities and sell into larger markets indicating that this is a possible opening for expansion among garlic growers that are equipped to increase the scale of their production.