SPRING 2024

SoybeaNebraska

A Publication of the Nebraska Soybean Association and the Nebraska Soybean Board

YIELDING RESULTS

Nebraska Soybean Association
4435 O Street, Suite 210
Lincoln, NE 68510

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OUR SOY CHECKOFF™

unitedsoybean.org

HELPING YOU DELIVER ON DEMAND

Whether it's improving soybean meal to outperform the competition or promoting the sustainability of U.S. soy, the soy checkoff has been working behind the scenes to help farmers satisfy their customers' needs. We're looking inside the bean, beyond the bushel and around the world to keep preference for U.S. soy strong. And for U.S. soybean farmers like you, the impact is invaluable.

See more ways the soy checkoff is maximizing profit opportunities for farmers at **unitedsoybean.org**

SoybeanNebraska

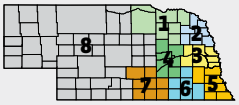
The Nebraska Soybean Association (NSA) and the Nebraska Soybean Board (NSB) are proud to share the FY24 Spring edition of this publication with you—members of our shared community.

Here's How It's Been Growing

NEBRASKA SOYBEAN BOARD

3815 Touzalin Avenue, Suite 101
Lincoln, Nebraska 68507
402-441-3240
nebraskasoybeans.org

The Nebraska Soybean Board is a private, nonprofit checkoff board responsible for the research and promotion of soybeans in an effort to increase the profitability of the state's 22,000 soybean producers.



On The Cover

Nebraska farmer Ron Makovicka and University of Nebraska-Lincoln PhD Student Luz Sazon inspect a field of harvest-ready soybeans as part of an on-farm research trial.

Photo credit: Thomas Hoxmeier

Note from the

EXECUTIVE DIRECTOR

By Andy Chvatal

Swinging into April is always an exciting time of year as our senses begin to heighten and we can see and smell spring in the air. We also gain a sense of opportunity and new beginnings. Farm plans have been evaluated and modified, learning from experiences of the past and relying on new information to continue the advancement of yields and results on your own farm.

As we are fresh off NSB's annual research meeting, the board focus continues to be multifaceted. First being, funding trusted and foundational research that focuses on genetic enhancements for the advancement of the yield and quality of soybeans. The second, being a broader scope, is the fact that soybean production practices continue to evolve and our board of directors choose to keep open minds in regard to what the future of growing a soybean crop may look like. For example, how does the climate-smart sector and a continually enhanced focus on soil health fit into an operation's short and long-term goals?

NSB-funded research is just one small cog on the wheel of the larger vehicle of agricultural research investment, but your checkoff dollars continue to be laser-focused and NSB continues to invest in targeted research to improve Nebraska soy production and quality.

If you have research ideas and thoughts, I highly recommend you pass those on to your district director and become involved in the Nebraska On-Farm Research Network..

Safe planting to all of you.

Checking In With The Chairman

HERE WE GROW

By Jason Penke, NSB Chairman, Craig

Wow, what a start to the first few months of 2024 we have had so far! Seems like everywhere in Nebraska, we have been blessed with much-needed moisture in the form of snow or rain, and the best part is that it looks to have soaked in and begun to replenish our soil. (I said "begun," we definitely have a long way to go.) To top it off, the mild temperatures have made preparation for spring planting much more enjoyable.

With every growing season, it seems like new ideas arise and producers have thoughts of how to overcome challenges to make this year better than the last. Whether it be planting populations, weed and insect control, or planning to be more efficient with water management, we all try to think of ways to be more productive on every acre.

During our March research meeting, directors reviewed projects for potential funding in a variety of different areas. The goal of every district director in this meeting is the same. We ask ourselves the question, how can we increase the ability of every Nebraska soybean producer to be more efficient, productive and profitable?

With over $2 million of NSB funding going in research this year, the future of Nebraska soybean producers looks promising. There are always going to be challenges in agriculture, but with breakthroughs and improvements made by researchers from this great state, the ability to stay ahead of these obstacles looks more manageable for growers.

If you're interested in learning about the insights and outcomes of research funded by NSB last year, check out the 2023 Annual Research Report - 'Bringing Research to Farmers.' View it online or contact the NSB office to learn more.

Lastly, I would like to wish each and every one of you a safe and smooth 2024 planting season!

Soy Action Center

PRIORITIES AND PROGRESS

By Kent Grotelueschen, NSA President, Octavia

In January I was elected to serve as President of the Nebraska Soybean Association. I am excited about the many opportunities that lie ahead for our industry and the role I will serve as president representing Nebraska Soybean Growers. I farm in Butler County near the town of Octavia with my wife Robin where we raise irrigated soybeans and corn.

In March, I had the opportunity to travel with Nebraska Soybean Association directors to Washington D.C. to attend the American Soybean Association board meeting and also meet with Nebraska's Congressional delegation. While this was not the first time I have participated in the D.C. meetings, it reminds me how lucky we are to have a delegation that supports and fully understands our issues, they are always willing to listen and get our feedback.

Our top priorities during the visits included:

- Support for a New and Improved 2024 Farm Bill – improving the farm safety net, protecting crop insurance, and protecting the farmer-funded soy checkoff that provides a high return on investment.
- Maintaining Soy's Largest Export Destination – in 2022/2023 60% of U.S. soy exports were destined for the Chinese market. Efforts to revoke Permanent Normal Trade Relations would have an immediate negative impact on ag export markets.
- Drive Biofuels Markets – improving the federal programs and tax credits that support the biofuels industry.
- Ensuring a Science, Evidence-Based Approach to the Endangered Species Act – continued oversight of the EPA's incorporation of the ESA into its pesticide program is needed. EPA should adopt a science-based regulatory approach that will protect species while allowing for continued, meaningful use of pesticides.

As you may not realize, the American Soybean Association has a devoted staff to advocate in Washington D.C. They are monitoring and engaging in conversations with lawmakers, agencies and staff on these and many top issues. The knowledge of our ASA staff on the issues as well as their connections to others in D.C. makes me proud to be a Nebraska Soybean Association member. Your membership is what supports our policy work in D.C. and at the State Capitol. If you are not already a member, I encourage you to reach out to our office in Lincoln at 402-441-3239 to join. The issues are not going away any time soon, which is why your risk management plan should include a membership in the Nebraska and American Soybean Association so we can be your advocate when you can't be there.

I am looking forward to the year ahead and representing your interests. Have a safe planting season.

NSA directors visited the Hill offices during the ASA Washington D.C. March board meeting.

NSA directors participated in the delegate policy session held during Commodity Classic in Houston, Texas.

Nebraska Soybean Association

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The Real Dirt on Rural Family Farms

AGRONOMY IN ACTION ON THE ADEN FARM

Family farming is a proud Nebraska legacy.

One that sees kids off to college: hopefully to return someday when mom and pop are closer to retirement.

One that is foundational to our state's economy: hopefully to reap shared success that strengthens our hometowns.

One that treats tradition with reverence: hopefully to inform innovations for generational sustainability.

And it's a legacy the Aden family is living everyday. Today, we'll meet Molly, an agronomist by trade and a family farmer by lineage and marriage, who was kind enough to swap stories with us between scouting fields.

Farm Science, Marriage, Momming, and Co-Managing

Classic farm kids, Molly met her husband, Jared, through University of Nebraska–Lincoln's agronomy club. As fellow agronomy students, personal and professional interests merged into marriage, two boys ages 4 and 6, and eventually working alongside at their farm and ranch near Farnam, Nebraska.

"My husband and I typically do seed selection together, and we both have our preferences," Molly explains. "Planning a fertility and crop protection plan is really the role I most enjoy, and because we like to trial-and-error it on our farm, I'm better able to advise on the chemistry and fertility aspects for my client's operations."

Crop-wise they focus on soybeans and corn with a mix of different feed crops like sorghum or oats. Dry seasons mixed with water restrictions over recent years have kept the agronomy aspects of Molly's mind and the basic livelihood instincts tag teaming just as much as her business-marriage partnership.

"Drought and area water restrictions play a big role in decision-making," Molly shares. "Jared does a great job scheduling irrigation, and our openness to explore different seed selections is a real benefit in these times. I realize it's the challenges that keep us on our toes learning, and I take what I learn to others who may or may not have the same soil concerns or water restrictions. It just seems to come together and make a difference."

Molly's day-to-day is split between co-managing the family farm and ranch (double duty!), parenting two young, rambunctious boys, and consulting on all things fertility and crop protection in the area.

It's a full plate she's proud to call her life. Being a "farm family" is both career and lifestyle. One that she hopes to pass on to her boys when the time comes, if they are interested, of course.

> "I feel like our legacy is just working hard as a family and trusting the Lord to provide — that we're able to keep farming and ranching despite the challenges, enjoying all we can along the way."
>
> — MOLLY ADEN

CommonGround for Women in Ag

Because everyone should be an "Ag-clubber" for life, it was exciting to hear Molly share her appreciation for CommonGround — a group of farm women having conversations about food and how it's grown and produced.

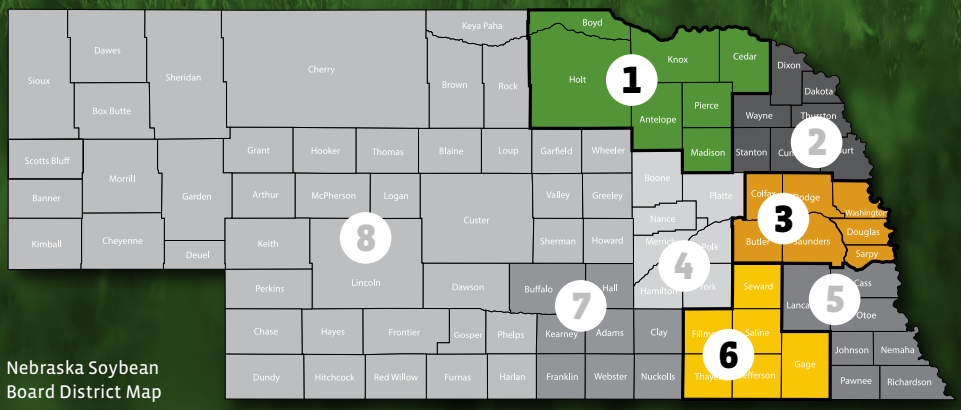
"It's great! CommonGround reaches out to us with events and opportunities, and we get to share our experiences to learn from each other," explains Molly. "I really love the networking and encouragement it brings to women in agriculture."

For more on CommonGround, visit **CommonGroundNebraska.com**.

SOYBEAN FARMERS:
MAKE YOUR IMPACT.

TAKE PART IN THE 2024 NEBRASKA SOYBEAN BOARD ELECTIONS.

Districts 1, 3 & 6



Nebraska Soybean Board District Map

ELECTION SCHEDULE

2025

Districts 5, 7 & At-Large

2026

Districts 2, 4 & 8

The election is conducted by mail-in ballot in July for Districts 1, 3 and 6. Soybean farmers who reside in counties that are up for election in 2024 will receive ballots and candidate information regarding NSB's election process via direct mail.

Election districts and counties are:

- District 1: Counties of Antelope, Boyd, Cedar, Holt, Knox, Madison and Pierce
- District 3: Counties of Butler, Colfax, Dodge, Douglas, Sarpy, Saunders and Washington
- District 6: Counties of Filmore, Gage, Jefferson, Saline, Seward and Thayer

To apply for a candidacy in District 1, 3 or 6 you must:

- Obtain an NSB Candidacy Petition by contacting NSB's executive director at 402-441-3240
- Complete the petition and collect the signatures of at least 20 soybean farmers in the district
- Return petition to NSB office on or before April 15, 2024

Nebraska Residents Cast the Deciding Vote

Our shared soybean farmer community determines electoral winners. These voters must be:

- **Nebraska residents**
- **District 1, 3 or 6 residents**
- **A soybean farmer who owns or shares the ownership and risk of loss for such soybeans, by reason of being a partner in a partnership, or is a shareholder in a corporation, or is a member of a limited liability company, during the current or immediately preceding calendar year.**

ELECTION CALENDAR:

DECEMBER 1, 2023
Candidacy petition period began

APRIL 15, 2024
Candidacy petitions due to NSB office

JULY 2024
Ballots mailed to eligible voters

JULY 31, 2024
Final day to return ballots for consideration

OCTOBER 1, 2024
Newly elected board members' terms begin

Reach out to the NSB team for more information at 402-441-3240.


The developing and emerging nations of today are the home of tomorrow's U.S. Soy customers
ASA
American Soybean Association
WISHH
WORLD INITIATIVE FOR SOY IN HUMAN HEALTH
UNITED SOYBEAN BOARD
FLOWCODE
PRIVACY.FLOWCODE.COM
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NEBRASKA SOYBEAN BOARD

FUNDING & EXPENDITURES

for Fiscal Year 2023

FUNDING REVENUE

TOTAL REVENUES: $10,206,922

MISCELLANEOUS	$128,695
INTEREST	$257,926
CHECKOFF ASSESSMENTS	$9,820,301

NET ASSETS

BEGINNING OF YEAR:
$13,439,393

END OF YEAR:
$14,879,074

EXPENDITURES

TOTAL EXPENDITURES: $8,767,241

ADMINISTRATIVE	$491,145
COMMUNITY ENGAGEMENT	$723,089
FARMER SUPPORT	$1,114,257
PRODUCTION & CROP RESEARCH	$2,291,566
DEMAND & UTILIZATION	$4,147,184

MISSION

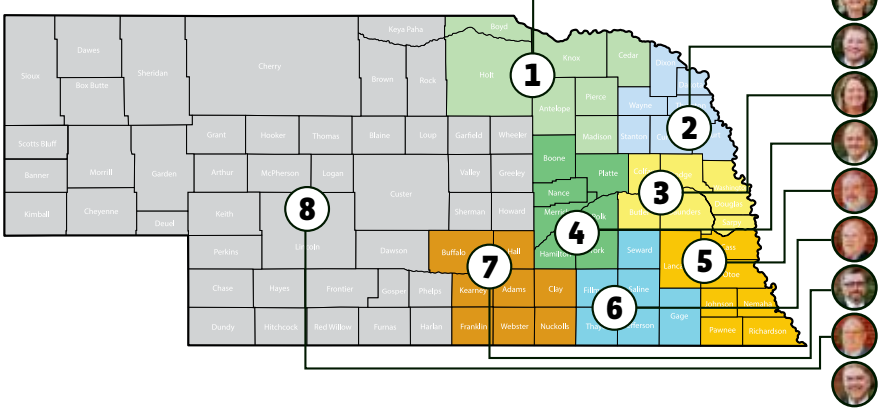
Growing value for Nebraska farmers by maximizing their checkoff investments.

VISION

Feeding, fueling, and innovating for the future.

OUR INITIATIVES

- **Community Engagement:** Interact with our local communities to showcase Nebraska soybeans, farms and farmers.
- **Farmer Support:** Share ideas and information to support and encourage Nebraska soybean farmers.
- **Production & Crop Research:** Invest in targeted research to improve Nebraska soy production and quality.
- **Demand & Utilization:** Promote the power, versatility and sustainability of Nebraska soy.



Anne Meis | **District 1** | *Vice Chair* | Elgin, NE
Jason Penke | **District 2** | *Chairman* | Craig, NE
Ruth Ready | **District 3** | Scribner, NE
Eugene Goering | **District 4** | Columbus, NE
Mark Caspers | **District 5** | Auburn, NE
Mike Tomes | **District 6** | *Secretary* | Utica, NE
Doug Saathoff | **District 7** | Trumbull, NE
Blake Johnson | **District 8** | *Treasurer* | Holdrege, NE
Greg Anderson | **At-Large** | Newman Grove, NE

Soy Cuts Carbon Footprint

Life Cycle Assessment Shows U.S. Soy's Carbon Footprint Has Considerably Decreased

The United Soybean Board (USB) and National Oilseed Processors Association (NOPA) commissioned a study revealing a 19% decrease in carbon footprint for U.S. soybeans in 2021 (compared to 2015).

A newly released Life Cycle Assessment (LCA) found the U.S. soybean industry's global warming potential (GWP) profile decreased considerably in 2021 for whole soybeans, soybean meal, and soy oil compared to previously reported findings in 2015 and 2010. The study assessed the main drivers of the environmental impact, including soybean cultivation and harvesting (e.g., herbicides, field operations and fertilizer), transportation, and energy usage in processing.

"This body of research helps farmers better assess and understand soy's contribution to the environmental impacts throughout the life cycle of the entire soybean value chain," said Lucas Lentsch, United Soybean Board CEO. Ultimately this data can competitively position our downstream products such as human foods, animal feeds, biofuels and other industrial applications."

As a major commodity crop, soybean production continues to increase over time, contributing $124 billion to the U.S. economy. Global output went from fewer than 50 million tons in 1970 to more than 350 million tons in 2020. The U.S. is one of the commodity's largest producers and is the second-largest exporter. Soybeans also comprise about 90% of U.S. oilseed production in the agricultural sector.

The LCA study, conducted by Sustainable Solutions Corporation (SSC), analyzed soybean cultivation data from 454 farms across 16 states for 2020 and 2021. In addition, it analyzed operations data (for soybean meal, crude soy oil, and refined soy oil) from 52 soybean processors and 27 soy oil refiners across 18 states for 2021. The study found that the soybean industry's carbon footprint decreased considerably in 2021 for all U.S. Soy commodities compared to 2015, including a 19% decrease for U.S. soybeans, a 6% decrease for U.S. soybean meal, a 22% decrease for U.S. crude soy oil and an 8% decrease for U.S. refined soy oil (from co-located processing and refineries).

> "U.S. soybean processors have committed to efficiencies across plant operations, manufacturing and transportation processes to improve environmental outcomes amid skyrocketing output.
>
> — KAILEE TKACZ BULLER
> NOPA PRESIDENT AND CEO

In addition, soybean production and oil processing constitute more than 40% of the carbon intensity (CI) fuel score for soy biodiesel, according to the Clean Fuels Alliance America. The improvements documented in this report are expected to translate into reductions in CI across the clean fuels industry.

Factors contributing to a decrease in global warming potential, include:

- **Land Management:** Improving soil health and water quality
- **Land Efficiency:** Advances and improvements in seed quality have contributed to a 24% increase in yields since 2015
- **Pesticide Application and Energy Consumption:** Changing farming practices, such as decreased chemical application, implementation of no-till and expanded cover crops
- ***Manufacturing:*** Improving technologies and efficiencies at oilseed processing operations, such as switching from coal to natural gas fuel sources

To view the full LCA report visit nopa.org. To learn more about the United Soybean Board and your soy checkoff investments, visit unitedsoybean.org.

You're where the rubber meets the road.
And the engine. And the interior.

All soybean farmers, including you, are busy replacing petroleum with your soy oil. How? By pooling your resources through your soy checkoff. Learn how your soy checkoff is bringing tangible returns back to you and your operation at unitedsoybean.org/hopper.

Moving Soy Forward.
Moving You Forward.

OUR SOY CHECKOFF℠

EXPLORING AUSTRALIAN AGRICULTURE

Sydney Harbor

Farm Tour!

Australian Parliament House Tour

Presenting Gifts from Nebraska

Nebraska FFA Foundation

Nebraska Insights from the 2024 International Leadership Seminar for State Officers (ILSSO)

In a unique educational endeavor, over 70 current and past state FFA officers embarked on a journey to Australia as part of the International Leadership Seminar for State Officers (ILSSO). This immersive experience provided a valuable opportunity for these young leaders to delve into the diverse agricultural landscape of Australia, fostering cultural understanding, global awareness and leadership development.

The ILSSO participants began their adventure in Sydney, where they soaked in the vibrant atmosphere of the city before venturing to Canberra, the nation's capital. In Canberra, they engaged in discussions with agricultural experts, including representatives from the U.S. Embassy, the National Farmers' Federation and the Australian Rural Leadership Program. Visits to agricultural enterprises such as perennial pastures and Reiland Angus provided firsthand insights into Australia's agricultural industry.

One highlight of the trip was the exploration of the Darlington Point District, renowned for its productive farmland cultivating a variety of crops including rice, cereal crops, fruits, vegetables, grapes and citrus. Additionally, the students had the chance to visit Marcus Oldham College, Australia's only independent agricultural college, further deepening their understanding of agricultural education and innovation.

The journey culminated in Melbourne, where the students immersed themselves in the city's culture and had the opportunity to visit the Healesville Wildlife Sanctuary, experiencing Australia's unique biodiversity firsthand. Throughout the trip, ILSSO aimed to immerse FFA state officers in Australian culture while providing valuable learning opportunities.

Among the participants were several Nebraska State FFA Officers who received funding for the trip from the Nebraska Soybean Board, including Paige Bunn, Bethany Nichols, Abby Hodges, and Thomas Perrin. Despite not encountering soybeans directly during their travels, these students gleaned valuable insights into Australia's agricultural industry and its potential for growth and evolution.

Thomas Perrin (Nebraska FFA President - Ogallala FFA), reflecting on his experience, highlighted the importance of understanding global agricultural markets and advocating for soybeans internationally. Drawing from discussions with local experts, Perrin recognized the opportunities for promoting the soybean industry and processing methods in countries like Australia, underscoring the versatility and benefits of soybeans beyond traditional uses.

Abigail Hodges (Nebraska FFA Vice President - Johnson-Brock FFA), another participant supported by the Nebraska Soybean Board, shared insights gleaned from conversations with their tour guide, Kees, regarding the soybean industry in Australia. Despite the lack of soybean farm tours, discussions shed light on the significance of soybeans in Australian agriculture, particularly for animal feed, and highlighted potential avenues for educational initiatives and advocacy efforts.

Hodges emphasized the importance of education in bridging gaps between different agricultural markets and pledged to leverage their role as an education major and through her role as National FFA Speak Ag Pioneer to advocate for soybeans and agricultural products on social media platforms.

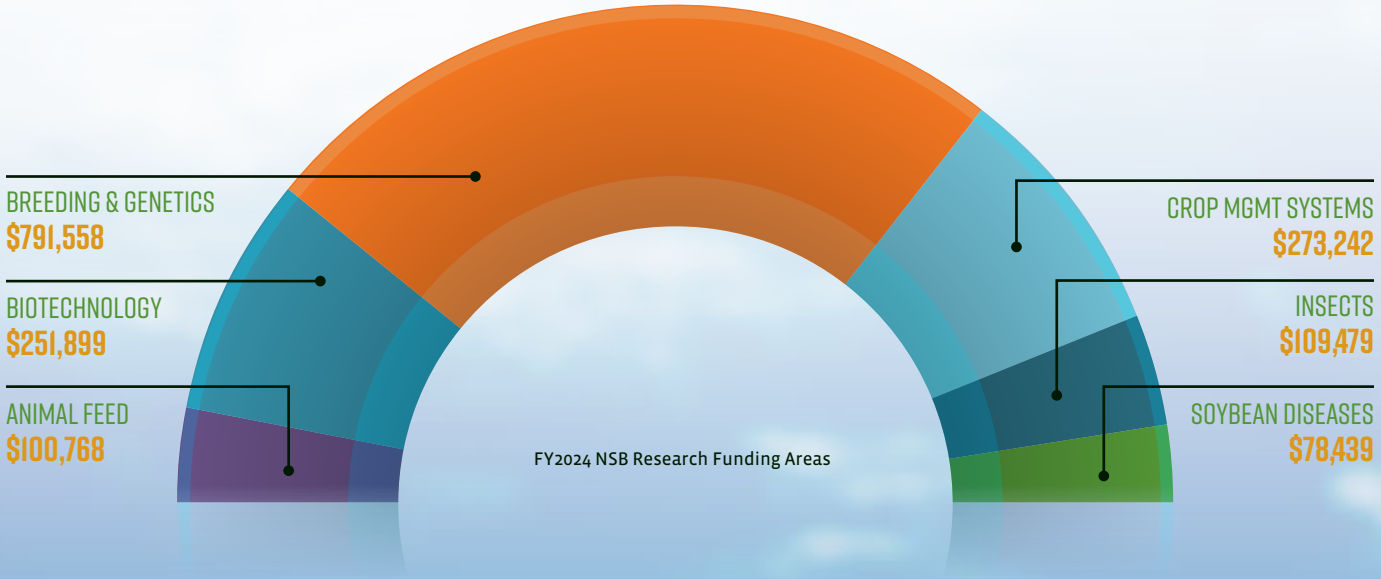
The ILSSO trip to Australia served as a transformative educational experience for all participants, fostering global perspective, cross-cultural understanding, and leadership development. Through engaging with Australia's agricultural community and exploring diverse farming practices, students gained valuable insights into the challenges and opportunities shaping the global agricultural landscape.

As these young leaders return home, their experiences in Australia will undoubtedly inform their educational pursuits and contributions to the agricultural community, both domestically and internationally. With the support of organizations like the Nebraska Soybean Board and the broader FFA network, these students are poised to make a positive difference in the future of agriculture.

Want to learn more about ILSSO? Visit ffa.org/participate/conference/ilsso/.

YIELDING RESULTS

Investing in crucial production research and exploring relevant topics that yield results for Nebraska farmers.



NEBRASKA SOYBEAN BOARD

PRODUCTION & CROP RESEARCH COMMITTEE:

Doug Saathoff (Chair) | Eugene Goering | Blake Johnson | Mike Tomes | Greg Anderson

Larry Tonniges RESEARCH ACHIEVEMENT AWARD 2024

Tom Elmo Clemente, a distinguished figure in the realm of plant genetics and biotechnology, has been bestowed with the Larry Tonniges Research Achievement Award for his groundbreaking contributions to soybean research. As a Principal Investigator and Professor at the University of Nebraska-Lincoln, Clemente has spearheaded innovative research initiatives aimed at enhancing plant germplasm and incorporating genetic engineering to fortify crops against diseases and enhance value-added traits.

With a commitment to advancing agricultural science, Clemente oversees the Plant Transformation Core Research Facility (PTCRF), a cutting-edge establishment facilitating vector constructions, plant transformations and characterizations of transformants. Leveraging his expertise, Clemente's research spans across various crops including soybeans, wheat, maize and sorghum, demonstrating his versatility and dedication to addressing pressing agricultural challenges.

Clemente's illustrious career trajectory underscores his unwavering dedication to scientific inquiry and agricultural advancement. Armed with a Bachelor of Science in Biology from the Indiana University of Pennsylvania, an M.S. in Plant Pathology from Oklahoma State University, and a Ph.D. in Plant Pathology from North Carolina State University, Clemente's academic prowess has been augmented by a litany of accolades. Clemente then went on to conduct postdoctoral studies at The Monsanto Company prior to joining the University of Nebraska–Lincoln family.

Moreover, Clemente's research endeavors have yielded impactful outcomes, exemplified by his pivotal role in identifying a gene crucial for conferring broadleaf crops with resistance to the herbicide dicamba. This discovery has not only paved the way for the development of dicamba-resistant crops but has also spurred further exploration into novel applications of this transformative technology.

In addition to his pioneering research efforts, Clemente has been instrumental in spearheading Nebraska Soybean Board-funded projects aimed at enhancing soybean germplasm through biotechnology, augmenting oil content, bolstering disease resistance, and exploring the integration of soybeans into fish diets.

As the torchbearer of innovation and excellence in soybean research, Tom Elmo Clemente's receipt of the Larry Tonniges Research Achievement award stands as a testament to his unwavering commitment to advancing agricultural science and securing a sustainable future for the soybean industry.

> "It is truly an honor to be recognized by the Nebraska Soybean Board with the Larry Tonniges Research Achievement Award. My interactions with Nebraska soybean producers have been one of the most rewarding experiences of my career at the University of Nebraska. The knowledge gained from these interactions educated me on the economic sustainability challenges facing U.S. agriculture, which in turn, helped inform our research program on traits to target for the development of strategies to deploy to add genetic gains into soybean. These novel genetic gains developed and tested were designed to help improve yield, mitigate yield losses due to disease and abiotic stressors, and add value to the harvest."
>
> — DR. TOM ELMO CLEMENTE

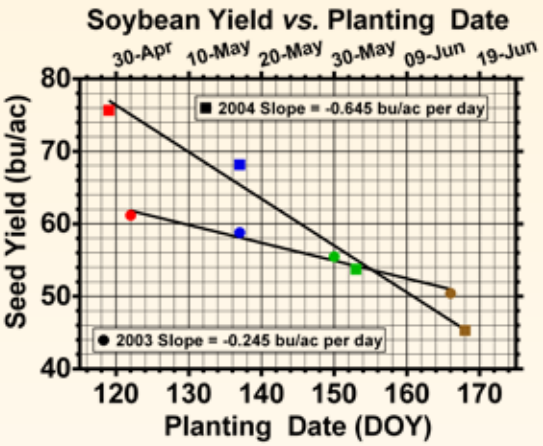
Planting Practices That Optimize Nebraska Soybean Yield Potential

By Dr. Jim Specht. UNL Emeritus Professor

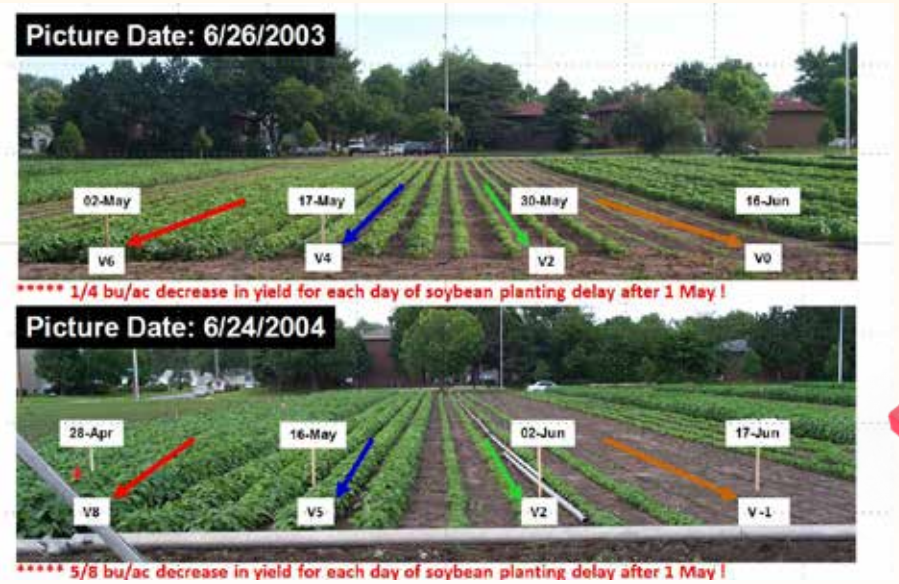
Crops are grown to harvest sunlight, which provides the energy needed to photosynthetically convert carbon dioxide into plant/seed dry matter (i.e., carbohydrates, proteins, and lipids). Soybean seed yield will be constrained by any limitation in the cumulative total of the dawn-to-dusk solar radiation that the plants can capture daily during a seasonal time frame that begins with spring seedling leaflet emergence and ends with autumn drop of yellow leaflets from maturing plants.

Planting date research in Nebraska has shown that when the soybean planting date is advanced from late May / early June to late April date, there is a progressive increase in yield potential that, on average, results in a 0.5 bu/ac yield bump for each day the planting date is advanced to April 30, though this can vary from 0.25 to 0.75 bu/ac, depending on the seasonal weather pattern. Note: a 30-day advance to April 30 would be expected to generate 30 x 0.5 = 15 bu/ac total improvement in seed yield!

The foregoing yield response to earlier planting is more commonly observed in irrigated Nebraska fields, because water stress in low rainfall August year can be mitigated with irrigation. Such mitigation is not possible in Nebraska rainfed fields, where an August drought adversely shortens the seed-fill period, thus suppressing the high yield potential normally attainable with earlier planting. For that reason, producers should early-plant their irrigated fields first, if they have both irrigated and rainfed fields.

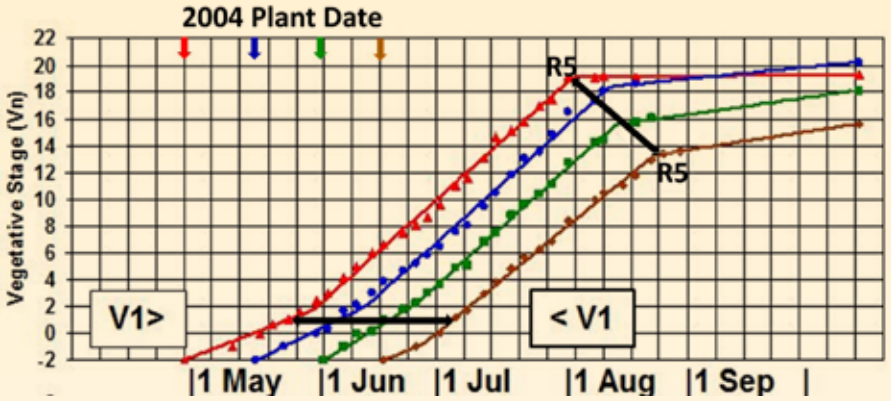


Soybean yield trend with delayed planting of the four strips shown in the image below.



Soybean strips planted on four dates; photo shows Vn stage (signs) just after the summer day.


R5 Stage Soybeans



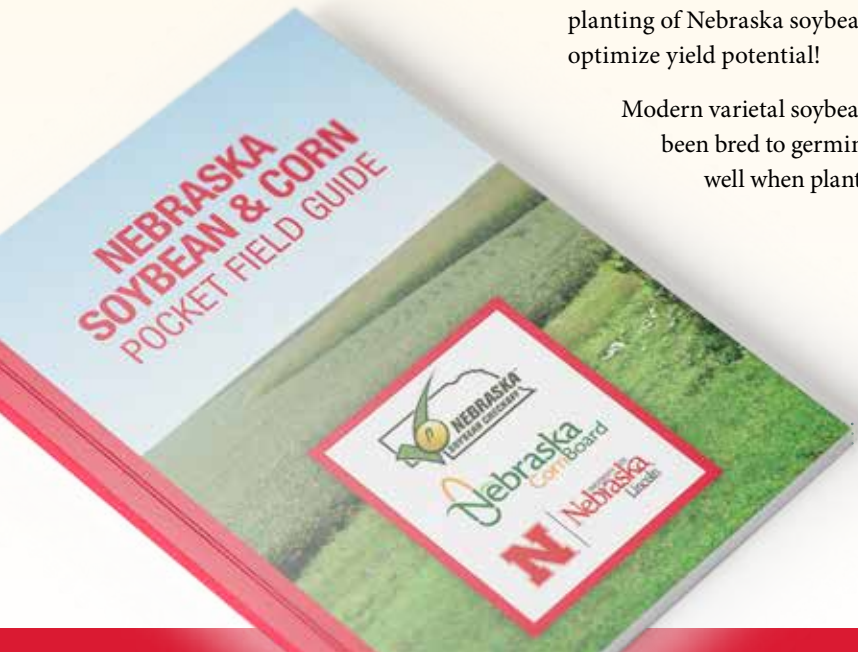
Soybean new main stem node trend for each plant date strip is linear begins at V1 but ends at R5.


V1 Stage Soybeans

A new main stem node appears on the soybean main stem every 3.7 days, beginning after the first trifoliolate leaves appear on the seedlings (**V1** stage) and continuing until seed-filling begins (**R5** stage). Earlier planting results in an earlier date of **V1**, thus resulting in more main stem nodes for flower, pod, and seed production. A 7-day advance in planting date will result in stage **R5** plants having two more main stem nodes. Earlier planting also results in an earlier seasonal canopy closure, which will suppress weed seed germination.

Delayed planting results in a shorter period for both vegetative growth and reproductive development, with less opportunity for nutrient uptake and photosynthate accumulation needed during pod-set and seed-fill. A 30-day planting advance from May 30 to April 30 increases the duration of **R5-R7** stage seed-fill periods by about 12 days, which is another reason earlier planting of Nebraska soybean fields can optimize yield potential!

Modern varietal soybean seed has been bred to germinate quite well when planted into soil temperature of about 45-50° F, and it remains so for post-plant 24 to 48 hour period of imbibitional water uptake that occurs after planting. The osmotic water uptake that occurs thereafter is not cold-sensitive, though low soil temperatures will lead to slower seedling growth and emergence and the time it takes to get to **V1**. However, **V1** still occurs earlier in late April plantings vs mid-May plantings, as can be seen in the graph.



Nebraska Soybean & Corn Pocket Field Guide is available at: https://nebraskasoybeans.org/programs/tools-for-farmers

WISHH leverages partnerships

for U.S. Soy to help meet the protein needs of 8 billion consumers

ASA American Soybean Association

WISHH WORLD INITIATIVE FOR SOY IN HUMAN HEALTH

UNITED SOYBEAN BOARD

FLOWCODE PRIVACY.FLOWCODE.COM

wishh.org

Talking TAPS

Soybeans set to be newest Nebraska TAPS Competition in 2024

The Testing Ag Performance Solutions (TAPS) program initiated by the University of Nebraska-Lincoln (UNL) in 2017 has evolved into an innovative platform for farm management competitions. Initially focused on irrigated corn production at UNL's West Central Research, Extension and Education Center (WCREEC), the program has expanded over the past seven years, incorporating various commodities and locations.

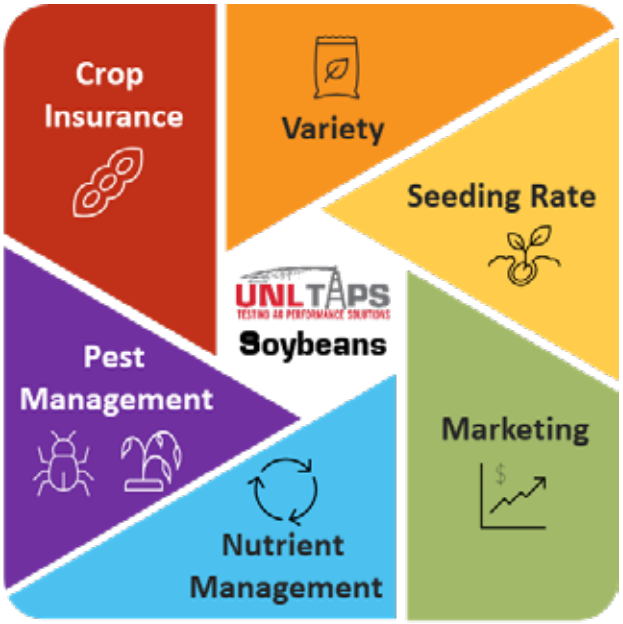
In 2024, the TAPS program is set to include soybeans, expanding its scope to encompass this important commodity. The soybean competition will take place at UNL's Eastern Nebraska Research, Extension and Education Center (ENREEC) near Mead, Nebraska with the support of the Nebraska Soybean Board.

Designed to provide a low-risk, competitive environment to enhance agricultural skills and knowledge, the TAPS program utilizes a research framework that learns from participants' decisions. By engaging in real-time competitions, participants have the opportunity to test and implement tools, technology, and strategies for profitable and input-efficient farm management. The program emphasizes skill development, awareness, and relationship-building within the agricultural community.

Participants in the soybean competition will be tasked with making critical farm management decisions, covering crop insurance, variety selection, seeding rate, pest management (fungicide, insecticide and herbicide), nutrient management, and marketing.

While the irrigation decisions will not be part of the competition due to limitations in equipment in 2024, the UNL team will ensure that the soybean plots at ENREEC are fully irrigated at their discretion.

Details from this year's TAPS competition will be presented during the upcoming Soybean Management Field Days scheduled for this summer, taking place from August 13-16th. Stay tuned for additional information on the event specifics.



UNL TAPS
TESTING AG PERFORMANCE SOLUTIONS

For those interested in staying updated on the TAPS program throughout the season, UNL recommends following UNL-TAPS on social media platforms such as X or Facebook. Additionally, individuals can subscribe to the TAPS digital newsletter to receive regular updates and insights into the progress and outcomes of the farm management competitions.

IN THE FIELDS WITH LAURA

A discussion with Dr. Laura Thompson on research, technology and the future of Nebraska soybean production.

Nebraska Soybean Board (NSB): Could you share with us how you first became involved in Extension and the Nebraska On-Farm Research Network?What inspired you to pursue this career path?

Laura Thompson (LT): During my master's program, I had the privilege of engaging with Nebraska Extension, which profoundly shaped my understanding of career opportunities in extension. My involvement included assisting with several conferences and shadowing extension educators, allowing me to observe firsthand the impactful work of extension in delivering dependable, research-based knowledge to Nebraska's agricultural community.

Given my farming background and formal education in agronomy and digital technologies, I recognized extension as a natural fit for me, presenting an opportunity to apply my expertise to contribute practical, real-world solutions to the challenges faced by farmers.

Dr. Thompson calibrates a drone flight before scouting the field.

Discovering the Nebraska On-Farm Research Network during the interview process was very exciting for me. The program's unique approach to bridging the gap between research and practical application, while actively involving farmers in the co-creation of solutions, resonated with me. I was particularly enthused about the opportunity to not only contribute to cutting-edge agricultural research, but also to make a tangible difference in the lives of farmers.

NSB: What are some of the unique challenges that farmers face in Nebraska, and how does Extension and the Nebraska On-Farm Research Network address these challenges?

LT: Nebraska is characterized by diverse soils, landscapes, and climate dynamics. In addition, the irrigation and management practices used by farmers vary tremendously. Combined, this results in a nuanced environment, where a "one-size-fits-all" approach is not sufficient to tackle the challenges faced by farmers. While Nebraska benefits from numerous research stations, these centers do not always mirror the vast diversity of conditions found across the state. Therefore, the opportunity to conduct trials directly on Nebraska farms provides the opportunity to create tailored solutions that align with the growing environment and management practices faced by Nebraska farmers. One of the biggest values of the Nebraska On-Farm Research Network is its inherent relevance which empowers farmers with solutions that resonate with their unique contexts, fostering sustainable practices and enhancing productivity.

NSB: As a coordinator of the Nebraska On-Farm Research Network, what role do you see technology playing in improving yield and production practices? Can you highlight any recent technological innovations that have made significant impacts in Nebraska soybean farming?

LT: Modern agriculture technologies are revolutionizing farmer practices, providing new avenues for enhanced efficiency. Precision crop management empowers farmers to fine-tune their inputs and maximize returns on a per-acre basis. For instance, farmers can tailor their seeding rates based on soil characteristics and apply targeted seed treatments, such as those combating sudden death syndrome of soybeans, to areas most susceptible to disease.

Furthermore, these technologies offer immense value in simplifying and streamlining the testing of various products and practices. Using geospatial, variable-rate, and as-applied data technologies, farmers can precisely apply and track various products and practices they wish to test in their fields. The impact of these new management practices can be quantitatively

evaluated on the go using yield monitoring technology. This not only facilitates informed decision-making but also allows for evaluations of the spatial effectiveness of these practices within the field.

NSB: Can you provide an example of a successful on-farm research project that resulted in tangible benefits for soybean producers?

LT: On-farm research with soybeans has provided significant insights, particularly in optimizing planting practices. Many of these studies have focused on planting date and seeding rate, spanning diverse soil and climate conditions. Findings consistently indicate that seeding rates ranging from 100,000 to 120,000 seeds/ac tend to maximize yields, providing an opportunity to boost profit by $11 per acre on average by reducing input costs. Numerous studies have also demonstrated yield increases may be achieved by planting soybeans earlier. Some on-farm research has even delved into the combined effects of reducing seeding rates, planting earlier, and applying foliar fungicides and insecticides. Encouragingly, these combined strategies have demonstrated substantial benefits, with reports indicating yield increases of approximately 13 bu/ac in a study in southeast Nebraska and nearly 8 bu/ac in a study in east-central Nebraska.

Numerous other studies have been conducted on soybeans, covering a wide range of topics including starter fertilizer, in-season nitrogen application, seed treatments, variable-rate seeding, maturity groups, harvest dates, and cover crops. Growers and agronomists are encouraged to delve into the wealth of information available in the Nebraska On-Farm Research Network database, where they can explore research findings relevant to their interests and specific geographical area (resultsfinder.unl.edu).

NSB: In your experience, what are some of the key benefits of conducting research directly on farms, as opposed to more controlled settings?

LT: Partnering with farmers to conduct experiments directly on their fields offers numerous advantages. First, this approach ensures that the research is conducted under conditions that accurately represent the farmers' own operation and management practices, as well as the environment in the surrounding area, thereby enhancing the relevance and applicability. Second, involving farmers in the research process ensures that the experiments conducted focus on practices with a high potential for real-world adoption, thus enhancing the practicality of the findings. Third, leveraging the innovative nature of farmers, this approach often leads to the exploration of novel ideas and solutions. Furthermore, when farmers actively participate in testing practices on their own land and witness firsthand how they perform, they are more likely to embrace the results and implement any beneficial changes suggested by the research findings. As someone with a personal background in farming, I have witnessed firsthand the invaluable impact of this collaborative approach.

NSB: How does the Nebraska On-Farm Research Network foster collaboration among farmers, researchers and other stakeholders?

LT: The Nebraska On-Farm Research Network is an immensely collaborative effort, uniting researchers, extension educators, graduate students, crop consultants, natural resource professionals, ag industry experts, and commodity boards in a concerted effort alongside farmers. This collective effort offers an unparalleled advantage, bringing diverse perspectives and experiences directly to the farmer's field.

NSB: What excites you about the future of Nebraska soybean production?

LT: Recent studies have shown that Nebraska is a leader in use of precision agriculture technology, second only to North Dakota. From precision farming techniques to the integration of drones and satellite imagery for comprehensive crop monitoring, these innovations offer farmers valuable tools to enhance yield efficiency and resource management and holds great promise for the advancement of the soybean industry in Nebraska. This presents a unique opportunity to not only sustain or increase production levels but also to advance sustainable farming practices and increase product quality.

Dr. Thompson reviews an on-farm research plan prior to planting with a Nebraska farmer.

NSB: What advice would you give to farmers who are interested in participating in on-farm research initiatives but are unsure of where to start?

LT: We are fortunate to have a dedicated team of local extension educators who are eager to engage directly with farmers and are enthusiastic about the prospect of collaborating with farmers. I strongly encourage farmers to connect with their local educator to discuss topics and questions that are most relevant and crucial to their farm operations. These educators have expertise to assist in refining research topics and establishing reliable experiments, ensuring the research will provide results that farmers can trust and utilize (on-farm-research.unl.edu/personnel).

NSB: Lastly, what gets you out of bed in the morning?

LT: I find great fulfillment in working with innovative research data and engaging my creativity to present research findings using compelling visuals, graphics, images, and stories delivered through diverse channels, including print, social media, television, radio, etc. I am particularly motivated by the knowledge that this work of transforming research from raw data into something that can provide actionable insights is resulting in direct and tangible benefits for Nebraska farmers and the state as a whole.

SOYBEAN RESEARCH & INFORMATION NETWORK

PLANTER, SEED, SRIN... Go!

When it's time for spring fieldwork, you head out when your planter is tuned, your seed is loaded, and the weather forecast is favorable. This year, also include the Soybean Research and Information Network (SRIN) to be even better prepared for what the season throws at you. SRIN is a soybean checkoff-funded website that offers a wide range of easy-access resources that help you diagnose crop production problems and find treatments all season long.

Tailored to address the specific challenges and opportunities of Nebraska soybean growers, SRIN's research explores cutting-edge agricultural technologies and innovative practices. Farmers can delve into articles funded by Nebraska and watch Q&A videos featuring fellow farmers from Nebraska and beyond, sharing insights gleaned from their fields.

The platform's relevance to Nebraska's agricultural landscape ensures that farmers can make well-informed decisions based on region-specific data. By accessing real-world solutions, best practices facilitated by partners such as Science for Success on the site, and data-driven insights, Nebraska farmers are empowered to make decisions that positively impact their soybean crops.

BMP's

In addition, you can access Best Management Practices (BMPs) developed through Science for Success. The program includes 26 Extension specialists from land-grant institutions, including the University of Nebraska, and allows researchers to collaborate on research challenges and update BMPs. Their work is presented through videos, articles and links found on the SRIN site.

SOY Snippets

For the most current news, sign up to receive the monthly e-newsletter with quick-read links to research tips, articles, videos and blog posts. SoySnippets tips are timely brief insights with links to longer articles and are released to correspond with specific, in-season production topics.

Extend your participation in SRIN via Facebook, X and YouTube. All of these platforms provide ways to connect with other farmers within the soybean community to ask questions, compare ideas and foster innovation. Resource sharing is encouraged to maximize opportunities.

SoybeanResearchInfo.com *Funded by the soybean checkoff.*

soybeanresearchinfomationnetwork soyresearchinfo @soybeanresearchinfomation

Summer Weather OUTLOOK

By Eric Hunt and Justin McMechan, University of Nebraska Extension

Bottom Line Up Front

Most model projections of El Niño-Southern Oscillation (ENSO) show the central Pacific going into neutral conditions by early summer and into a weak La Niña state by late summer. Temperatures this summer are generally expected to be seasonally warm and total precipitation is expected to be average to below average statewide. Rapid drought development or intensification is not likely but cannot be discounted. The closest analog to this season is 2016.

Expected Weather

The Climate Prediction Center (CPC) released its latest summer outlook for 2024 back on Thursday, February 15th with a projection of 'Equal Chances' for above, below, and average temperatures and a slightly better-than-average chance at below-average precipitation for northeast Nebraska.

The biggest question on most of your minds is "What does a developing La Niña do for our weather this summer?" The answer is that it sort of depends on what happens in the North Pacific and where the Bermuda High is located. If the North Pacific goes over cold in the next several months with the developing La Niña, the likelihood of stronger upper-level ridging becoming more dominant in the north-central U.S. goes up. This would increase the possibility of a drier summer and drought development or intensification in the Western Corn Belt and Central Great Plains during the growing season.

The summer of 2024 will depend heavily on how the spring goes. If we get ample rainfall in the next 90 days, as currently expected, then the soybean should have a reserve of soil moisture to work with, should we turn dry for a few weeks in early summer as we did in 2016 and is forecast for this summer. In this scenario, even if we end up with some periods of time under a ridge with drier weather, the good start to the summer would make it less likely we end up with a situation where dry begets dry for the entire season. However, if this spring ends up being on the dry side and soil moisture isn't meaningfully replenished this spring, the existing drought in eastern Nebraska will be much more likely to intensify this summer.

Temporal patterns of precipitation can have a significant impact on soybean yields, according to Dr. Jim Specht and William Krantz, unless soil moisture is extremely low before or after planting, it has little impact on soybean yields. Excessive moisture in vegetative stages is likely to result in vegetative growth that can lead to lodging and not yield increases. The most critical time for adequate water is during the pod and seed fill stages when several yield components (Fig. 1) are being determined, which typically begin in early to mid-July.

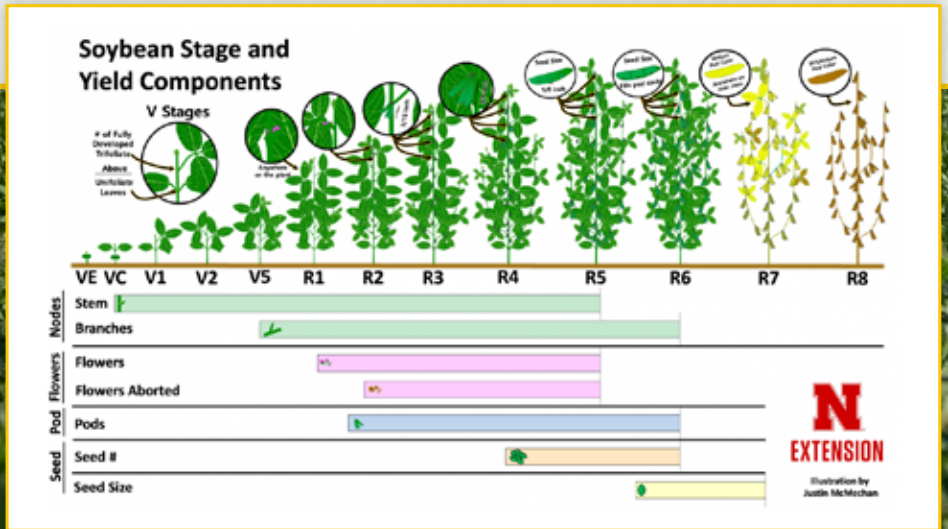


Figure 1

1. Lone Oak Farms | 2. PepsiCo/Frito Lay - Rancho Cucamong a | 3. World Energy - Paramount | 4. Port of Long Beach

A Journey through California Agriculture with Nebraska Farmers

In March, the Nebraska Soybean Board led a group of Nebraska farmers on an immersive trip to California, aiming to explore the state's unique agricultural production and its significant impact on the soybean industry as part of the 2024 See For Yourself Program. The trip promised a firsthand experience of California's agricultural innovations, challenges, sustainability initiatives and the crucial role of biodiesel, renewable diesel (BD/RD) and sustainable aviation fuel (SAF) in reducing carbon emissions.

The "See For Yourself Trip" offered a diverse itinerary, showcasing California's agricultural industry. Some stops on the trip included:

- **Lone Oak Farms:** During the Nebraska Soybean Board See For Yourself trip, participants had the opportunity to visit Lone Oak Farms, owned by Bernard and Rebecca te Velde, who come from a lineage of dairy farmers originating from the Netherlands. Starting with a modest 1600-cow dairy, Bernard and his father expanded rapidly, acquiring 900 acres within five years and eventually establishing Lone Oak Farms, now comprising 28,000 milking cows across six dairies, with an additional 30,000 support animals. Notably, the farm operates three methane digesters and has ownership in a gas hub, underscoring their commitment to sustainable innovations. Furthermore, Lone Oak Farms diversifies its operations with approximately 2,500 acres of tree crops and 10,000 acres of row crops, including ventures in California, Kansas, and Nebraska. This visit highlights Lone Oak Farms' impressive integration of a successful California family farm.
- **PepsiCo/Frito Lay – Rancho Cucamonga:** Participants visited Frito-Lay's production facility, which employs over 480 people and produces more than 100 million pounds of snacks annually. Farmers were able to see the production of Cheetos, Doritos and Funyuns on the line produced from corn deriving from Frito Lay's Gothenburg facility. If you eat a Dorito, Tostito or Frito west of the Mississippi River, it most likely came from the Gothenburg facility. PepsiCo's commitment to sustainability includes sourcing key ingredients sustainably and employing renewable diesel for its operations.
- **World Energy – Paramount:** As one of North America's largest clean energy suppliers, World Energy's Paramount facility leads in sustainable aviation fuel production. A significant investment is underway to convert the plant into a Sustainable Aviation Fuel (SAF) facility,


1.


2.


1.

highlighting the shift towards greener energy solutions.

- **Port of Long Beach:** Participants explored one of America's premier seaports, renowned for its environmental stewardship and efficient goods movement. It holds the top spot as the leading U.S. export seaport and ranks 21st globally for container cargo volume, forming the 9th busiest port complex worldwide alongside the Port of Los Angeles. The port's transition to renewable diesel for cargo-handling equipment demonstrates its commitment to reducing greenhouse gas emissions and supporting clean air initiatives.

Why California Matters to Biodiesel, Renewable Diesel and SAF

With a population of 40 million, California boasts the world's fifth-largest economy. However, this economic prowess comes with substantial environmental challenges, particularly in transportation. The state consumes a staggering 3.5 billion gallons of diesel annually. To combat this, California introduced the groundbreaking Low Carbon Fuel Standard (LCFS) in 2010, aiming to reduce transportation carbon emissions by 20% by 2030.

Initially, the LCFS primarily focused on electric vehicles, with biodiesel and renewable diesel playing a minor role. Concerns about indirect land impacts and food vs. fuel issues hindered the integration of soy-based BD/RD. However, through the efforts of the Nebraska Soybean Board and Clean Fuels Alliance America, data addressing these concerns led to the inclusion of soy-based fuels in the LCFS. By 2023, BD/RD accounted for 60% of California's diesel pool, with projections indicating a rise to 500 million gallons by 2028.

California is now revising its LCFS goals, aiming for at least a 30% carbon reduction by 2030 and 90% by 2045. BD/RD is expected to play a crucial role in achieving these ambitious targets, but there are concerns about capping crop-based fuels. The Nebraska Soybean Board continues to promote biodiesel, renewable diesel and SAF in meeting emission reduction goals.

FARMER FEEDBACK

> I got a better look at what the checkoff is doing to promote our Nebraska products outside of the state. I was grateful for the opportunity to go on this trip. I was able to see things on this trip that I never would have seen otherwise. Eating citrus off the tree and eating chips right off the line was amazing. The Long Beach Port tour was also an amazing experience to understand how our products enter and exit the country.
>
> — Ben Fitzwater, Farmer - Valparaiso, NE

> The See For Yourself program provided a great experience to see another part of the country and how the partnerships between industries drive demand for Nebraska's products. It also helped me to understand a bit more about the energy conversation currently being had in the U.S. and the entire world. As a farmer, it's important to understand how the industry is evolving and the impacts a state like California can have on national and international agriculture. It was a fun and informative trip with other farmers from the state, touring a variety of industries directly or indirectly impacted by Nebraska agriculture.
>
> — Mitchell Zobel, Farmer - Bancroft, NE

> This trip was a great way to showcase what Nebraska farmers and specifically our soybean farmers can provide to the world in terms of feed, food and energy. Teri and the NSB crew provided us with top-notch experiences and learning opportunities that really show off what we as agricultural producers can provide.
>
> — Blake Drohman, Farmer - Hastings, NE

Interested in a future See For Yourself opportunity? Contact the NSB office at 402-441-3240 or contact info@nebraskasoybeans.org.

Nebraska Women in Agriculture Conference Marks 39 Years

By Ryan Evans and Sarah Treffer, Nebraska Extension

The Nebraska Women in Agriculture program marked 39 years of educating and empowering females in farming, ranching and agribusiness, with nearly 380 people attending its annual conference on Feb. 22 and 23 in Kearney.

The event included 25 workshops, five keynotes and other activities to help attendees learn how to better manage risk, improve their farms and ranches and become more successful operators and business partners. For the second year in a row, a pre-conference session was held on Wednesday, focusing on business entity selection.

"After nearly 40 years, the conference continues to grow and gain support, which has really helped freshen the offerings each year in response to changing conditions in the ag industry," said Jessica Groskopf, an extension educator and director of the Nebraska Women in Agriculture program.

As part of Nebraska Extension, the Nebraska Women in Agriculture program works year-round to bring women relevant farm and ranch management education through workshops, webinars, local partner events and more. As the program's signature event, this year's conference offered sessions on agricultural leases, livestock health and marketing, land management, estate and succession planning, mental health and other topics.

Longtime program supporter Jo Beck, a retired professor with the Nebraska College of Technical Agriculture, said that it has been gratifying getting to know many of the women and watching their growth over the four decades that she has been attending the conference.

"A lot of the ladies used to say, 'I'm just a farmer's wife and now they talk about being partners in it or they actually own the farm now," Beck said. "There's just this confidence that's been inspired by coming to Women in Ag."

Like Beck, Betty Von Boening, who now leads a group for women in ag in North Platte, has been attending the event over its entire 39 years, enjoying the comradery and knowledge built every year.

"Networking is my favorite part, I've made a lot of friends" she said. "It's growing and I like the fact that we're getting FFA and college students to come. I think that's important to train the youth to make sure they understand what they are doing right."

Groskopf said she has seen the conference continue to attract more and more young people every year, which she believes bodes well for the future of agriculture in Nebraska. Many generations were well-represented in workshop sessions like those on calculating cattle costs, working with the USDA Farm Service Agency to finance farms and ranches and a panel discussion on advocating for the future of agriculture.

"It's really cool to see this many women come together, considering the last couple of years it was said that a lot of women wouldn't go into agricultural because it's a 'man's deal' — that's not true," said Lauren Garner, a high school student from Hemingford who attended with some fellow FFA members. "Seeing all these women get together and just having a good time talking about agriculture and learning from each other, that's cool."

Ryan Evans is a communications specialist with the University of Nebraska-Lincoln's Center for Agricultural Profitability.

Sarah Treffer is a marketing and communications intern with the Nebraska Women in Agriculture program.

The Nebraska Women in Agriculture Conference will celebrate 40 years during next year's conference, Feb. 20-21, 2025, in Kearney. For more about the program, visit https://wia.unl.edu.

STUCK ON SOYBEANS

Nvirovate's Soy-Based Adhesive Alternative Brings Businesses Together

You read that right. Adhesive.

The sticky stuff that makes sure our packages arrive securely or our coffee can's freshness seal unleashes morning's most glorious scent with a swift pull.

Right now, the world's first sustainable soy adhesive solution is not just ready for market, it's out there.

Maybe you've seen it? Maybe you've grown it?

One thing we do know — this is a landmark opportunity for the soybean industry to diversify on a legendary scale.

From Petroleum to Plants: Why Soy?

Breakthroughs like Nvirovate's soy-based adhesive create additional economic value for the soybean industry. The crop is readily available, and this alternative strengthens national and global demand, supports profitable crop rotation, and demonstrates agribusiness innovation in eco-friendly solutions.

"There's a real opportunity for soybean farmers and producers to increase profitability leveraging their abundant harvests in these new, value-added markets," says James Holbery, Nvirovate CEO and founder.

Plus, the lower emission solution strengthens the adhesive industry's domestic supply chain, offers competitive market pricing, and can be produced using existing adhesive-industry equipment.

The Fruits of Labor: Soy Adhesive in Action

You might be picturing box manufacturing or packaging tape leading this go-to-market story, and you're not alone in this line of thinking.

According to Holbery, "Much to my surprise, it was fruit labels."

And lucky for U.S. fruit exporters, it was a tale of unique supply being ready for global demand.

Countries like Canada, France, New Zealand, and Australia are through or in the process of implementing various legislations requiring fruit labels to be what's called under-the-sink compostable. Not just recyclable, compostable.

Nvirovate's soy-based adhesive solution being 100-percent compostable provides the compliance U.S. fruit and vegetable exporters need to continue to do business moving product.

Think globally. Act locally.

Brand adoption and industry aid is key to Nvirovate's shared success in this space. The ag industry, particularly soybean farmers and associations, have the opportunity to leverage global brand relationships for necessary resources and to make this more widely known.

"Nvirovate is driving to bring this agriculture-based product forward to simultaneously reduce customer cost and their carbon footprint. This shift will gain momentum with the support of local growers, businesses, and farmer coops leveraging brand relationships to help it scale. And I'm willing to spend a few years of my life trying," adds Holbery.

The World's First Sustainable Soy Adhesive Solution

- 100% compostable
- 93–96% bio-based material
- 92% less energy to produce
- Net negative CO_2 emissions
  (sequesters 0.8 lb CO_2 for every pound produced)

Scan here to learn more.

For more on these smart alternatives to petroleum for everyday use, visit Nvirovate.com.

SOY OUTLOOK

Navigating Uncertain Waters: Insights in 2024 for Nebraska and U.S. Soybean Producers

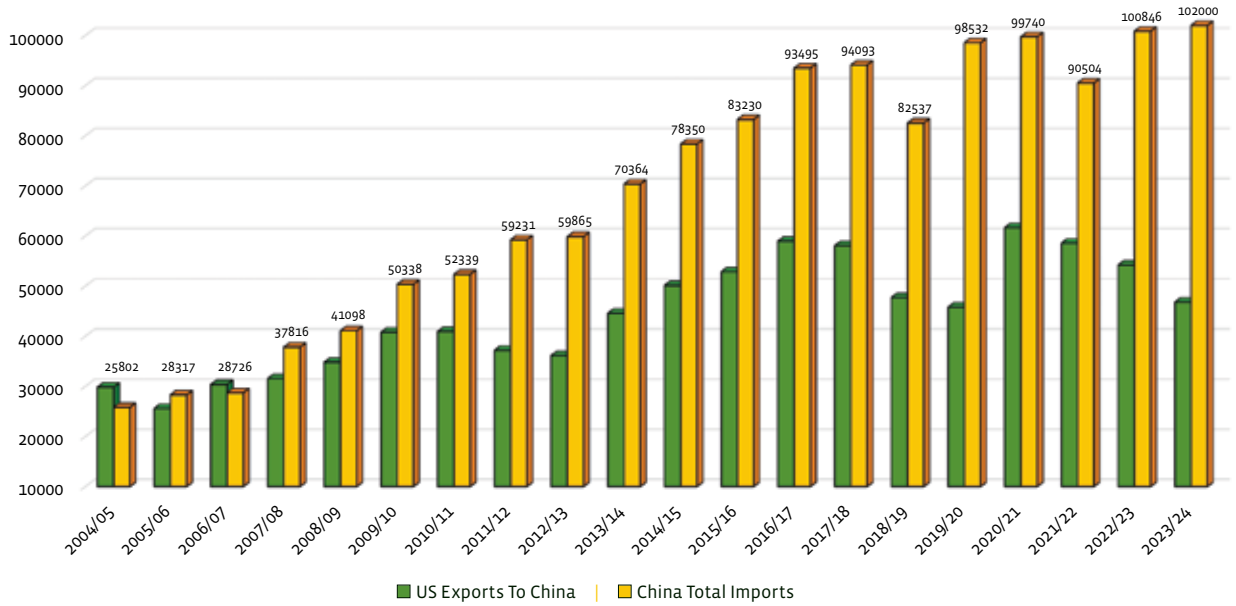
By Mike Zuzulo, President of Global Commodity Analytics & Consulting LLC

As Brazil moves past the halfway mark in their 2023/24 soybean harvest (AgRural put the harvest at 48% as of 2/29), it's important for Nebraska soybean farmers to recognize that in the 2024 growing year, there is as much uncertainty surrounding demand for U.S. soybeans as there is regarding the still-difficult-to-determine supply; in fact, there may be even more uncertainty this year as it relates to demand.

Since coming out of its Zero-COVID lockdown policy late last year, China has been seeing deflationary pressures in its economy. A property-real estate collapse, a domestic stock market losing trillions of dollars, and an over-supply of hogs were key reasons for the disappointing consumption the world has seen in China since the end of last year. By some metrics, roughly 70% of household wealth in China is wrapped up in the property sector; in addition, around 220 Mln. retail investors in China make up approximately 60% of the stock market turnover. With these two sectors being hit the hardest in terms of losses, it should provide more clarity why lower pork consumption in China is so important. Because of falling domestic pork prices helping to ignite food price deflation, I think the demand uncertainty surrounding China's soybean demand in 2024 could be similar to what we experienced in the 2018/19 MY—when U.S. soybean exports to China fell over 12% to 82.537 MMT.

Supporting my concern is that currently USDA-FAS forecasts China's domestic pork 2024 consumption to decline back toward the levels of 2022, to 57,340 MMT CWE; this comes on the heels of a record-high (at least going back to 2004) 58,733 MMT CWE of consumption in 2023. Especially concerning is that this decline in domestic consumption comes at the same time that China's 2023 domestic pork production expanded to its highest levels in nearly a decade. It's important to recall that China both produces and consumes nearly half the world's total of pork.

China - U.S. Soybean Historical Analysis, Mktg. Year | USDA-FAS/Global Comm. Analytics (1,000 MT)



Learn more at www.globalcommresearch.com.

When viewed through the demand prism for soybeans crushed into meal for hog feeding, not only should we be concerned about overall Chinese demand for soybeans this year, we also need to watch the U.S. market-share for this demand—as it has been on the decline since the pandemic. [See China-U.S. Soybean Historical Chart] An example of this: in China's Dalian Province, crush margins went from +$86.20/Ton in September of last year, to -$95.70/Ton by the end of January. Although the price has stabilized since the beginning of February, the loss in margin of this scope is not only going to likely make Chinese importers scrutinize their overall purchases, it's also likely to cause them to scrutinize even more than normal the currency relationship of the country they're purchasing from: be it the U.S., Brazil, or Argentina. As you can see by the price chart for cash soybeans between these three countries, the U.S. remains at a lofty premium. Another update to mention is the National Party Congress (NPC) policy directive to decrease China's self-reliance upon imported agriculture commodities, including soybeans. One specific move by China since the NPC has been to approve new GM traits for grain and soybean seeds to be planted on a larger acreage base in 2024.

This takes us back to the South American supply-production question. For Brazil, USDA has been reluctant to keep-track with CONAB's production cuts since the start of 2024; this has kept the market more unsure of the supply side compared with the past few years, in my view. But when looking at the 3 primary South American soy producers—Brazil, Argentina, and Paraguay—USDA has a combined soybean production of 216.3 MMT vs. 197.1 MMT in 2022/23. When looking at it from this perspective, there are ample supplies, even if we take 7 MMT from Brazil, that still keeps the total at 209.3 MMT, 6.2% more than last year. As a result of this perceived excess supply, we've seen the soybean prices decline, essentially playing catch-up with corn and wheat prices as we closed-out February. My expectation for South American production is close to USDA's Feb. projections for both Argentina (50 MMT) and Paraguay (10.3 MMT); for Brazil, I am lowering my January production estimate by 1.5%, to 151.8 MMT. If correct, I see this as ample to meet an uncertain demand base.

Conclusion: If there are still significant, unknown weather-production issues in South America, these issues should start to show up in the export price. Farmers in Brazil for instance should hold-back from selling if they see large crop losses, and this should then cause export prices to increase. While I'll be watching for this in the coming weeks, I'll also be watching for the Nov'24 Soybean Futures to move back toward $11.80-$12.05/bu. in order to get U.S. producer-clients hedged at a profitable level.

Commodities involve substantial risk of loss and are not suitable for all investors. Past performance is not necessarily indicative of future results. The information and data contained herein was obtained from sources deemed reliable. Their accuracy and completeness are not guaranteed. Any decision to purchase or sell based upon such information is the responsibility of the person authorizing the transaction. Prices could already have factored into them the seasonality or cycles of the market.

MEET THE MAKERS AND THE FARMERS

The Nebraska Soybean Board continues to collect tales of the farmers and businesses leading our industry generation after generation. By and large, they are stories of passion, innovation and partnerships.

Scan to play video

Hadenfeldt Farms | Est. 1927

- 4th generation
- Cairo, Nebraska
- Cow-calf
- Soybeans/corn

Because nothing compares to a life working the land, Sara and Heath Hadenfeldt returned to the family farm after exploring successful career paths in other industries. The importance of knowing farming is in your blood and what you want to do is important, so they hope their kids have similar experiences (and come back).

Scan to play video

Baptista Farms | Est. 2018

- 1st generation
- Ulysses, Nebraska
- Cow-calf/broiler chickens
- Soybeans/corn

There are a few reasons folks line up in Costco waiting for fresh rotisserie chicken, a big one being Baptista Farms. Founder Zemua Baptista's father farmed and ministered in Africa, instilling a passion to work the land and raise animals with great care and compassion. High quality feed being vital to the health and wellness of his birds, soybean meal is a key component of the operation.

Local Soybean Farmers & the Businesses That Bind Us

Subscribe to the **@NESoybeanBoard** YouTube channel, where you'll find these stories and more, including an upcoming story featuring the Zobel Family Farms out of Bancroft, Nebraska.

Bakers Candies | Est. 1987

- Family-run
- Greenwood, Nebraska
- Chocolates/candies
- Retail outlet for local products

Every sweet tooth has soy to thank (in part) for the delicious Bakers Candies Chocolate Meltaways we all know and love. Locally sourced soy lecithin is a key ingredient, ensuring every time we peel back that jewel-colored wrapper, those glorious rectangles look and taste just like they did out of grandma's candy dish growing up.

Scan to play video

Dorothy Lynch | Est. 1964

- Family-run
- Duncan, Nebraska
- Dressing & condiment
- Local jobs & pride

Dorothy did us right — from her original recipe out of St. Paul, Nebraska's Legion Club to grocery shelves, restaurants, and fridges everywhere, Dorothy Lynch Dressing & Condiment is one of the most iconic tastes of our state. And the Hull family has been championing that legacy since the 60s, leveraging local soybean oil to ensure the blend and body deliver the smooth taste with every dip and every pour.

Scan to play video


BECK'S
BELIEVE YOU CAN.
FOR WE LIVE BY FAITH, NOT BY SIGHT.
II CORINTHIANS 5:7