Nebraska Soybean Board
FINAL Research Report Form

1/6/2022, 1:39:10 pm

Note: Submit this report no later than 90 days after the NSB-funded project officially terminates.
This post-project 90-day time-frame will allow the Lead PI time to complete any final data analysis and a final technical report, plus the drafting of any articles for submission to scientific journals. Note that this completed report will be provided to the National Soybean Checkoff Research Database, (soybeanresearchdata.com).

Project # and Title: #1718: Nebraska Extension On-Farm Research Initiative

Principal Investigator: Laura Thompson

Co-PI's & Institutions: Aaron Nygren and Nathan Mueller, Nebraska Extension, University of Nebraska - Lincoln

Project Date (Including Extension): 10/01/2020 ***to*** 09/30/2021 ***(For example: mm/dd/yyyy to mm/dd/yyyy)***

Total Budget for Project: $ 34,100.00

1. Briefly State the Rational for the Research:

The goal of the NOFRN is to provide a state-wide venue by which farmers, crop consultants, government employees, university faculty, and other ag professionals can interact and engage in transformational research to support productive, profitable, and sustainable soybean production. The Nebraska On-Farm Research Network (NOFRN) has been a valuable program to provide transformational learning opportunities for farmers and ag professionals. Additionally NOFRN provides an avenue by which research faculty can engage with farmers to develop research that is relevant in a "real-world" setting. This project builds on the success of the NOFRN, dating back to 1989. This project continues the impactful collaboration initiative among the Nebraska Soybean Board, Nebraska Corn Board, Nebraska Corn Growers Association, Nebraska Dry Bean Commission, and UNL Extension to enable farm research success by using contemporary technologies, tools, and a learning network. The NOFRN is recognized nationally and internationally as a leader in on-farm research. Continued investment in this program enables a sustained positive trajectory of growth and impact that meets the needs of producers today and in the future.

2. Research Objectives: (copy from project, but keep in a brief bullet format)

1. Soybean (and corn) producers will focus on on-farm research primarily on priorities identified by Nebraska Soybean Board and Nebraska Corn Board to enhance knowledge, implementation, and profitability of these practices. This proposal has potential to address objectives of research on SCN, SDS, insect control, disease control, and fertility management including in-season nitrogen applications (Nebraska Soybean Board priority areas), as well as additional topics. The Nebraska On-Farm Research Network will facilitate, coordinate, and publicize extension specialist and educator efforts related to these research topics across the state.
2. Soybean (and corn) producers will learn to conduct on-farm research more efficiently and prolifically using contemporary precision agriculture technologies, implementation strategies, and data management practices.
3. Soybean (and corn) producers will embrace an interactive professional learning network that facilitates a co-learning environment focused on applied research that contributes to a systems approach to solving agronomic issues at the grass-roots level whereby on-farm research becomes an important, timely, powerful part of soybean (and corn) production solutions.
4. Soybean (and corn) producers will benefit from a unified, collaborative applied research model supported by the Nebraska Soybean Board, Nebraska Corn Board, Nebraska Corn Growers Association, and Nebraska Extension.

3. General Approach Used and (if applicable) the Nebraska Test Locations:

The location of the project is statewide in Nebraska. In 2020, despite COVID restrictions, 89 research studies were conducted on farms across Nebraska, demonstrating the resiliency of this farmer-centric approach to translational research.
The general approach of the NOFRN includes:
1. Develop timely and practical on-farm research protocols, many of which address NSB initiatives.
2. Encourage farmer and crop advisor participation in the program through a variety of recruitment initiatives throughout the year, including:
 -CropWatch articles
 -Email newsletter, newspaper, and winter meetings
 -Social media (Facebook, Twitter)
 -YouTube videos
 -Radio interviews
3. Conduct studies and collect measurements including imagery (drone, airplane, and satellite), time lapse camera pictures, stand counts, other relevant plant measurements, soil tests, and geospatial yield data. Ag technologies are leveraged to make conducting on-farm research simpler for growers, enable innovative experimental designs, gather additional insights, and gain site-specific knowledge of the within-field response to treatments studied.
4. Process and analyze data and review the data analysis in a UNL faculty review day held each December.
5. Generate summary reports for each study and disseminate research findings through a wide variety of venues including popular press, social media, in-person, extension publications, online publications, and scientific journals. More information about research result dissemination is in later sections of this report.

4. Describe Deliverables & Significance Attained for Each Research Objective:

In 2020, 89 on-farm research studies were conducted in Nebraska counties. Data collection and processing of 2021 on-farm research studies is ongoing; it is estimated that over 100 studies will again be successfully completed, analyzed, and reported. Topics include cover crops, seeding rate, seeding date, relative maturity groups, growth promoters, fungicide and insecticide foliar applications, in-furrow fungicides, seed treatments for sudden death syndrome, row spacing, and more. Those participating in the on-farm research network were able to work with Extension Educators to gain the skills to conduct research on their own farms. Numerous collaborations with multi-state efforts, UNL researchers, UNL teaching faculty, and Nebraska NRCS result in high quality work and an expanded program reach. In response to COVID restrictions, the results of the 2020 studies were shared in a hybrid approach to the Annual Results Update Meetings with 14 simultaneous small group locations and an online option held in Feb. 2021. Through these meetings:

-85% learned new information about how to set up an on-farm research plot
-81% had a better understanding of cover crop management as a result of the programming
-98% learned new information about crop production practices
-87% learned new information about available ag technologies
-94% have a better understanding of how ag technologies can be used to conduct on-farm research
-87% noted they use or plan to use the "results finder" database to review research information

Those attending the annual results meetings in February 2021 represented over 1 million row crop acres. The value of the knowledge gained in anticipated practice changes averaged $6.00/acre, resulting in a total program value of $6 million.

Attendees identified areas they planned to change based on information at the meetings. The most common responses were:
(1) Having confidence to reduce soybean planting population
(2) Planting soybeans earlier
(3) Improve N management (adjust rate and/or timing, utilize sensor technology, more N through the pivot)
(4) Implement cover crops and better understand cover crop management
(5) Better understand how digital technology can help with conducting on-farm research.

Selected attendees comments:
"Given the pandemic, I was pleased to be at an in-person meeting, but appreciated the hybrid option for those not able to come."
"The presenters did an excellent job with adapting for online viewers. I was glad to be able to participate remotely."
"I liked talking to other producers about their research projects."
"There were an excellent selection of speakers and topics tailored to my area."
"I was really interested in the planting speed trial, as well as the soybean benchmarking trails. I think both of these could play a part in how our operation moves forward in the future."

This is a unique program as the farmers participating in the research play a large role in delivering the research information. This is well received by the other farmers in attendance and is often a highlight for attendees. Research has shown this method of delivery has high impact and we are proud to offer a venue that delivers information in this unique way.

4. Describe Deliverables & Significance Attained for Each Research Objective (continued)

This year we launched a free, web-based statistics tool, "Farm Stat" which allows anyone to analyze their own on-farm research results and obtain straightforward interpretations (https://cropwatch.unl.edu/farmstat-welcome). This supports our mission to provide the tools needed by farmers and agronomists to conduct relevant, reliable research on their own farms.

The on-farm research network also seeks to both make use of precision ag technologies for conducting on-farm research and also educate farmers and agronomists about these technologies. To this end, we continue to develop online training courses for leveraging digital technologies to conduct on-farm research. Current courses (https://digitalag.teachable.com/courses/category/digital%20ag) are available for CCA credits. A new module was developed this year. We plan to re-launch the existing course and the new module in a new content delivery platform in FY22. These modules demonstrate how precision ag technology can be utilized to develop research plot prescriptions which can then be implemented with the farmer's equipment. Yield data can be extracted and analyzed spatially across the field to determine site-specific management strategies.

We continued the successful "Mini Virtual Field Day Friday" videos. Three videos were produced to share updates about on-farm research projects going on around the state. All past mini virtual field day videos are archived here: https://on-farm-research.unl.edu/virtual-field-days

An objective of the on-farm research network is to establish partnerships with others interested in conducting and using on-farm research data. To this end, numerous research collaborations with multi-state efforts, UNL researchers, UNL teaching faculty, and the NRCS, resulted in high quality work and expanded program reach.
-A continued collaborative effort is with the manure and mulch management project which was initiated through support from NET. This group, led by Amy Schmidt, is conducting on-farm research on implementation of manure and mulch, and developing resources for conducting on-farm research related to manure.
-Another continued collaborative effort is with the USDA-Natural Resource Conservation Service (NRCS). The NRCS developed a 5-year proposal to establish 12 soil health demonstration farms. The NOFRN assisted with development of the demonstration farm protocols, and research result dissemination.
-Another continued collaborative effort is with Humberto Blanco, an Associate Professor of Soil Management and Applied Soil Physics. The NOFRN partnered with Dr. Blanco to identify on-farm research sites and farmer collaborators for cover crop research.
-The NOFRN also partners with NCSRP projects, such as the Soybean Benchmarking project, to participate in regional on-farm research efforts.

5. List where the Project Research Results/Findings were Publicized:

1. Through a new partnership with the UNL Crop Production Clinics, Extension Educators participating in the NOFRN gave presentations about their local on-farm research results at 9 hybrid format meetings in January.
2. Results of 2020 studies were shared at the Results Update Meetings in Feb. 2021 at 14 locations and online.
3. The 2020 growing season results were published as a peer reviewed extension circular. This year, the online version has enhanced features including links to videos to see more about the study. The publication Thompson et al., 2020. Nebraska On-Farm Research Network: 2020 Growing Season Results (pp. 203). Lincoln, Nebraska: Nebraska Extension is available at: https://on-farm-research.unl.edu/pdfs/research/result-publications/2020research-results.pdf
4. Research reports are available in our interactive online database: http://resultsfinder.unl.edu/ During FY2021, there were over 2,500 page views of research studies on this site.
5. Numerous CropWatch articles were published to share results of on-farm research. Additionally CropWatch authors are using the Results Finder to synthesize local on-farm research data to include in their articles. CropWatch articles include:
   a) Using Aerial Imagery to Help Determine the Impact of Cover Crops on Cash Crop Growth and Development; b) Assessing Cover Crop Biomass Using Aerial Imagery; c) Interested in Testing Nitrogen Stablilizers on Your Farm?; d) Growers Statewide to Share On-Farm Research via In Person and Online Events; e) Effects and Economics of Grazing Cover Crops in a Three-Year Non-Irrigated Rotation; f) Nebraska On-Farm Research Network Publishes Results and Videos of 2020 Farmer-Conducted Research Online; g) Starter Fertilizer - When is it Needed?; h) Interseeding Cover Crops into Corn and Soybean: What We've Learned; i) Results from Interseeding Cover Crops into Corn or Soybean; j) Refine your Wheat Nitrogen Management through On-Farm Research
6. Consistent with objectives to be a national leader in on-farm research, numerous national level publications and presentations have raised the national prominence of the NOFRN and disseminated research results to extension and researcher professionals.
   a) Thompson, L. (Presenter & Author), Weed Science Society Annual Meeting, Virtual, "The Nebraska On-Farm Research Network: Innovative and Impactful Work During COVID and Beyond", Extension, Conference. (December 2, 2020).
   b) Thompson, L. (Presenter), Cornell University On-Farm Group, Virtual, "Data to Decisions: Experiences, guidelines, and technologies for establishing and maintaining a successful and innovative extension on-farm research program", Extension, Meeting (November 19, 2020).
   c) Thompson, L. (Presenter), Nemaha County Young Leaders Program, Auburn, NE, "The Nebraska On-Farm Research Network" (September 14, 2020).
7. Additionally, Thompson completed several interviews about the Nebraska On-Farm Research Network with the FarmBits Podcast, RFD TV, PureNebraska, Brownfield Ag Network, and contributed to an article in SoybeanNebraska.

Note: The above boxes will automatically accomodate for your text inputs; HOWEVER, the Final Report comprised of the above listed items must be kept to THREE PAGES. A Technical Report of no more than TEN PAGES (preferably fewer) can be appended to this report.

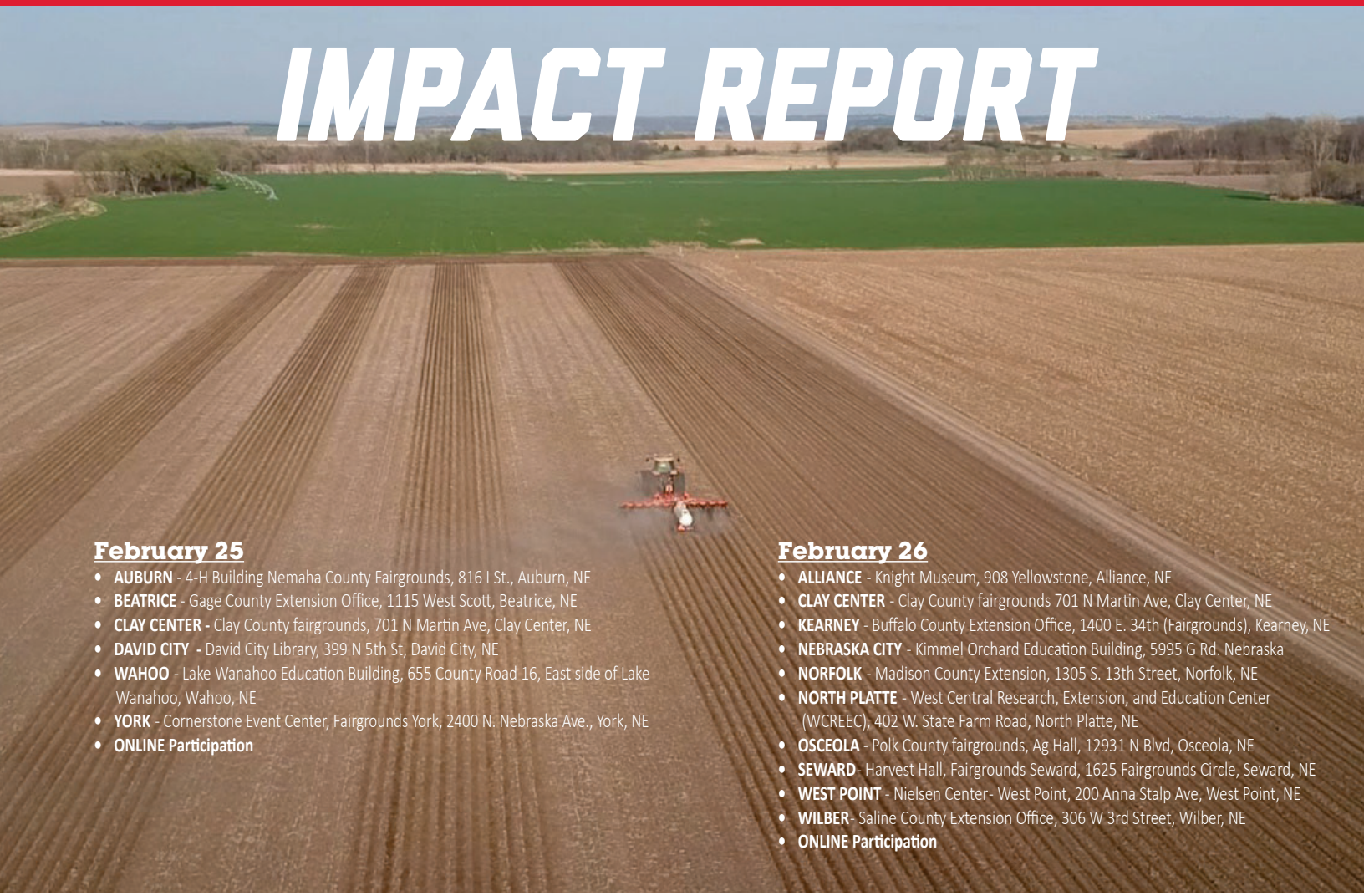
Submit both reports as a single PDF with this file name format: #XXX > FINAL > Project Title > PI last name

Please email this completed form to the Agriculture Research Division (jmcmahon10@unl.edu) based on the reporting schedule given to you. If you have any questions, please call Jen McMahon at the ARD at 2-7082.

EXTENSION
On-Farm Research

NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update



IMPACT REPORT

February 25

- **AUBURN** - 4-H Building Nemaha County Fairgrounds, 816 I St., Auburn, NE
- **BEATRICE** - Gage County Extension Office, 1115 West Scott, Beatrice, NE
- **CLAY CENTER -** Clay County fairgrounds, 701 N Martin Ave, Clay Center, NE
- **DAVID CITY -** David City Library, 399 N 5th St, David City, NE
- **WAHOO** - Lake Wanahoo Education Building, 655 County Road 16, East side of Lake Wanahoo, Wahoo, NE
- **YORK** - Cornerstone Event Center, Fairgrounds York, 2400 N. Nebraska Ave., York, NE
- **ONLINE Participation**

February 26

- **ALLIANCE** - Knight Museum, 908 Yellowstone, Alliance, NE
- **CLAY CENTER** - Clay County fairgrounds 701 N Martin Ave, Clay Center, NE
- **KEARNEY** - Buffalo County Extension Office, 1400 E. 34th (Fairgrounds), Kearney, NE
- **NEBRASKA CITY** - Kimmel Orchard Education Building, 5995 G Rd. Nebraska
- **NORFOLK** - Madison County Extension, 1305 S. 13th Street, Norfolk, NE
- **NORTH PLATTE** - West Central Research, Extension, and Education Center (WCREEC), 402 W. State Farm Road, North Platte, NE
- **OSCEOLA** - Polk County fairgrounds, Ag Hall, 12931 N Blvd, Osceola, NE
- **SEWARD** - Harvest Hall, Fairgrounds Seward, 1625 Fairgrounds Circle, Seward, NE
- **WEST POINT** - Nielsen Center- West Point, 200 Anna Stalp Ave, West Point, NE
- **WILBER** - Saline County Extension Office, 306 W 3rd Street, Wilber, NE
- **ONLINE Participation**

Interested in learning more about the Nebraska On-Farm Research Network?

- Nebraska Extension, 402-245-2224
- Nebraska Corn Board, 402-471-2676
- Nebraska Corn Growers Association, 402-438-6459
- Nebraska Dry Bean Commission, 308-632-1258
- Nebraska Soybean Checkoff 402-441-3240

Web: cropwatch.unl.edu/farmresearch

Facebook: Nebraska On-Farm Research Network

Twitter: NE On-Farm Research

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Nebraska Corn Board

Nebraska Corn Growers Association

In Partnership with:

NEBRASKA Soybean Checkoff

Nebraska Dry Bean Commission

University of Nebraska Lincoln

NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

IMPACT REPORT

February 25

AUBURN • BEATRICE • CLAY CENTER • DAVID CITY • WAHOO • YORK • ONLINE

February 26

ALLIANCE • CLAY CENTER • KEARNEY • NEBRASKA CITY • NORFOLK

NORTH PLATTE • OSCEOLA • SEWARD • WEST POINT • WILBER • ONLINE

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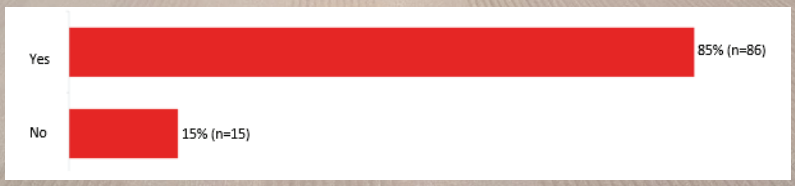
NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

Registrants: 300

Evaluations returned: 38-103

First-time attendees: 15 ***(15% of attendees)***



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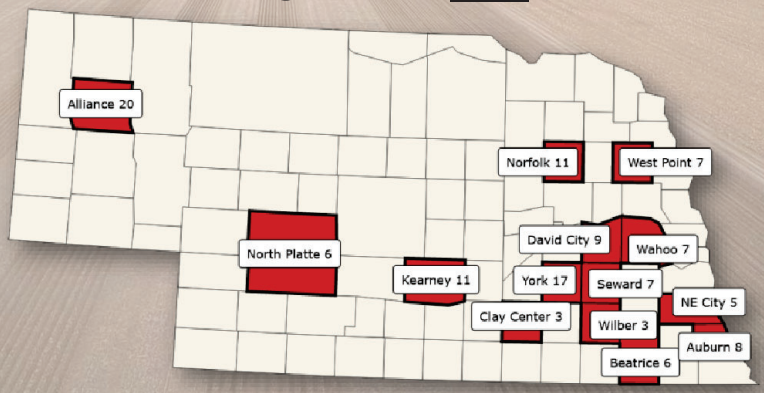
NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

In Person Registrants: 120

Online Registrants: 178



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NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

Attendee Representation

- **117** Nebraska towns and cities
- **56** Nebraska counties
- **11** States and 1 Other Country Represented

(CO, IA, KS, MN, MO, MS, NE, NY, OR, SD, and WI and Tel Aviv)

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NEBRASKA ON-FARM RESEARCH NETWORK

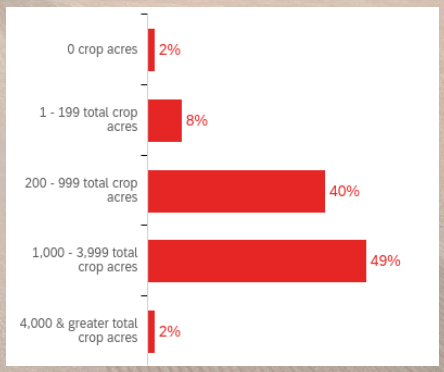
2021 Annual Results Update

100,071

Total *PRODUCER* acres farmed or managed

Figures are based on the 65 PRODUCERS who responded to this question.

* Please note that in some instances, the totals in the percentage column may be +/- 1% due to automated rounding up or rounding down.



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NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

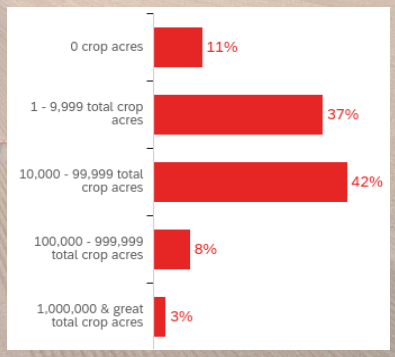
935,997

Total *ADVISOR/MANAGER* acres farmed or managed

Figures are based on the 38 ADVISORS/MANAGERS who responded to this question.

Actual acres reported by ADVISORS/EMPLOYEES totaled 2,807,991. The final figure assumes the likelihood of three-fold duplication of acres due to the same acres being reported by multiple registrants and/or field days.

* Please note that in some instances, the totals in the percentage column may be +/- 1% due to automated rounding up or rounding down.



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NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

- Total acres represented: **1,036,068** total acres
- Estimated $ per acre value (average): **$5.84** per acre
- Total value - acres × $ per acre: **$6,045,509**

- Total value was determined by multiplying the total acres managed by PRODUCERS by the average $ impact reported at each site . Actual acres reported by CONSULTANTS/AGRIBUSINESS/AGENCY assumed the likelihood of three-fold duplication of acres due to the same acres being reported by multiple registrants and/or field days. So CONSULTANTS/AGRIBUSINESS/AGENCY were divided by 3 and then multiplied by the $5.84 average value figure. The total value of the program is the sum of the PRODUCERS and CONSULTANTS/AGRIBUSINESS/AGENCY acre/dollar impact.
- The above figures are based on the noting they were 65 producers, 38 noting they were advisors, and 97 responding to the $ value– so these are conservative figures.

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NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

Total estimated value of knowledge gained and/or anticipated practice changes:

PRODUCER Value: $583,919

Total value was determined by multiplying the total acres managed by PRODUCERS by the average $ impact reported at each site.

ADVISOR/EMPLOYEE Value:

$5,461,590

- Actual acres reported by CONSULTANTS/AGRIBUSINESS/AGENCY assumed the likelihood of three-fold duplication of acres due to the same acres being reported by multiple registrants and/or field days. So CONSULTANTS/AGRIBUSINESS/AGENCY were divided by 3 and then multiplied by the $5.84 average value figure.

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2021 Annual Results Update

What is one thing you learned today that you will use to make a change in your operation? (sampling of responses)

- Having confidence to lower soybean seeding rates
- Look at more N through pivots. Maybe sensor use some day
- Time of cover crop planting
- I was really interested in the planting speed trial, as well as the soybean benchmarking trials. I think both of these could play a part in how our operation moves forward in the future.
- I will look more into different nitrogen management strategies.
- The use of digital technology to perform/help with on farm research

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2021 Annual Results Update

What did you like best about today's educational experience? (sampling of responses)

- Talking to other producers about their research projects
- Reliable, objective information
- Given the pandemic I was pleased to be at an in-person meeting, but appreciated the hybrid option for those not able to come
- Not selling anything, farmers doing the plots on their farms
- The presenters did an excellent job with adapting for online viewers. I was glad to be able to participate remotely.
- I enjoyed the opportunity to communicate with Nebraska Extension Educators
- The talks about pushing the boundaries with technology.
- Opportunities to see more in depth videos
- Excellent selection of speakers and topics tailored to my area
- Lots of different topics good pace

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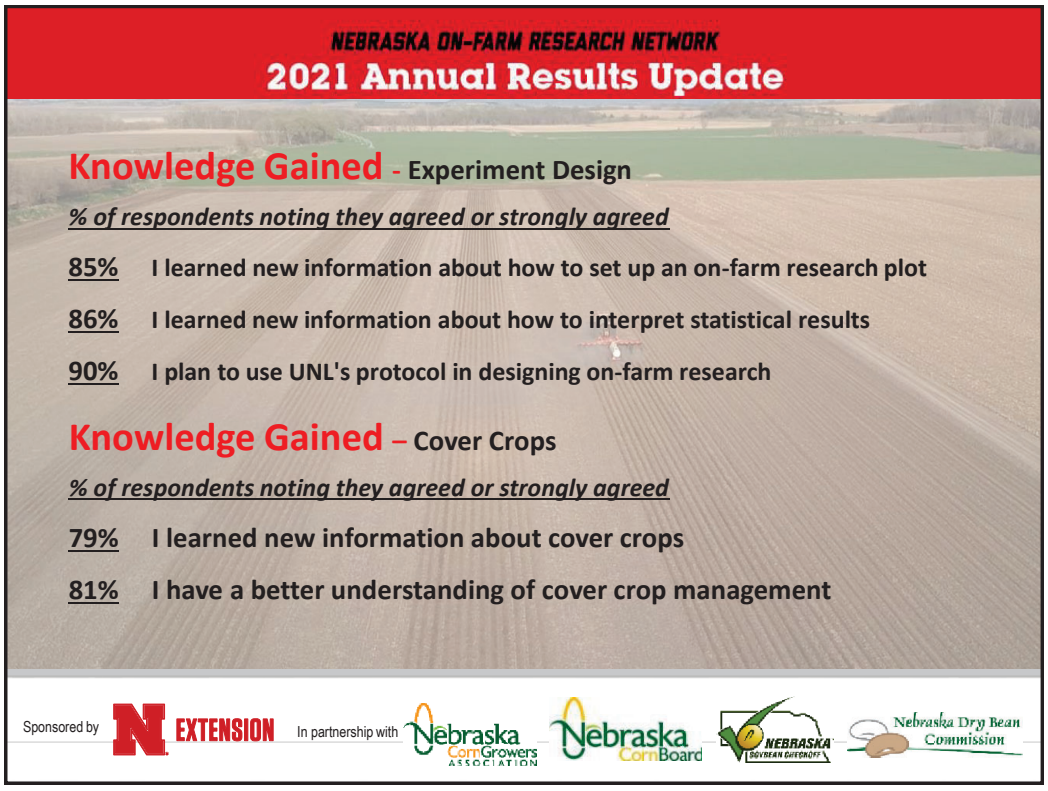
NEBRASKA ON-FARM RESEARCH NETWORK
2021 Annual Results Update
Knowledge Gained - Experiment Design
% of respondents noting they agreed or strongly agreed
85% I learned new information about how to set up an on-farm research plot
86% I learned new information about how to interpret statistical results
90% I plan to use UNL's protocol in designing on-farm research
Knowledge Gained – Cover Crops
% of respondents noting they agreed or strongly agreed
79% I learned new information about cover crops
81% I have a better understanding of cover crop management
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Knowledge Gained – Crop Production
% of respondents noting they agreed or strongly agreed
98% I learned new information about crop production practices
80% I intend to make changes to my planting population
Knowledge Gained – Fertility and Soil Management
% of respondents noting they agreed or strongly agreed
90% I learned new information about in-season N management
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Knowledge Gained – Technology

% of respondents noting they agreed or strongly agreed

87% I learned new information about available ag technologies (sensors, drones, planting prescriptions, etc.)

94% I have a better understanding of how ag technologies can be used to conduct on-farm research

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NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

96% noted the *relevancy of topics* was good to excellent

79% noted the *networking opportunities* were good to excellent

92% noted the *CCA credit opportunities* were good to excellent

90% noted they may or will *make/recommend changes to their operation* as a result of the information presented

87% noted they planned to use or already had used *the NOFRN "results finder" database* to view research summaries

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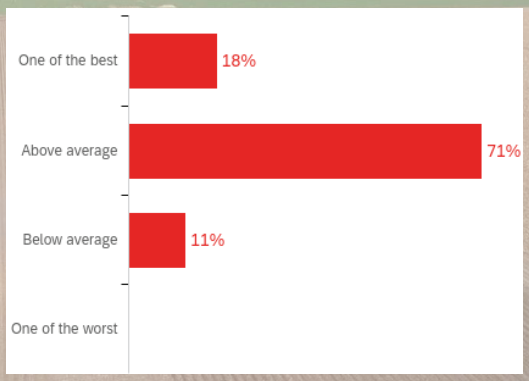
NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

When comparing this program to other educational opportunities, 89% rated it one of the best or above average



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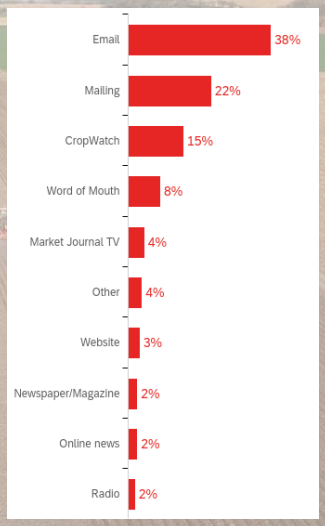
NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

How participants found out about the program. Top selections were:

- **E-mail**
- **Mailing**
- **Cropwatch**



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NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

IMPACT REPORT

For more information:

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Nebraska Corn Board, 402-471-2676

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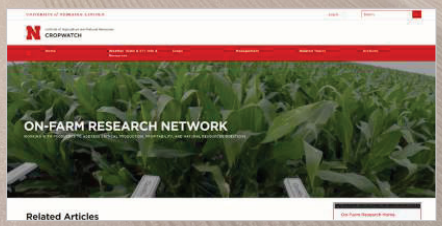
NEBRASKA ON-FARM RESEARCH NETWORK

2021 Annual Results Update

Learn more and stay up to date:

- **On the web - cropwatch.unl.edu/farmresearch**
- **Facebook - facebook.com/Nebraska-On-Farm-Research-Network**
- **Twitter - @OnFarmResearch**



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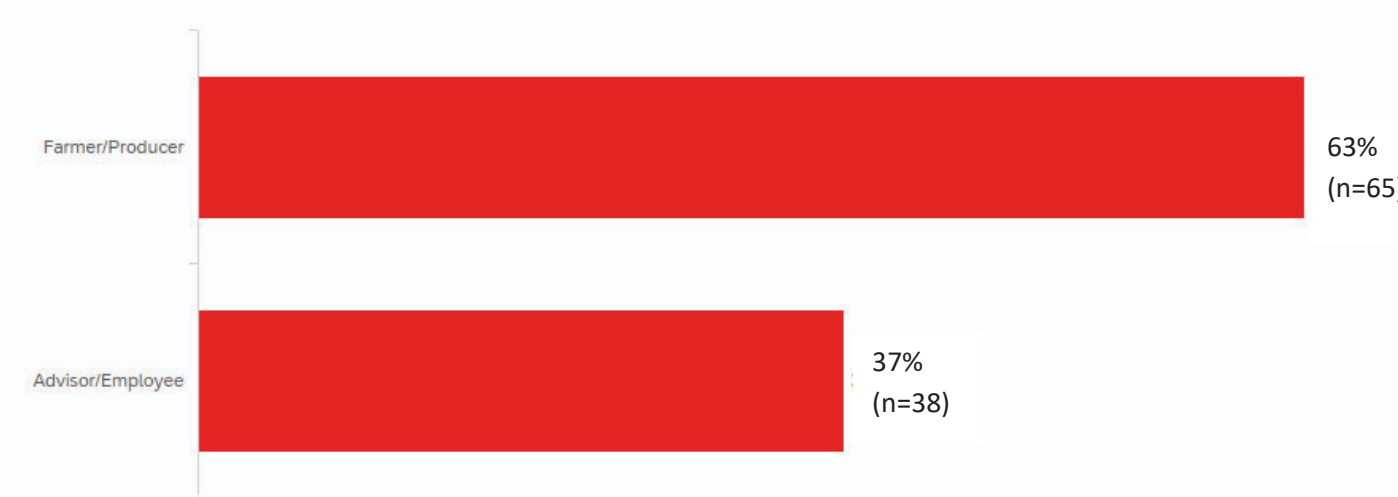
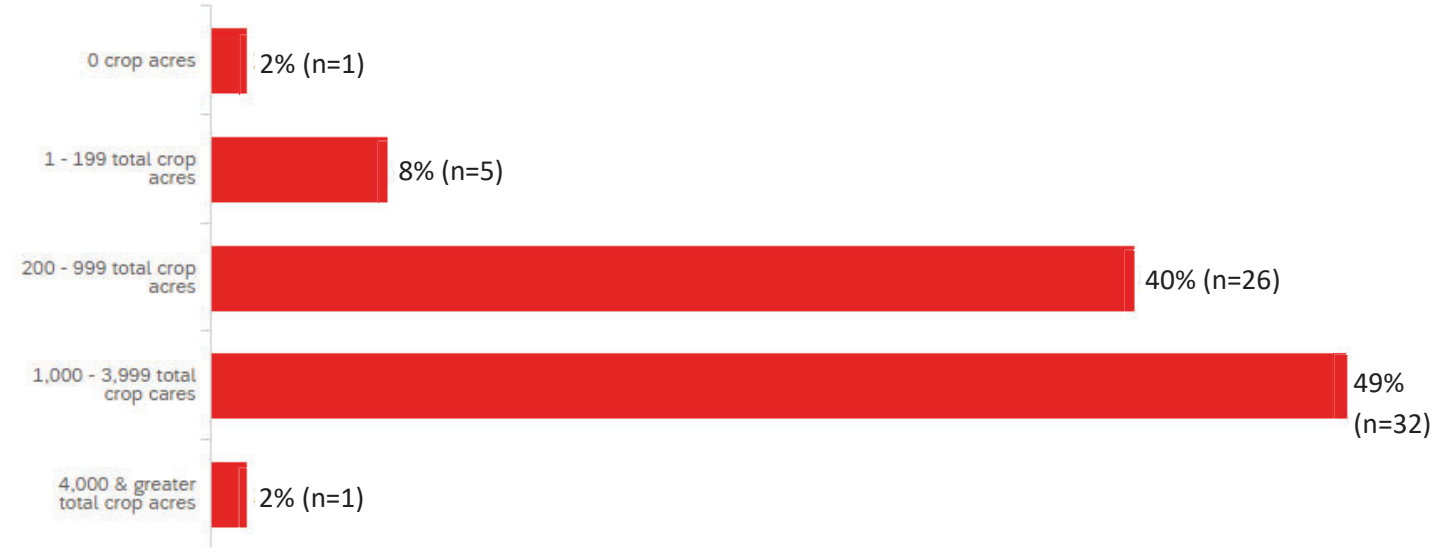
EXTENSION On-Farm Research	Year:	**2021**
	Program:	***Nebraska On-Farm Research Network***
		Research Update
	Sessions:	**ALL SITES IN-PERSON/VIRTUAL ATTENDANCE**
	# of Participants:	**300**

What is your main role in agricultural production? (n=103)



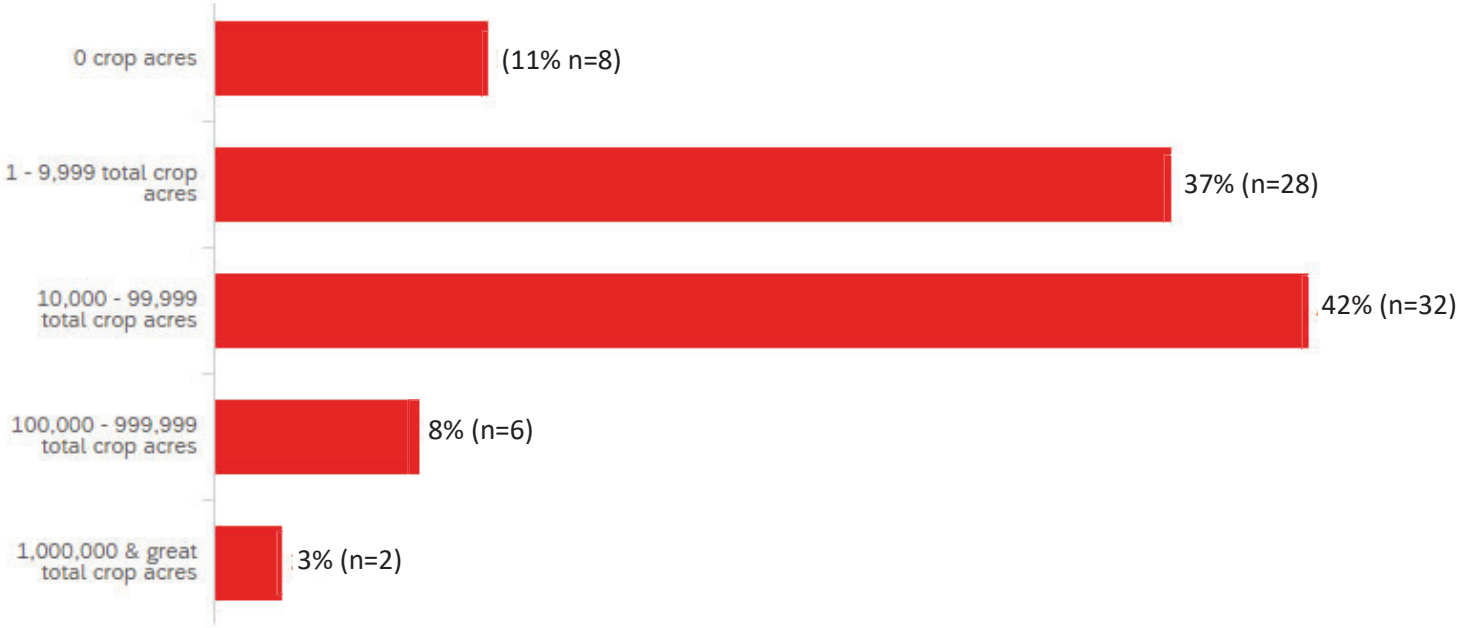
FOR PRODUCERS ONLY. Crop acres that I directly manage. (n=65)



Total Producer acres represented: 100,071 acres

% of total attendance responding: 22% of 300 respondents

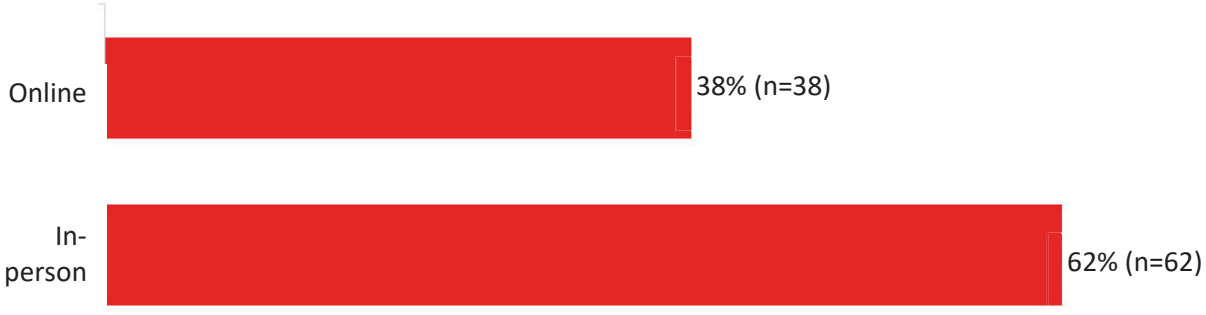
FOR ADVISORS/EMPLOYEES. Crop acres that I influence. (n=76?)



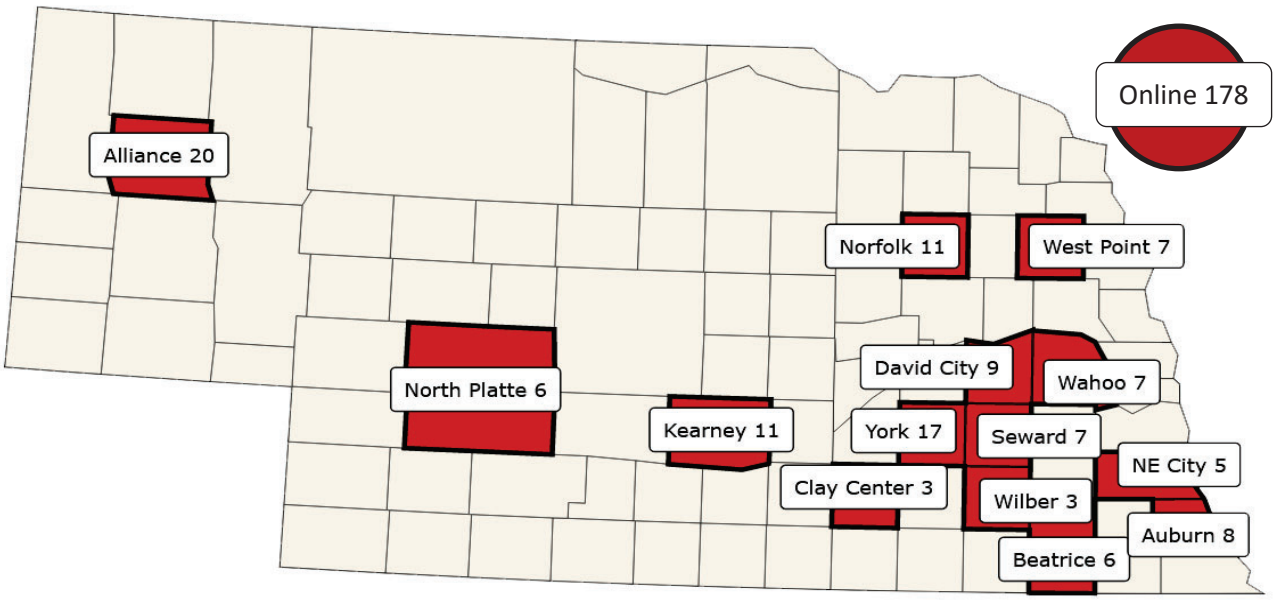
Total Advisor/Employee acres represented: 935,997 acres
% of total attendance responding: 13% of 300 respondents
* Actual acres reported by ADVISORS/EMPLOYEES is 2,807,991. The final figure assumes the likelihood of three-fold duplication of acres due to the same acres being reported by multiple registrants and/or field days.

Have you attended before? (n=101)

How did you join the meeting today? (n=100)



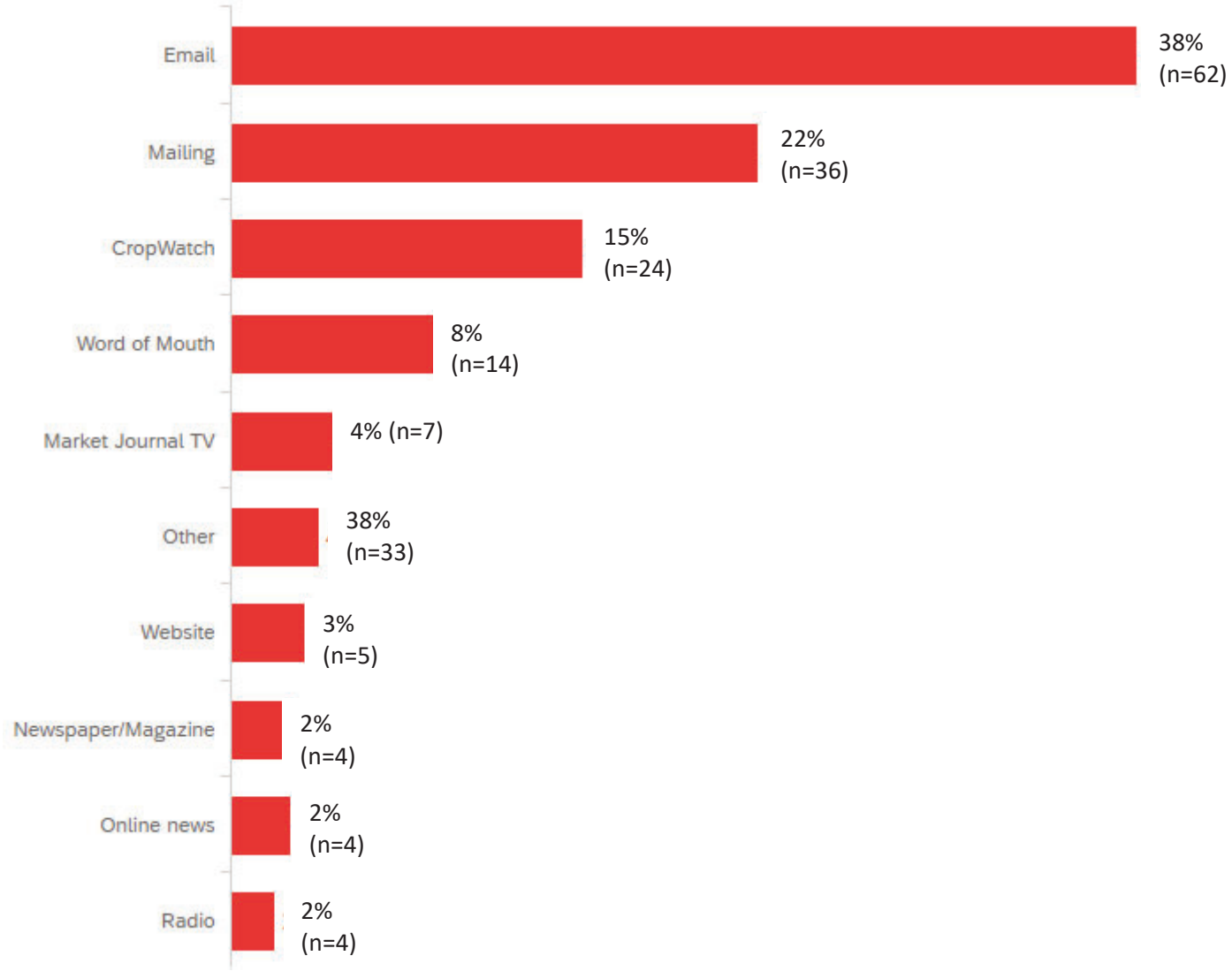
What date and location did you attend?



Evaluations Completed:		
Feb. 25, Auburn (n=4)		Feb. 26, Alliance (n=8)
Feb. 25, Beatrice (n=2)		Feb. 26, Kearney (n=6)
Feb. 25, Clay Center (n=3)		Feb. 26, Nebraska City (n=5)
Feb. 25, David City (n=4)		Feb. 26, Norfolk (n=7)
Feb. 25, Wahoo (n=2)		Feb. 26, Seward (n=4)
Feb. 25, York (n=9)		Feb. 26, West Point (n=6)
		Feb. 26, Wilber (n=2)
Online - both days (n=38)		

Do you intend to make/recommend ANY change in your operation as a result of the information presented today? (n=87)

How did you learn about today's program (select all that apply)? (n=165)



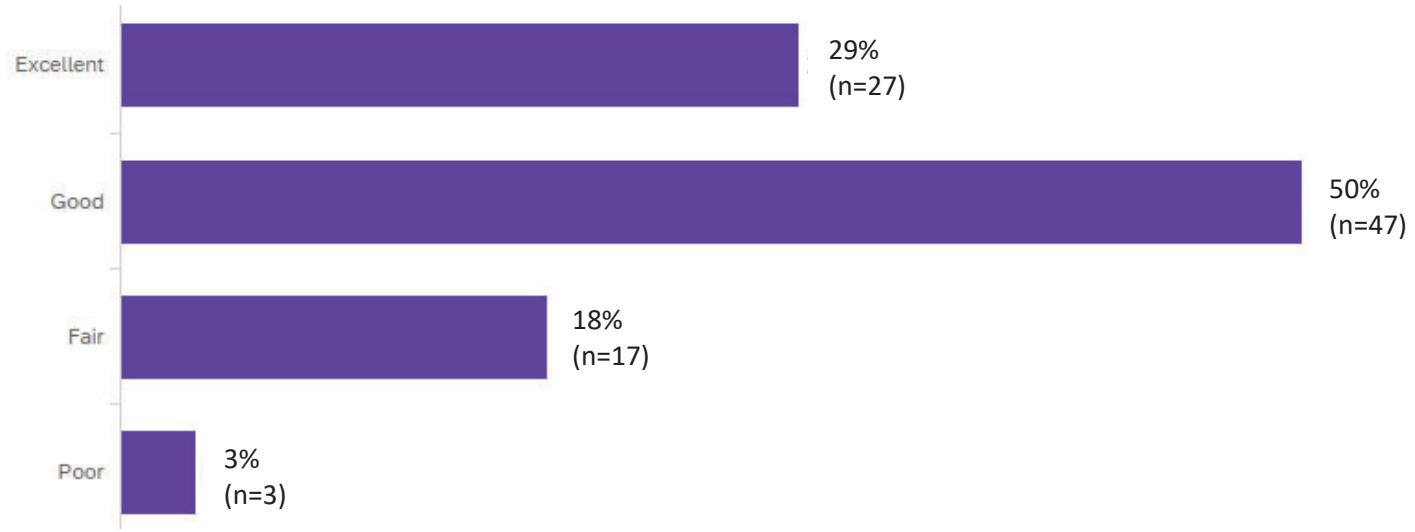
Other

- Twitter
- Come every year
- Participant
- Extension Specialists
- Postcard

Rate the following in regards to this meeting:

Relevancy of Topics (n=97)

Networking Opportunities (n=94)

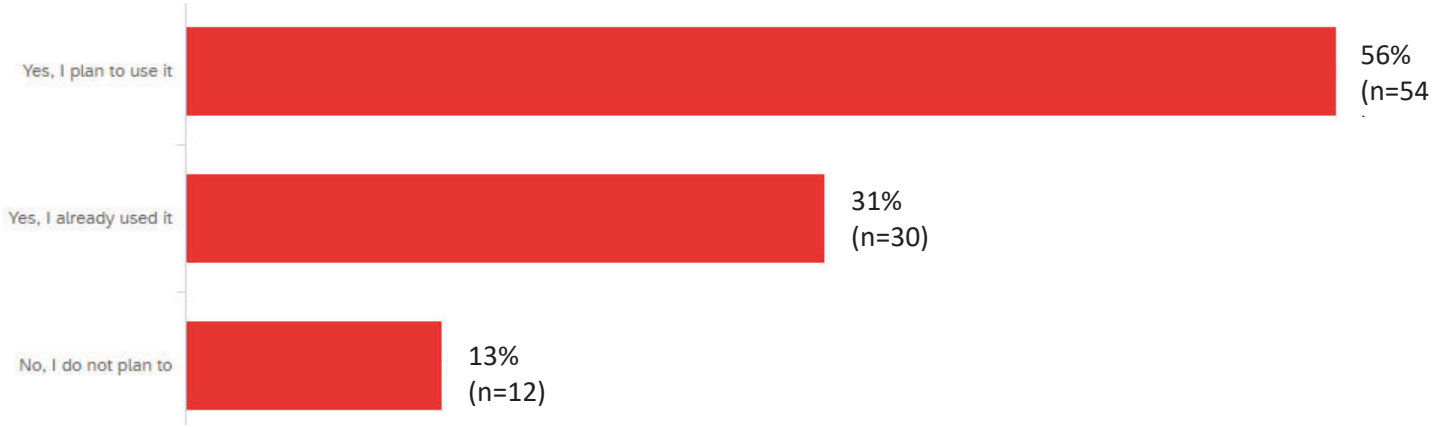


CCA Credit Opportunities (n=64)

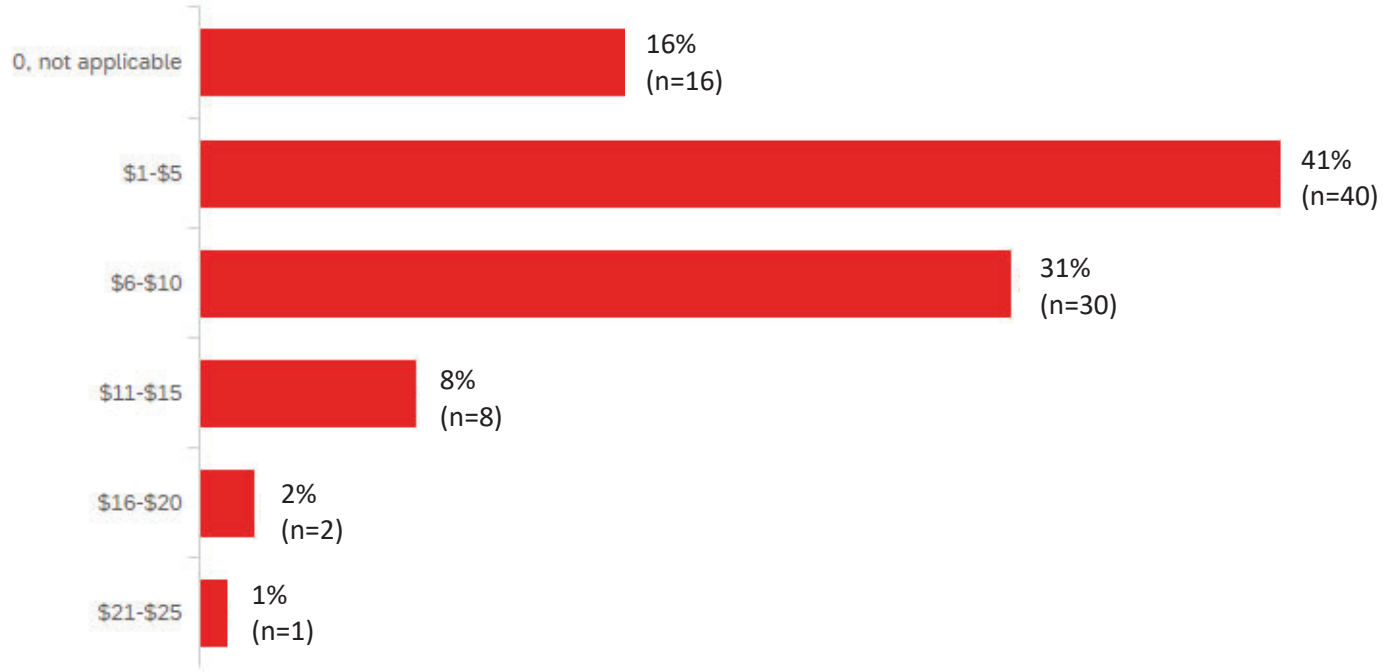
Rate the following in regards to this meeting

Length of Meeting (n=96)

Do you plan to use the On Farm Research Network's online "results finder" database to view research summaries? (n=96)

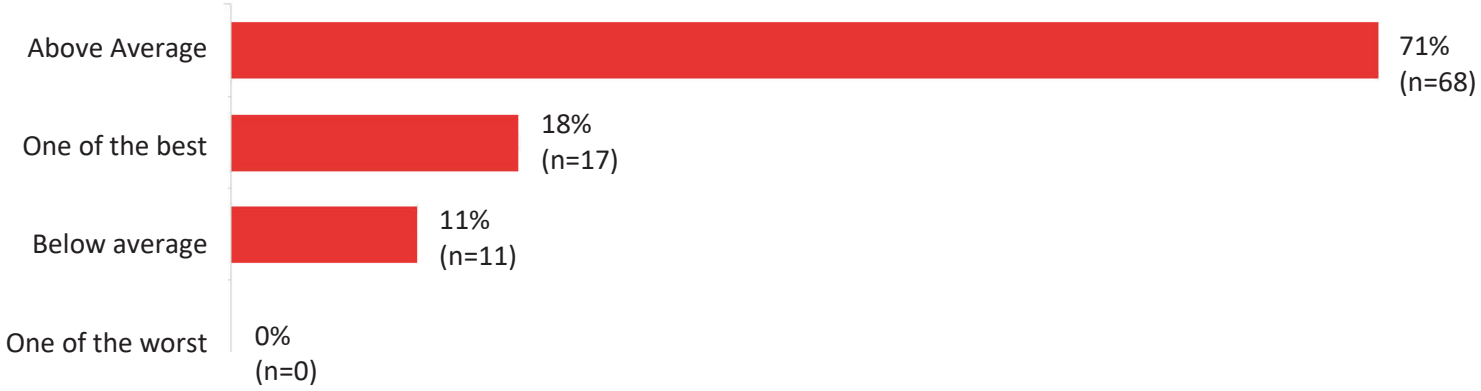


What is your estimated value of the knowledge you gained today &/or anticipated practice changes on a per acre basis? (n=97)

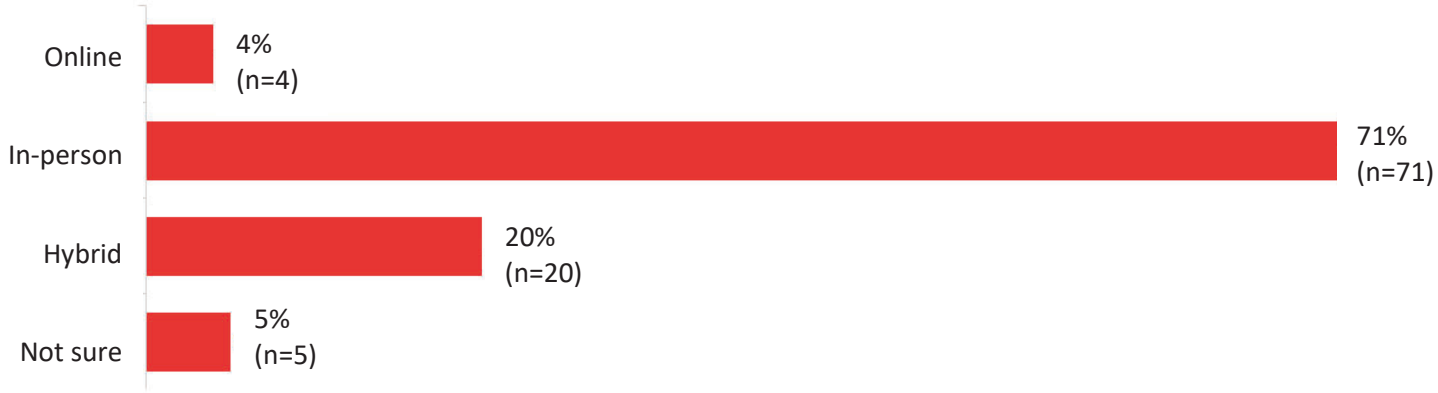


- **Total acres represented:** 1,036,068 total acres
- **Estimated $ per acre value (average):** $6 per acre
- **Total value - acres × $6 per acre:** $6,045,509
- **Total value – Producer Acres:** $583,919
- **Total value – Advisor/Employee Acres:** $5,461,590

How did today's program compare to other educational opportunities available to you? (n=96)



In the future, I would prefer to attend Nebraska Extension On-Farm Research meetings (n=100)



What is one thing you learned today that you will use to make a change in your operation?

- When I test something I am going to repeat 4 multiple times
- Lower soybean population
- Use of crop models
- Soybean benchmarking results
- Nitrogen timing and application amounts. Need to calibrate equipment.
- Having confidence to lower soybean seeding rates
- Won't use Centuro
- Nothing
- Soybean benchmarking results
- Cut soybean seeding rates
- Still working on fertilizer applications
- Cover crops
- Soybean Benchmarking
- Limitation of interseeding cover crops
- Will try to use more cover crops
- High soybean populations are worse than lower
- Nitrogen management for corn production
- Benefits of Aurora Bean Starter
- Look through on-farm book
- N application
- Keep palmer under control
- The bean population studies this year that you should not cut pop too much, where prior years got away with it. I will not cut my population too much.
- Dry bean population
- Look at more N thru pivots. Maybe sensor use some day
- Re-evaluate soybean seeding rates
- Not to rely in crop nitrogen sensing
- Continue to lower pops on beans
- Lower soybean population
- Soybean Population/ Soybean Benchmark

• Use of seed treatments with early soybeans
• The wide range of research studies that are available. Something for everyone.
• time of cover crop planting
• The use of tools to evaluate in-season Nitrogen needs in corn
• I need to research more results that apply to my operation
• Cover crop costs
• I was really interested in the planting speed trial, as well as the soybean benchmarking trails. I think both of these could play a part in how our operation moves forward in the future.
• Field history and management intensity influence the management trial results.
• Nutrient mgmt.
• Try to improve nitrogen use efficiency
• Snake oil don't work
• Soybean maturity benefits
• Look at cover test strips
• Fertility
• Soybean population
• Nitrogen inhibitors and stabilizers
• how to use your searchable database
• I will look more into different nitrogen management strategies.
• On line learning modules
• The use of digital technology to perform/help with on farm research
• Conduct on-farm research

What did you like best about today's educational experience?

• Nitrogen management
• Pocket field guide
• Interactions
• The break out / presentation options
• Informal and talking to others in the room.
• Book
• Talking to growers in person
• Seeing a few familiar people- face to face (w/mask) again. Thank you!
• Introduction and discussion
• Just exchange of ideas and see what works on our farm
• Person to person discussion
• Talking to other producers about their research projects
• Open discussion
• Good grower interaction
• Conversation
• Discussion on site at Seward
• The in-person live meeting - Questions - Interaction
• Choose topics
• Cover crop information
• Group discussion
• N application
• Bean population studies
• I really appreciate John Thomas plots - the information he presents each year.
• In-person part
• CCA Credits
• Reliable, objective information
• Given the pandemic I was pleased to be at an in-person meeting, but appreciated the hybrid option for those not able to come
• Always good information
• The in person presentations
• Replication of soybean benchmarking
• Informal
• Small and people can communicate

• Not selling anything, farmers doing the plots on their farms
• Options of presenters
• Soybean management, online delivery
• Sensor in crops
• Good job with adapting to virtual format, well organized.
• Ability to access information at will
• The presenters did an excellent job with adapting for online viewers. I was glad to be able to participate remotely.
• I enjoyed the opportunity to communicate with Nebraska Extension Educators
• Considering on line it was handled the best it could by presenters.
• Easy to attend
• The talks about pushing the boundaries with technology.
• I enjoy seeing the variety of studies being conducted.
• the ability to meet virtually
• The short presentations by the students Joe Luck and Nathan Mueller did a fantastic job as well.
• Good pace to the presentations and topics. Also, liked the break out room design.
• New products trials in book
• Opportunities to see more in depth videos
• Discussion
• In house comments from local plots of the area
• Interaction
• Local discussing
• excellent selection of speakers and topics tailored to my area
• hearing about projects from the people that worked on them
• The extension people seem to have a lot on the ball.
• Variety of interesting topics.
• Learned about the main topics that on-farm research has been involved with
• Digital links to additional resources listed in chats.
• Hearing from other participators in research trials
• Variety of subjects, and knowledge of presenters
• Lots of different topics good pace
• The different types of research being conducted
• See what others are doing

What changes would you like to see to the research studies or today's program?

- More equipment trials
- More cover crop
- more producer interaction
- Considering we are dealing with a pandemic, I thought it was excellent.
- Would like all in one place if covid allows
- Spend less time on the preliminary part of how the studies work and just go through more studies.
- None
- Like to see soil test for all individual studies. The thought is on fertility soil some products, will not work because soil fertility could be limiting factor. Experiment Design - Good presentation - just have seen it before
- No suggestions. Zoom - small groups=nice meeting.
- A short session like this is great!
- Lots to cover would prefer all day program when time allows
- Different nitrogen rates for inhibitor studies to better see differences
- Hopefully get back to live, in person meeting
- More local results
- I would like to see more pertinent - local information presented.
- It was good.
- Go back to in-person events
- Hopefully we can have more in person meetings next year
- Hope we can return to all in person meetings in future
- In-person like last year
- Hope next year can be in person. Hearing from farmers talk about the research in person is helpful.
- In person networking is preferable
- Excellent as is.
- Continue to share yearly results while also bringing in previous years findings
- Of course, back to in person since audience participation was difficult on line.
- Looking good
- More long term, real science
- I thought the program was fine.

• One downside of the program, in comparison to the old format, was being able to get more insight while also able to take part in discussion around all trials. Breaking out into regional areas allows for a more efficient use of time, however with certain trials only being conducted within specific regions it makes it difficult/near impossible to catch all results that may be of interest.
• Some wheat variety study information and/or Best Management Practices could be shared.
• Nothing to recommend at this time. The online session is best we can do during the pandemic.
• This online webinar seemed very unorganized compared to the 20 webinars that I have already been on this winter.
• Fertilizer studies and soil science, how to improve nutrient "balance" in soil P to Zinc ratio, calcium/meg saturation
• Less projects N sense and University studies and more farmer initiated studies
• Like as is
• None
• I wish there was a better turnout in person.
• Use of drone technology for fertilizer recommendations
• Would like to hear from the farmers who were involved
• Where can we find out about research opportunities like the ones listed in the presentation. I didn't see it on the site.
• If I didn't get a link to a resource, are they available on OFR site?
• Potentially more discussion about more of the research trials
• I would be willing to pay to have book mailed to me so I can use it during the meeting
• More soil sample results

Additional Comments?

• Bring back the good lunch
• Trying new biological nitrogen fixation
• The student presentations were awesome.
• Doing these events in a virtual mode is not easy and not what many would like. However, we need to do whatever we can to continue with programs, events, and networking.
• You did pretty well considering COVID
• I would not get to hung up on the silence. Meeting was a good one. Some question need an NA option
• None

Experiment Design

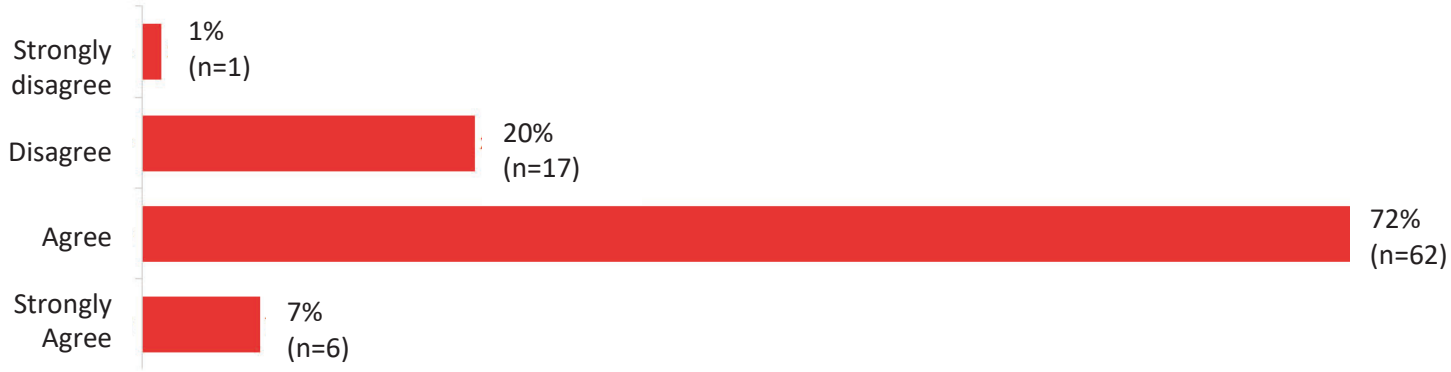
I learned new information about how to set up an on-farm research plot (n=96)

I learned new information about how to interpret statistical results (n=95)

As a result of today's program, I plan to use UNL protocols in designing on-farm research (n=90)

Cover Crops

I learned new information about cover crops (n=86)

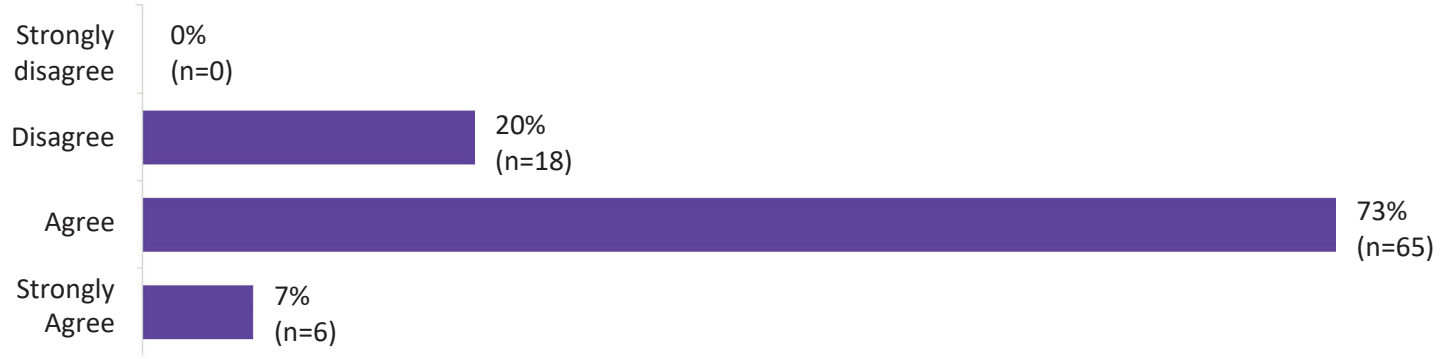


As a result of today's educational opportunity, I have a better understanding of cover crop management (n=84)

Crop Production

I learned new information about crop production practices (n=91)

As a result of today's educational experience, I intend to make changes to my planting population (n=89)



Fertility & Soil

I learned information about in-season N management (n=92)

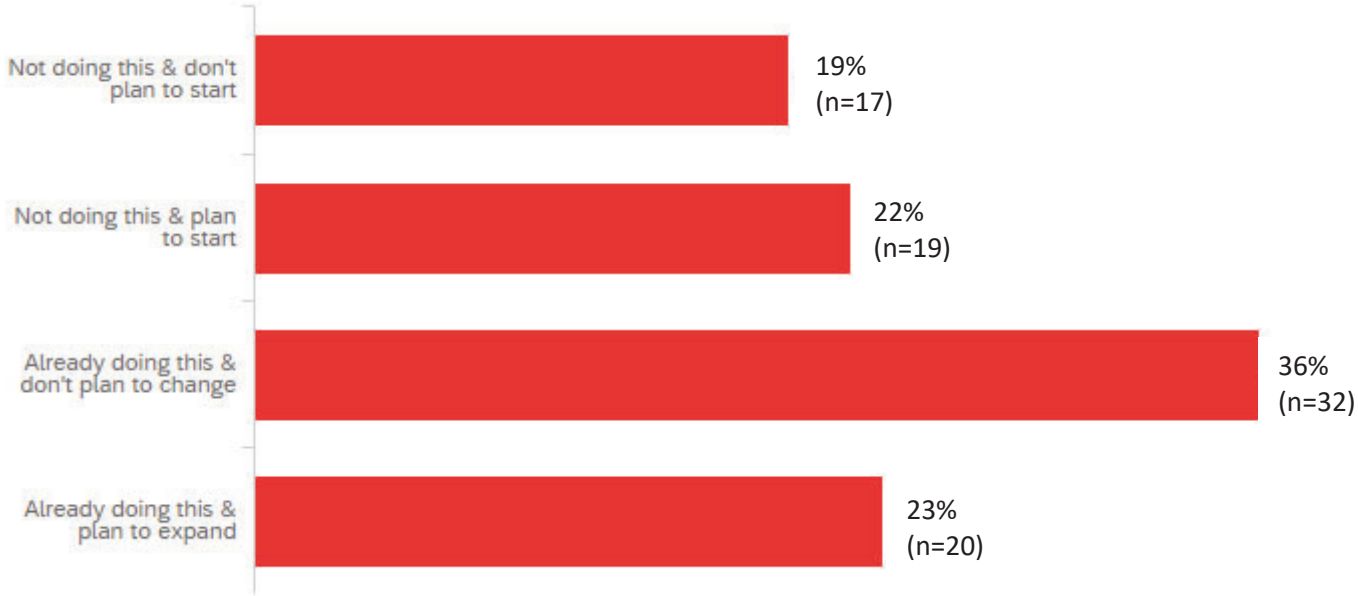
Technology

I learned new information about available ag technologies (sensors, drones, planting prescriptions, etc.) (n=93)

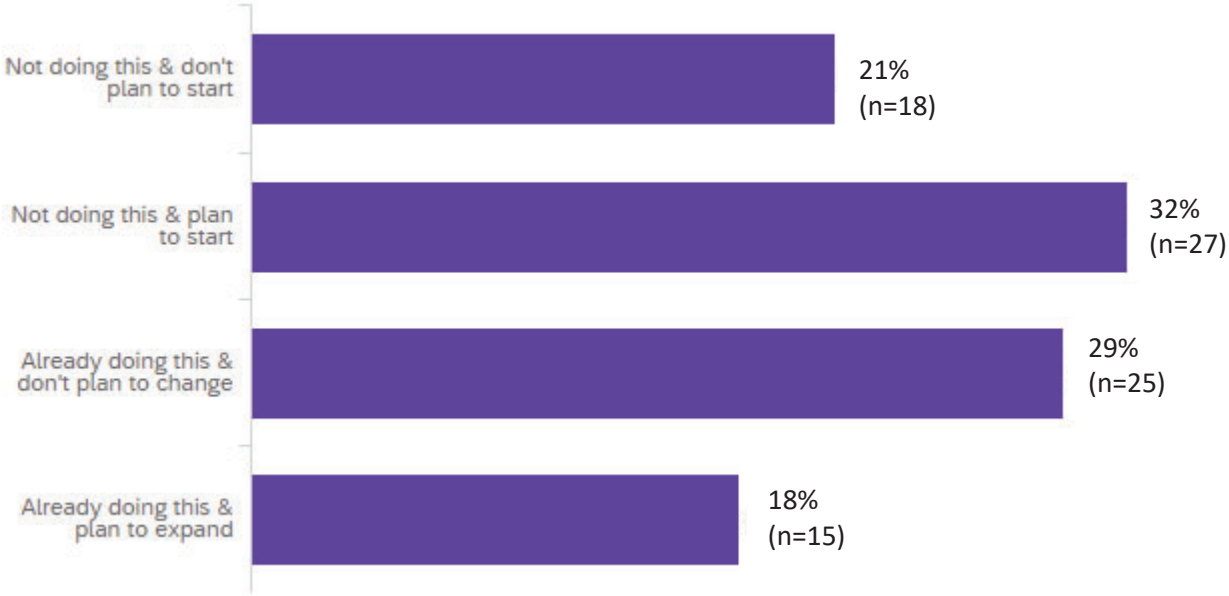
After today's meeting, I have a better understanding of how ag technologies can be used to conduct on-farm research (n=88)

Anticipated Changes

As a result of today's educational opportunity, I intend to use cover crops on my operation (n=88)



After learning about in-season N management strategies (Project SENSE, drone technology), I am likely to adopt practices to use split N application (n=85)



EXTENSION On-Farm Research	Year:	**2021**
	Program:	***Nebraska On-Farm Research Network***
		Research Update
	Sessions:	**ALL SITES IN-PERSON/VIRTUAL ATTENDANCE**
	# of Participants:	**300**

NEBRASKA CITY AND TOWN REPRESENTATION

117 Nebraska Counties Represented

Alliance	Elmwood	Lawrence	Roca
Auburn	Fairbury	Lexington	Schuyler
Aurora	Fairfield	Lincoln	Scottsbluff
Bancroft	Falls City	Linwood	Scribner
Bayard	Farifield	Malcolm	Seward
Beatrice	Fremont	Marquette	Shelby
Bee	Fullerton	Martell	Shickley
Beemer	Geneva	McLean	Sidney
Bellwood	Gering	Meadow Grove	Springfield
Bennington	Gibbon	Milford	Stapleton
Blair	Giltner	Milligan	Sutherland
Bloomfield	Gordon	Minden	Tecumseh
Bradshaw	Gothenburg	Morrill	Tekamah
Brownville	Grant	Morse Bluff	Tobias
Cairo	Greenwood	Nebraska City	Trumbull
Central City	Harvard	Nelson	Valentine
Ceresco	Hastings	Nickerson	Valparaiso
Chappell	Hay Springs	Norfolk	Wahoo
Clarkson	Hebron	North Bend	Wakefield
Clay Center	Hemingford	North Platte	Waterloo
Coleridge	Henderson	Ogallala	Wauneta
Colon	Holdrege	Omaha	Wausa
Columbus	Holdrege	O'Neill	Wayne
Cozad	Humphrey	Osceola	West Point
Crofton	Imperial	Papillion	Wilber
David City	Indianola	Pawnee City	Wilcox
DeWitt	Ithaca	Paxton	York
Diller	Julian	Pierce	
Dodge	Juniata	Plymouth	
Doniphan	Kearney	Randolph	

NEBRASKA COUNTY REPRESENTATION

56 Nebraska Counties Represented

Adams	Dixon	Lincoln	Richardson
Box Butte	Dodge	Madison	Saline
Buffalo	Douglas	Merrick	Sarpy
Burt	Fillmore	Morrill	Saunders
Butler	Gage	Nance	Scottsbluff
Cass	Hall	Nemaha	Seward
Cedar	Hamilton	Nuckolls	Sheridan
Chase	Harlan	Otoe	Thayer
Cherry	Holt	Pawnee	Washington
Cheyenne	Jefferson	Perkins	Wayne
Clay	Johnson	Phelps	York
Colfax	Kearney	Pierce	
Cuming	Keith	Platte	
Dawson	Knox	Polk	
Deuel	Lancaster	Red Willow	

OTHER STATES AND COUNTRIES

10 Other States and 1 Other Country Represented

Holyoke	CO	Oakland	IA	Wamego	KS	Ithaca	NY
Fort Morgan	CO	Hancock	IA	Courtland	KS	Dayton	OR
Atwood	CO	Manhattan	KS	Beaver Creek	MN	Humboldt	SD
Ames	IA	Hiawatha	KS	Minneapolis	MN	Arena	WI
Fort Dodge	IA	Wamego	KS	Plymouth	MN		
Ankeny	IA	Mount Hope	KS	Rock Port	MO	Tel Aviv	
Guthrie Center	IA	Manhattan	KS	Stoneville	MS		