

Producer and Professional Precision Nutrient Management
Strategies Needs Assessment

Survey Summary

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PALOUSE CONSERVATION DISTRICT CONTRIBUTORS

Ryan Boylan and Elizabeth Sebo

ARROWLEAF CONSULTING CONTRIBUTORS

Soren Newman, Michelle Tynan, Alex Radakovich



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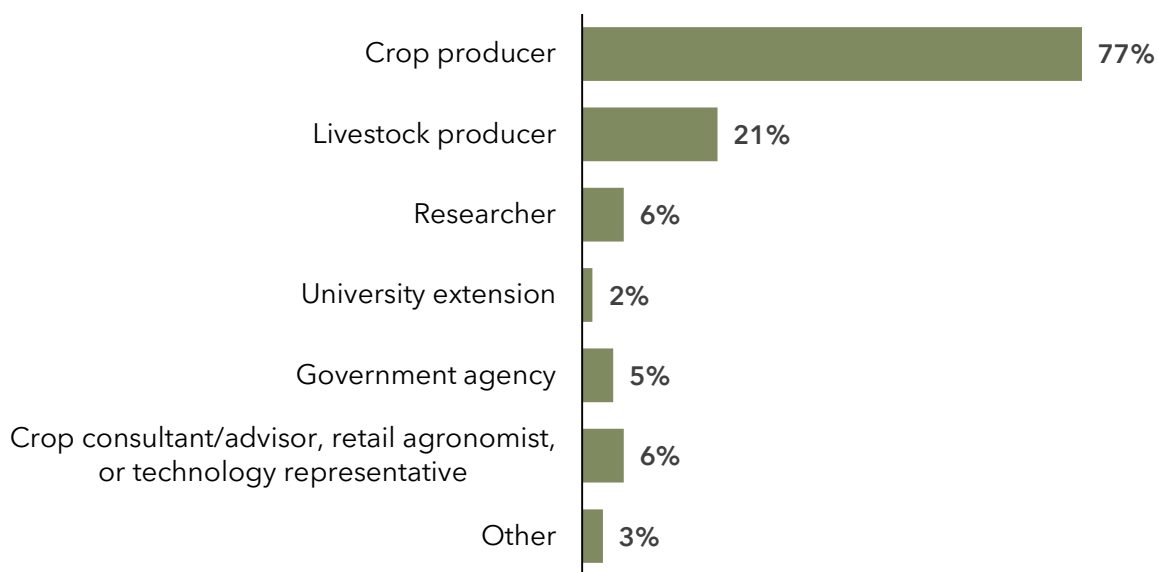
Introduction

From October 29, 2025, to January 1, 2026, Palouse Conservation District in partnership with Arrowleaf Consulting conducted a survey of agricultural producers and professionals in the region to better understand technical assistance needs and interests related to applying fertilizer and soil amendments, drones, soil testing, sap testing, and other precision nutrient management strategies. There were 62 respondents. This report summarizes the results.

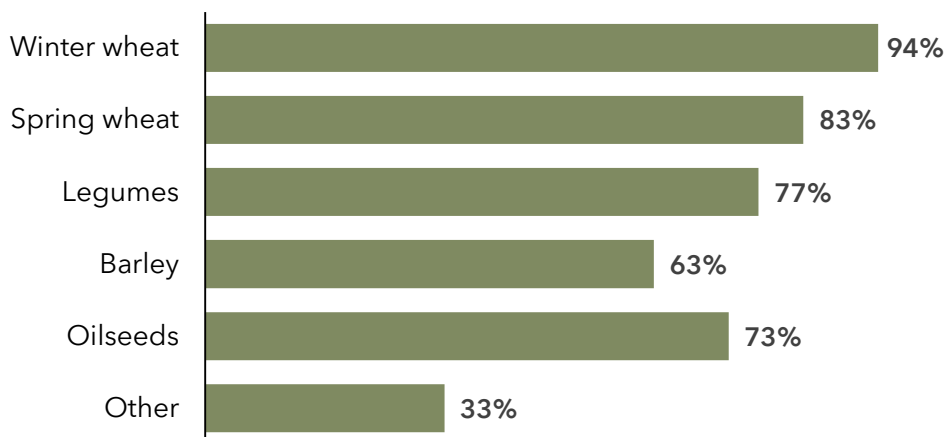
Results

Participant characteristics

Summary of survey participants' roles (they could select all that applied) (n=62)



Percentage of producer survey participants who grow select crops (n=48)

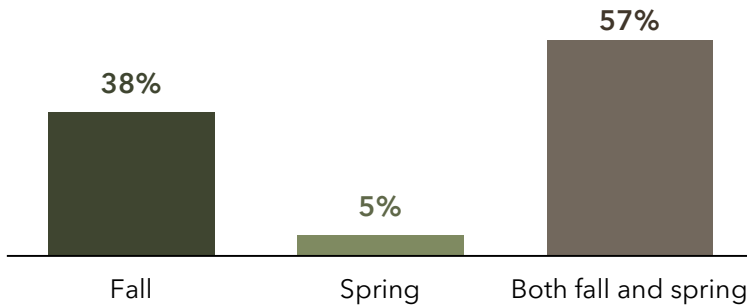


Other responses: Alfalfa (3), bluegrass (3), grass (1), hay (1), lavender (1), oats (4), sorghum (1), winter triticale (1).

Producers' fertilizing strategies

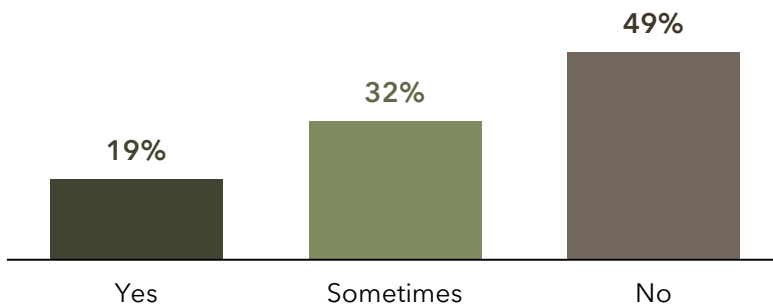
In a typical year, when do you fertilize winter wheat? (n=37)

This question was only asked of those who indicated they grow winter wheat.

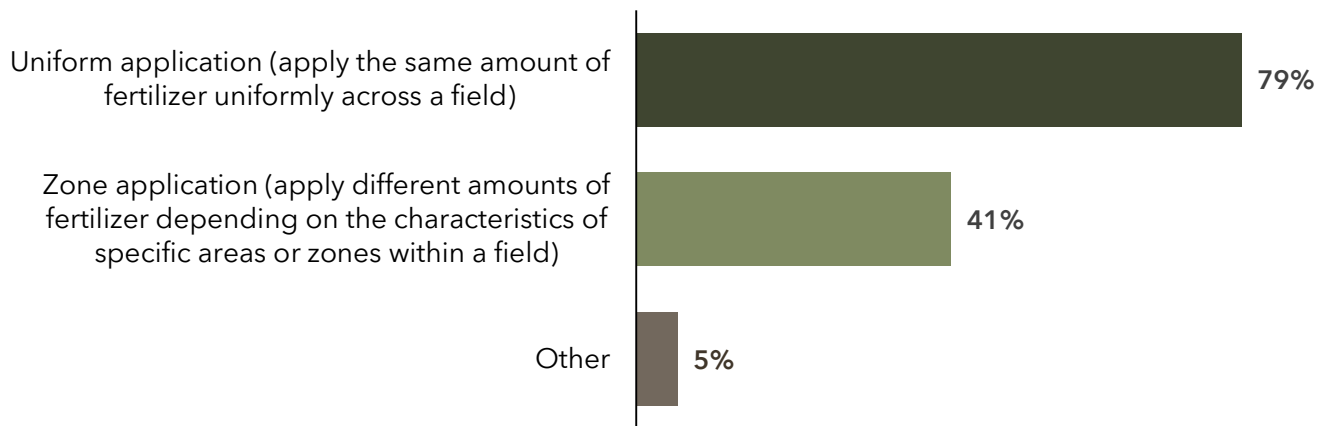


Do you top dress your winter wheat more than once during the growing season? (n=37)

This question was only asked of those who indicated they grow winter wheat.

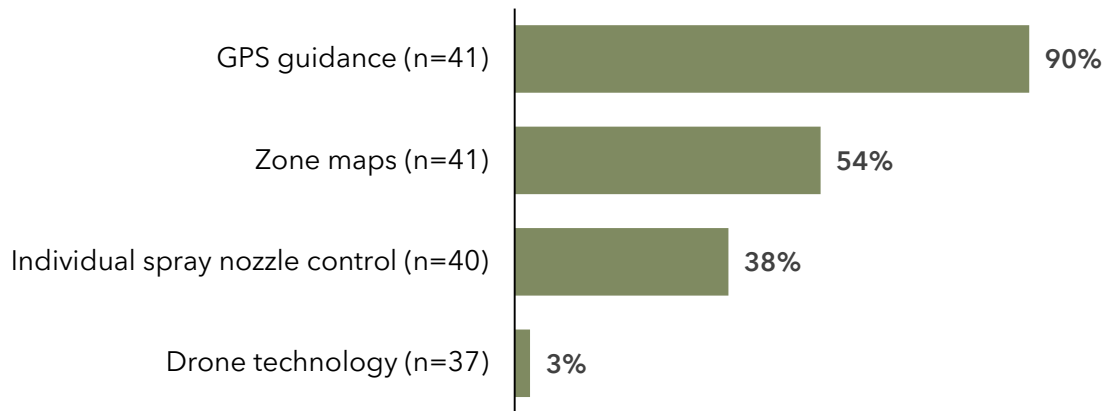


Do you use any of the following fertilizer application strategies? (n=38)

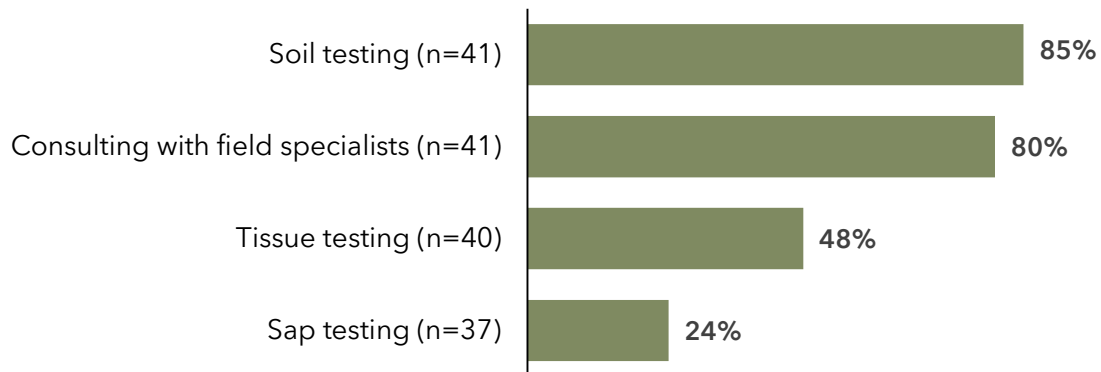


Other responses: Nitrogenase inhibitors, VR, We use to but it doesn't pay.

Do you use any of the following technologies when fertilizing?



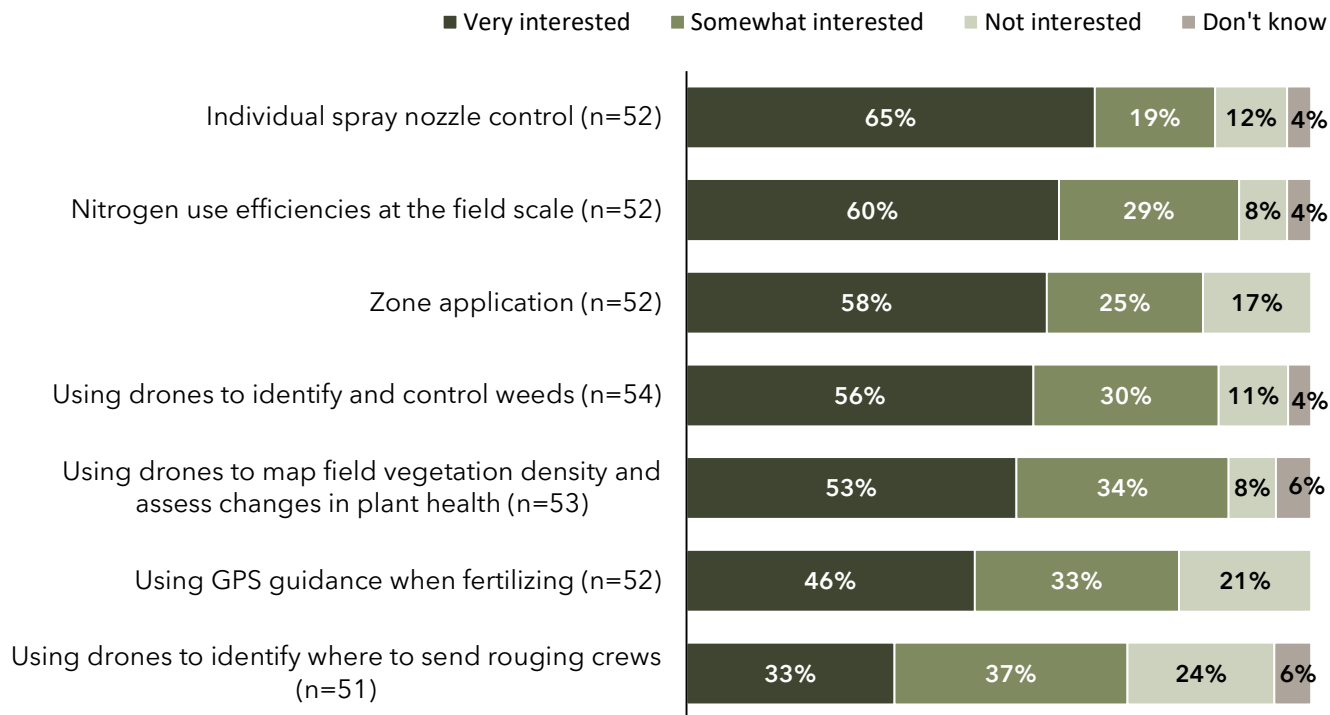
Do you use any of the following strategies to decide when and how to fertilize your crops?



Other responses: NutriScan, Primarily historical data of previous years.

Interest in precision agriculture topics

How interested are you in learning more about the following topics?

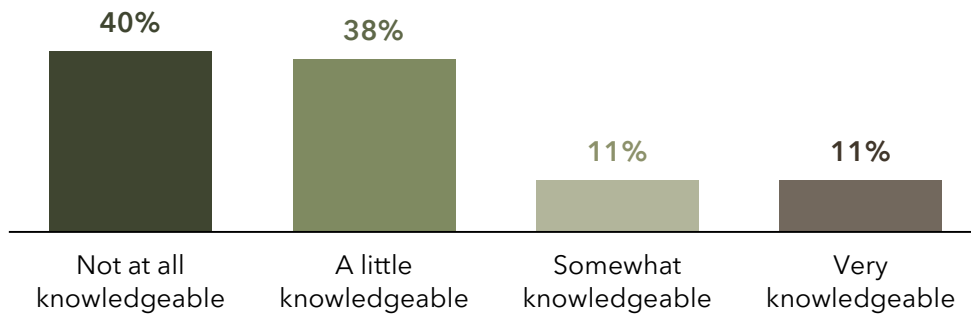


What precision and other agricultural topics do you (or your clients) want to learn more about?

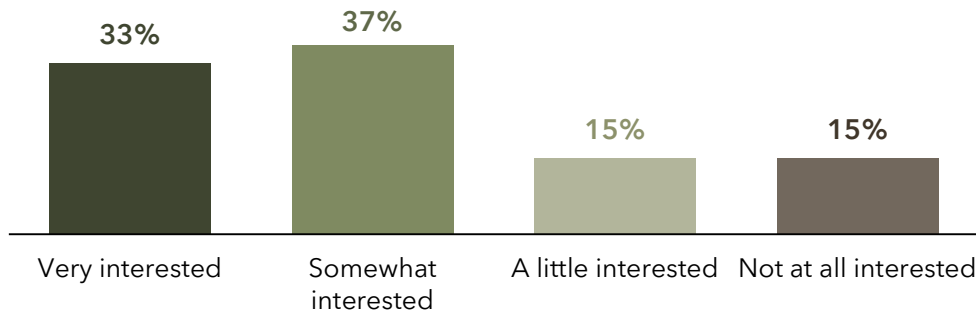
- Actually setting up field zoning not just talking about what it is, we have that figured out.
- Equipment selection, cost, and associated management of data
- Herbicide carry over in a Direct Seed environment.
- Hydro/aquaponics
- I've already did a lot of these things. So call me
- Need to think about that
- Nitrogen Stabilizers for full rate applications in the fall
- No till planting. Microorganism application. Micronutrients application. Soil health and long-term soil sustainability. Climate adaptations to new seed stocks.
- Prescription fertilization, micronutrient seed treatments vs in-furrow fertility.
- Programs to make the technology more accessible and affordable on a larger scale
- Return on Investment of all these topics for small farms.
- Road map to reduce all inputs using new science proven techniques while increasing yield output and soil health improvements.
- Soil sampling
- Tissue and sap testing. Split applications.
- Tissue sampling
- Variable rate seeding, pH management, use of imagery
- Weed-It spray systems, Drone spraying, Lime applications, Fertilizer Streaming vs Shankng

Sap testing

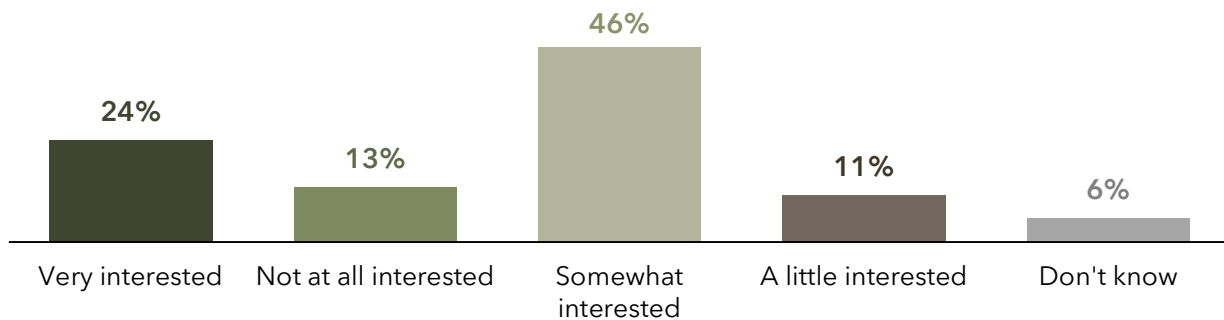
Overall, how knowledgeable are you about using sap testing to guide fertilizer application? (n=53)



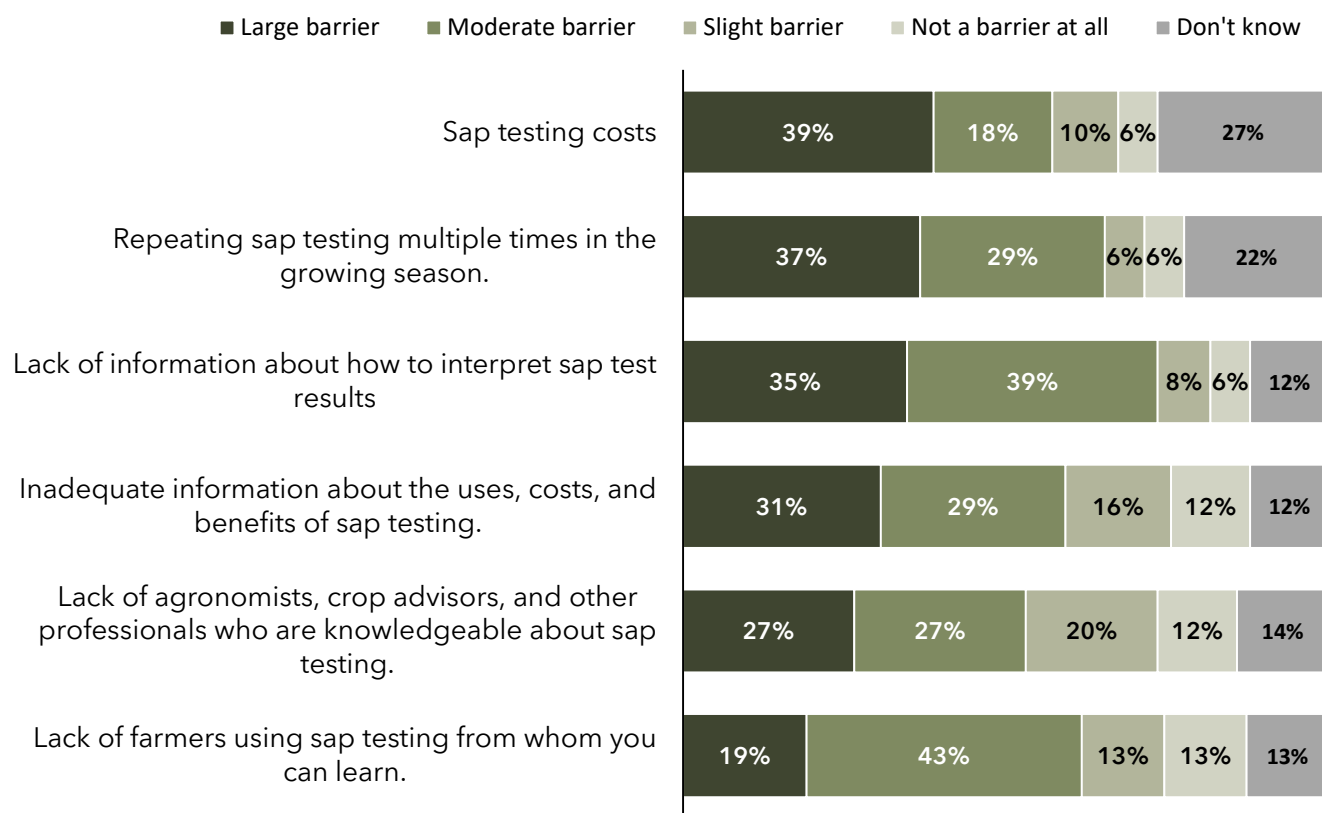
How interested are you in learning more about using sap testing to guide fertilizer application? (n=54)



How interested are you in using sap testing to guide fertilizer application? (n=54)



How much of a barrier are the following factors when it comes to using sap testing to guide fertilizer application in the Palouse region? (n=49)



Do you have any other barriers or concerns when it comes to using sap testing to guide fertilizer application?

- After using technology like the NutriScan and getting immediate results in the field that we can use to make instant decisions, I have a difficult time going to the SAP Test which I believe takes some time to send off to the lab and get returned.
- Cost share availability
- Don't know enough about it
- Healthy skepticism that it actually is measuring something of value
- I don't think Palouse farmers are willing to give up nitrogen fertilizer and fungicide.
- It has to have a Return on Investment over the cost 90% of the time.
- Lack of availability locally
- Not interested.
- Sampling consistency is a concern, especially trying to scale up testing where you would take quite a few.
- SAP lacks a baseline dataset of what is ideal for our annual crops. Tissue tests are cheaper, easier, faster, more accurate. The new real-time spectral guns will obsolete tissue and saps.
- Slow results turn around. By the time the results are returned then you need to source the product it can be 10-14 days to apply. Plant has already expressed the deficiencies and harder to reverse the damage.

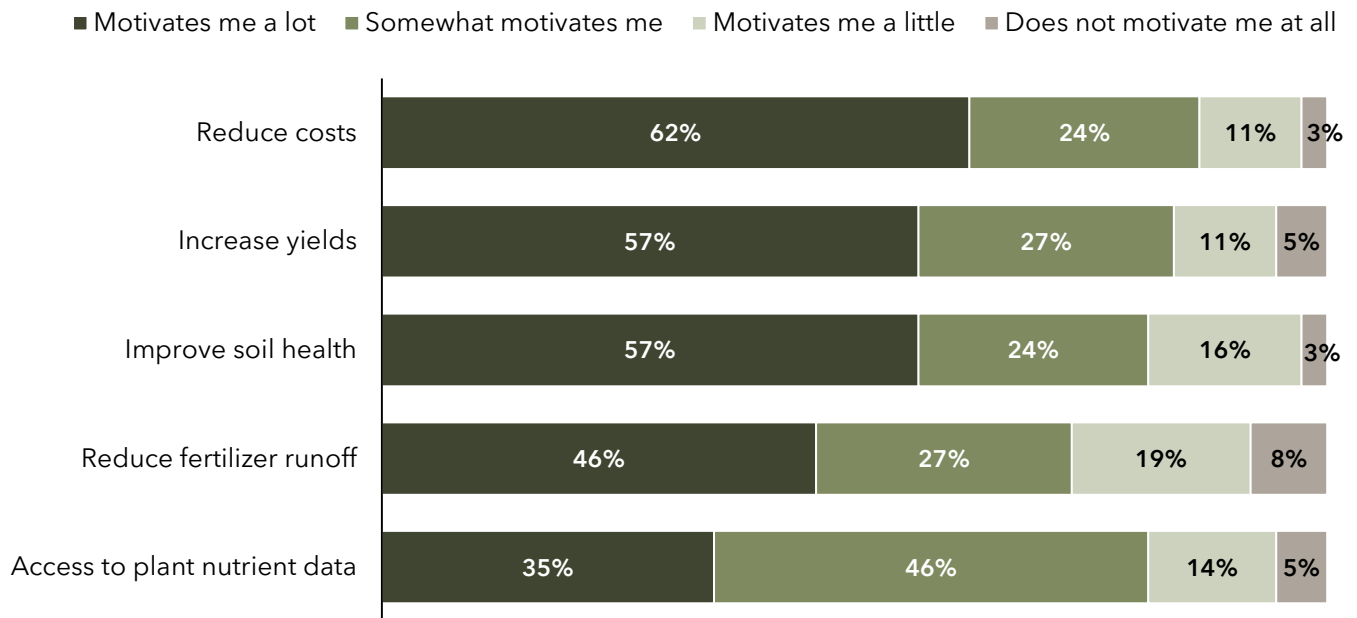
- Standardized testing that everyone uses. Explaining how different plant varieties uptake fertilizer.
- The cost of the test, as well as the cost of multiple applications of spoon-feeding nitrogen and nutrients
- There is no recommended baseline for an ideal wheat plant
- Time lag in getting sap test results has been a big problem for me.
- We can barely make money as it is. We don't have any extra to spend learning new techniques, such as sap testing.

What questions do you have about sap testing?

- Don't know enough about it
- Focus on real-time hand-held tissue test guns. You can test the plant several different ways. Total tissue or old growth to new growth tissue and get similar results to sap without the wait.
- How new and how accurate is sap testing. Will it help increase yields? Costs. Can a producer test sap himself?
- I am mostly unsure about how consistently we can identify and correct deficiencies in the crop that affect yield and quality
- I don't think you know the people to educate me.
- I would like to know how and where we have to send tests and how often
- Is it realistic for my farm where a field will have clay ridges and good bottom ground?
- Just general knowledge and costs
- Need help understanding results.
- Needs more testing. Is it consistent, does it change with the day. What does it tell you that an upper and lower leaf tissue test won't already tell you?
- Never heard of it until this survey
- SAP has been an invaluable tool for my farm!
- Scientifically sound research showing benefits and cost-effectiveness
- Why is SAP testing a better option than technology such as the NutriScan?

To what extent do the following potential benefits motivate your interest in using sap testing to guide fertilizer application? (n=37)

This question was displayed only to respondents that indicated they are a crop or livestock producer.



Other responses: Improved Nitrogen Use Efficiency, To raise the highest milling quality wheat possible.