



# ANNUAL REPORT & RESEARCH SUMMARY

2023

# WHAT IS THE EASTERN REGION SOYBEAN BOARD?

The national soy checkoff was created as part of the 1990 Farm Bill. The Federal Act & Order that created the soy checkoff requires that all soybean farmers pay into the soy checkoff at the first point of sale of the soybeans. These funds are then used for promotion, research and education at both the state and national level.

The Eastern Region Soybean Board (ERSB) is the farmer-controlled Qualified State Soybean Board responsible for managing the West Virginia, Florida and New England states' share of funds received from the soybean checkoff program.

In order to maximize funds available for projects and to reduce overhead costs, the ERSB participates in a shared-executive arrangement with the Pennsylvania Soybean Board.

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Nick Kercheval

## A YEAR OF CHANGE

This has been year of change and growth for the soybean industry. On January 1, 2024, Lucas Lentsch joined the United Soybean Board as CEO. When the USB board members and staff outlined their CEO criteria, they emphasized leadership, strategic acumen, adept staff and program management, and a strong connection to agriculture and soy. In interviews with farmer-leaders on the Search and Selection

Committees, Lentsch surpassed these expectations. He was a dairy checkoff executive, former CEO at Midwest Dairy, South Dakota Secretary of Agriculture, and military veteran raised on his family's farm in South Dakota.

Demand for soybean oil is on the rise! Thanks to checkoff investments, we're advancing utilization of soybean oil in biodiesel, biofuels, adhesives, lubricants and coatings. The increasing demand for soy oil and the diversity of applications is a testament to the versatility of the soybean, but also to the sound investments farmers have made through the checkoff over the years. Through work funded by the checkoff, we've also opened new export markets and seen an increase in the international demand for meal in aquaculture.

At the Eastern Region Soybean Board and at the national United Soybean Board, we put the farmer first. Every member of these boards is a soybean grower, and we all pay into the checkoff. As farmers ourselves, we are mindful that checkoff dollars are spent wisely and will yield a payoff to our fellow soybean growers.

This annual report showcases some of the initiatives that support the soybean growers in the Eastern Region. If you have any questions or suggestions of projects you'd like to see funded by the checkoff, please feel free to reach out to us.



EASTERN REGION SOYBEAN BOARD

**Nick Kercheval**

*Chair, Eastern Region Soybean Board*

# ANNUAL FINANCIAL REPORT

Fiscal Year 10.1.23 to 9.30.23

## CASH ASSETS:

Operating Funds	\$72,346
Emergency Preparedness Fund	\$77,550
Dissolution Fund	\$46,240
Less: Liabilities	\$(646)
Net Assets at 9.30.23	\$195,490

## REVENUE:

Assessment Income	\$129,103
Less Assessments Paid to USB & other State QSSB's	\$(81,310)
Other Revenue	\$2,737

## PROGRAM EXPENSES:

Communications	\$(16,396)
Promotion & Education	-
Research*	\$(25,676)
Administration/Audits/Compliance/Insurance/Other	\$(17,259)
Increase/(Decrease) in Net Assets	\$(8,801)

\* This amount reflect the actual disbursement of the funds allocated for research as of September 30, 2023.

# CHECKOFF DOLLARS INVESTED IN RESEARCH

The Eastern Region Soybean Board invests checkoff funds in research that helps answer farmer questions to ensure they are viable and profitable. In Fiscal Year 2023, more than \$25,000 was designated for research projects.

## COLLABORATIVE RESEARCH

Through the checkoff program, soybean growers from various states are pooling their resources, knowledge, and efforts to tackle challenges together. Collaboration allows innovative projects to be developed and funded for research that's most important to farmers with the results disseminated to a wider audience of soybean growers and researchers.

Identifying projects that can apply to multiple states helps to leverage those checkoff funds and enable a bigger impact. By sharing resources and costs, the Eastern Region Soybean Board can join with other states to conduct more in-depth research projects that might have been financially challenging individually.

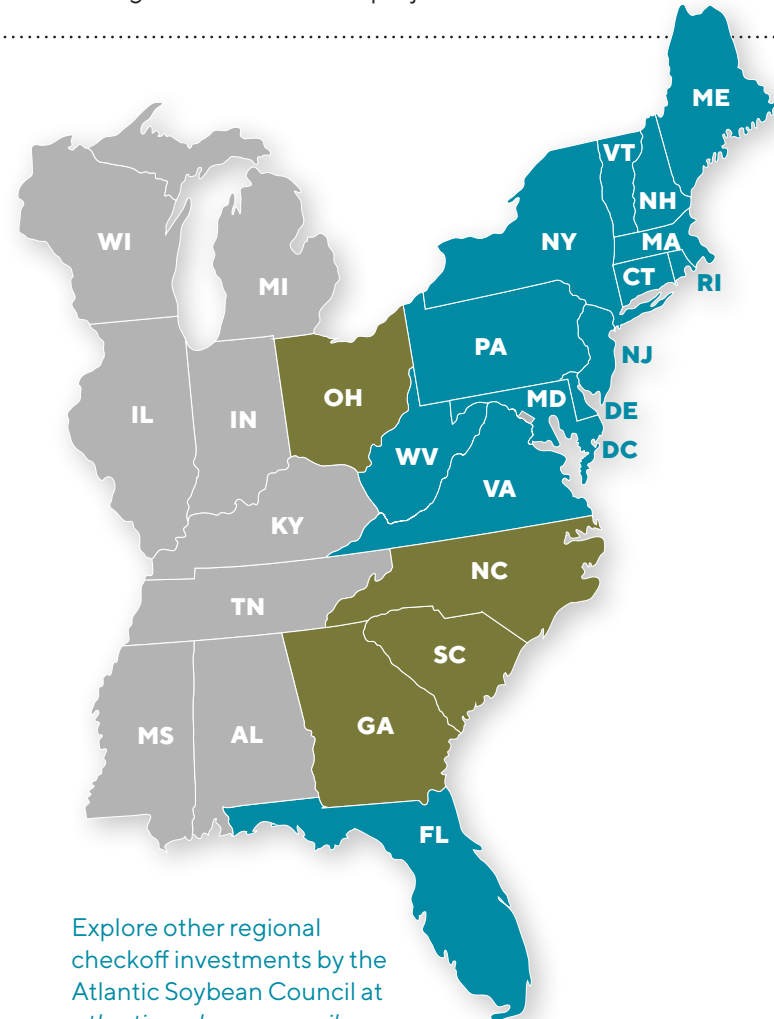
The Atlantic Soybean Council invests checkoff dollars from growers in West Virginia, Florida, and the New England states as well as in Pennsylvania, Delaware, Maryland, New Jersey, New York and Virginia.

The smaller, East Coast soybean-growing states face

unique challenges when it comes to agricultural research and development. Limited resources and expertise can impede progress in understanding crop diseases, optimizing yields, and adopting sustainable practices. This is where collaboration steps in.

The Atlantic Soybean Council provides the opportunity for researchers and producers to identify common areas of research needed. The Council combines soybean checkoff funds from its member states to sponsor basic and applied research to increase soybean profitability and enhance yield, while maintaining or improving soybean composition. Recently, their focus has been on addressing the agronomic challenge of slug control, one of the most frustrating pests in the region.

The Council accepts proposals annually to develop and coordinate a multi-state on-farm research program with the purpose of creating a multi-state on-farm network of replicated field experiments.



Explore other regional checkoff investments by the Atlantic Soybean Council at [atlanticsoybeancouncil.com](http://atlanticsoybeancouncil.com)



# INTERSEEDING COVER CROPS INTO SOYBEANS

Principal researcher: Dr. Heather Darby, Agronomist, University of Vermont Extension

## RESEARCH SUMMARY

Soybean production in far northern regions has increased considerably in the last year as farmers respond to disruptive fluctuations in markets, climate, and farm economics. To overcome these economic and environmental challenges, farmers need region-specific agronomic information to maximize soybean yields while enhancing conservation efforts. The purpose of our trials is to develop and evaluate cover crop strategies for soybean systems that maximize both yields and conservation efforts.

Incorporating cover crops into soybeans can be challenging because the crop is generally harvested in October and November. In the Northeast, the last planting dates for winter rye range between mid-September and mid-October. The goal of this project was to interseed a cover crop into soybeans at later development stages (R7). Depending on the variety, this time frame can also coincide with optimum planting dates for winter rye cover crops in the Northeast.

Winter rye was interseeded into an early (0.70) and late maturity (1.7) soybean variety. Interseeding started on September 21 when the early variety reached R7 and September 29 for the late variety. There was no impact on soybean yield or quality when soybeans were interseeded (Figure 1).

Fall ground cover and rye biomass after the soybean harvest was highest when the rye was planted on September 21, but was not statistically different when planted on September 28 (Figure 2). Ground cover and rye biomass was reduced on average 73% when planted in early to mid-October.

Second, we evaluated the impact of winter rye planting date and seeding rate on the subsequent yield of no-till soybeans. Soybeans were planted into rolled and crimped rye that had been planted the previous fall, on five planting dates (September 12 to October 10) at six seeding rates (0, 15, 25, 50, 80, 105 lbs ac<sup>-1</sup>). These data suggest that winter rye planted in mid to late September will establish better in the fall, provide more spring ground

cover, and produce higher biomass the following year compared to winter rye that is not planted until early October (Figure 3).

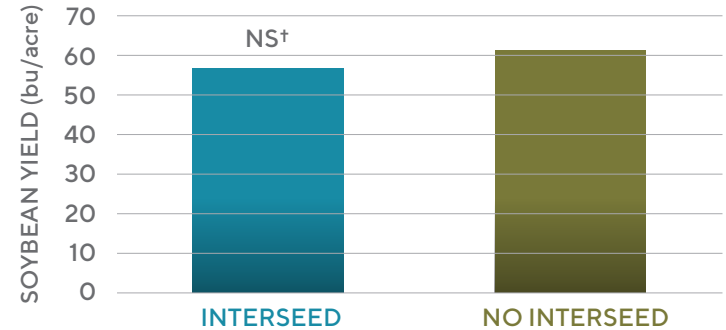
## FINDINGS

Increasing seeding rates will also increase fall establishment, spring ground cover, and spring biomass production for winter rye (Figure 4). Interestingly, those treatments that produced more than 9,000 lbs. of winter rye biomass per acre resulted in the lowest soybean yields. This data indicates that moderate levels of winter rye biomass will likely not negatively impact soybean yield in a cool and wet growing season. The negative correlation between rye biomass and soybean yield emphasizes the importance of management decisions and the trade-offs that farmers must consider if they plan on adopting these conservation practices.

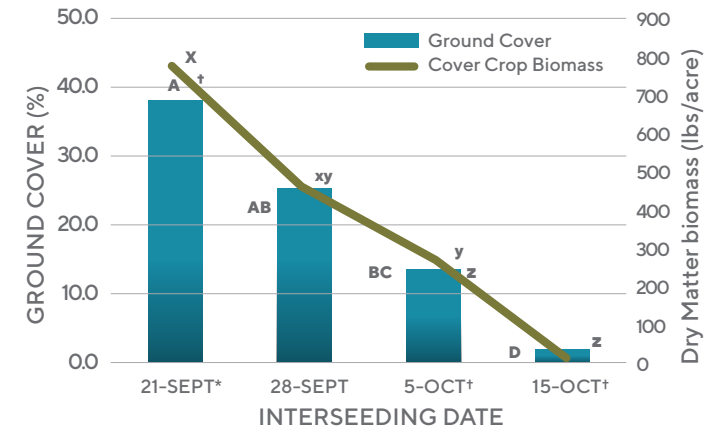


Scan this QR code to learn more.

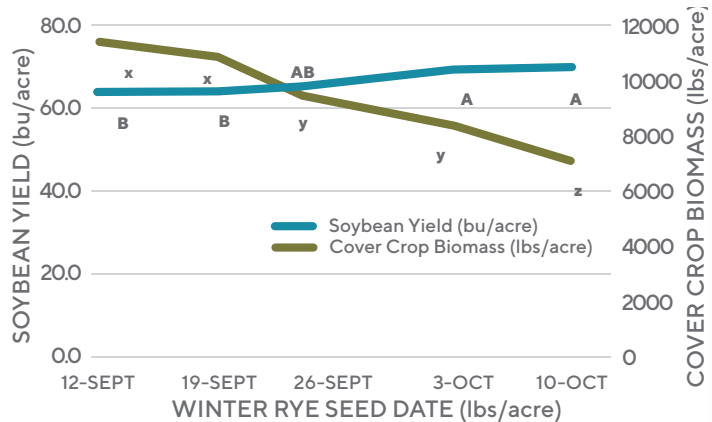
**FIGURE 1** Impact of interseeding on soybean yields. †NS, no significant difference between treatments.



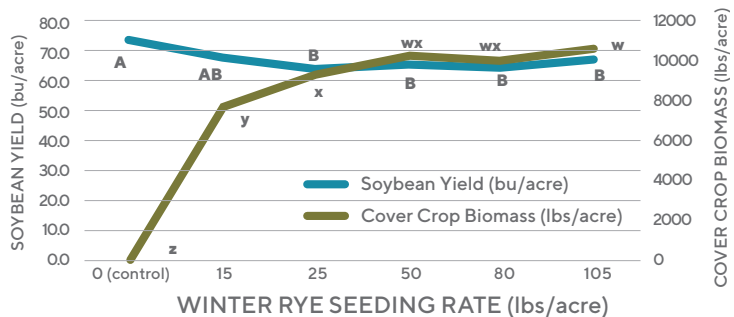
**FIGURE 2** Impact of interseeding date on winter rye ground cover and biomass dry matter yields. \*The cover crop could not be interseeded on 21-Sep in the later maturing variety (SG 1708GTLL) because the plants had not begun to dry down yet. †Treatments with the same letter did not perform significantly differently from one another.



**FIGURE 3** Impact of winter rye planting date on biomass dry matter yields and subsequent soybean yields. †Treatments with the same letter did not perform significantly different from one another.



**FIGURE 4.** Impact of winter rye seeding rate on biomass dry matter yields and subsequent soybean yields. †Treatments with the same letter did not perform significantly different from one another.



Cover crops interseeded into soybeans, prior to harvest, Alburgh, VT, 2023



# SOYBEAN COVER CROP TERMINATION X NITROGEN FERTILITY TRIAL

Principal researcher: Dr. Heather Darby, Agronomist, University of Vermont Extension

## RESEARCH SUMMARY

As soybean production expands throughout Vermont, it is important to understand the potential benefits, consequences, and risks associated with growing cover crops in these systems.

Low rates of nitrogen applied as starter fertilizer may provide additional nitrogen to meet the needs of the crop and make up for what may be tied up by the winter rye cover crop. The main plots were five spring cover crop termination methods (Figure 5) and subplots were four starter nitrogen fertilizer application rates (0, 10, 20, and 30 lbs/ac-1). The winter rye was planted on September 29, 2022. In the spring prior to cover crop termination, cover crop biomass was measured on May 9, 2023 in the Plow and Spray Early treatments and on May 23, 2023 in the Spray Late, Roll & Plant, and Plant & Roll treatments.

## FINDINGS

There was double the amount of biomass in the late terminated rye treatments compared to

earlier termination. There were no statistical differences in rye biomass between any of the late termination methods (Spray Late, Roll & Plant, and Plant then Roll). This suggests that any difference in soybean yield between the late termination treatments was not due to statistically greater biomass in any of those treatments.

The soil temperature was lowest in the late terminated cover crop treatments; however, soil temperatures did not appear to impact soybean yields.

The amount of soil nitrate-N was also statistically greater in the Plow treatment in June and July. There was no statistical difference in soil nitrate-N levels between the Spray Early and Plant then Roll treatment on any sample date except for June 21. This was about one week after the winter rye was roller crimped in the Plant then Roll treatment.

Soybean yields were not statistically different in the Plow, Spray Early, Spray Late, or Roll & Plant treatments. The

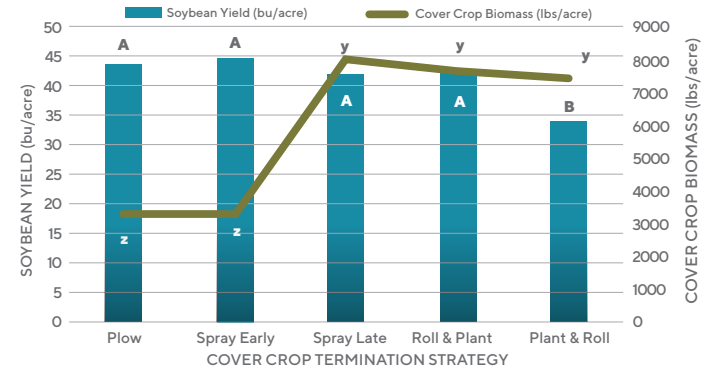
Plant then Roll treatment had significantly reduced soybean yields and higher seed moisture at harvest. All soybeans were planted on June 1, but the winter rye was not roller crimped in the Plant then Roll treatment until after the soybeans had emerged, which was approximately 2 weeks after planting.

Statistical analysis was not done on soybean emergence, but it was observed that soybean emergence was about 5-7 days later in the Plant then Roll treatment than in other termination methods. Cooler soils, late germination, and possibly lower plant populations may have contributed to the yield reductions.

The nitrogen application rates had less of an impact on soybean yields compared to cover crop termination methods. Despite differences in application rates, soil nitrate-N levels were only significantly higher than the control on July 6. Nitrogen fertilizer rates had no impact on soybean yield in this year's trial.

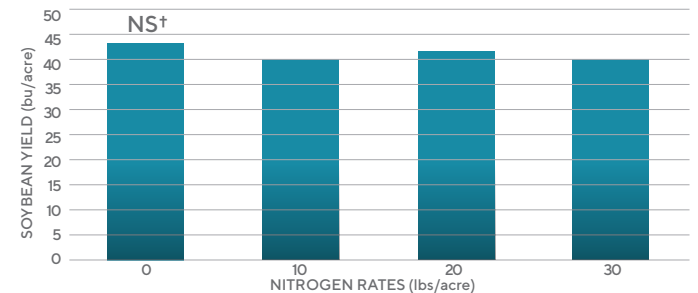
The significant interaction

**FIGURE 5.** Impact of winter rye termination strategies on cover crop dry matter yields and subsequent soybean yields. †Treatments with the same letter did not perform significantly different from one another.



**FIGURE 6.** Impact of nitrogen applied as starter on soybean yield.

†NS, no significant difference between treatments.



between termination method and nitrogen application rate for soil nitrate-N on June 8 and June 21 suggest that increased nitrogen application rates at planting could be beneficial for increasing the available

nitrogen in the soil when there is high cover crop residue or biomass. More research needs to be done to better understand the impact that nitrogen applications at planting can have on soybean yields.



Soybeans growing in a mat of rolled and crimped winter rye, Alburgh, VT, 2023.



**Scan this QR code to learn more.**

# SOY OIL DRIVING GROWTH

**Although food remains the No. 1 use for U.S. soybean oil, thanks to the soy checkoff, demand in other market segments is driving growth.**

## BIOFUELS

As an environmentally friendly alternative to traditional fossil fuels, biodiesel shows promise for a more sustainable energy future. Soybean farmers led the development and growth of the biodiesel industry. Through the checkoff, they have funded research and promotion efforts to ensure biodiesel remains one of the most-used renewable fuels on the market.

Biodiesel is a renewable fuel that can be blended with conventional diesel fuel or used in pure form (B100) for both transportation applications and home heating systems. Recent studies have found that biodiesel and petroleum diesel are almost indistinguishable in terms of use and performance.

Increased demand for biodiesel boosts demand for soybean oil, the feedstock used in more than half the biodiesel produced in the U.S. Increased demand for soybean oil to make biodiesel also increases the supply of soybean meal that can be used to make animal feed. That increased supply leads to lower feed prices paid by poultry and livestock farmers.

The Clean Fuels Alliance America is the U.S. trade association representing the entire biodiesel, renewable diesel and sustainable aviation fuel supply chain. Clean Fuels receives funding from a broad mix of private companies and associations, including the United Soybean Board, the Eastern Region Soybean Board and other state checkoff organizations.

## OTHER NON-FOOD USES

Over the past two decades, soybeans have also become an attractive alternative to petrochemical raw materials across a wide variety of industries. Today, rubbers, fibers, plastics, coatings, solvents, lubricants, inks, adhesives and thousands of consumer products use soy as an ingredient.

Every year, checkoff-supported research helps bring dozens of these new soy products to market. The future looks bright as soy continues to be seen as a desirable alternative to petrochemicals.



## SOY MAKING WAVES IN AQUACULTURE

Aquaculture production is projected to increase in the next couple of decades to meet the growing global demand for protein, and soy figures to be a big part of the solution.

The Food and Agriculture Organization of the United Nations expects aquaculture production to increase by nearly one-third from 2018 to 2030. Many consider aquaculture a key part of the solution to sustainably meeting human protein needs.

As the aquaculture industry continues to expand to meet global fish and seafood demand, U.S. Soybean Export Council (USSEC) is supporting its development. In the 1990s, fish meal was a major source of protein in aquafeed, but since then, the use of soy products in aquaculture has significantly increased.

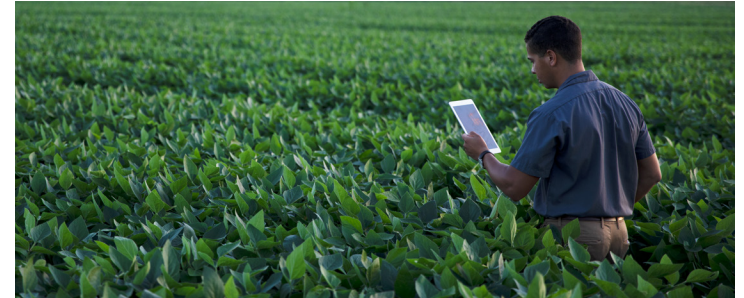
“With aquaculture expansion comes the need to provide sustainable feed ingredients,” says Tom D’Alfonso, Ph.D., USSEC director of animal and aquaculture. “That’s where U.S. Soy shines — as a verified sustainable solution to meeting aquafeed protein needs in many species. USSEC highlights U.S. Soy for the aquaculture industry through ongoing education, long-term relationships, and investments in innovation.”

The USSEC team works closely with aquaculture producers and industry partners to share new information and deepen knowledge as technology improves. With soy checkoff and U.S. government support for agricultural trade, they consistently position U.S. Soy as an aquafeed solution with high nutrient value, protein density, digestibility, and



amino acid profile to support growth and health. Work within the aquaculture industry also highlights how U.S. Soy generates potential to strengthen international relationships while improving food security.

USSEC represents the interests of U.S. soybean growers, and allied agribusinesses and agricultural organizations. It funded in part by the U.S. soy checkoff.





## BRINGING RESEARCH FINDINGS TO FARMERS

Check out the findings from the research projects the soy checkoff invests in at the national and state levels on the Soybean Research & Information Network (SRIN) website.

SRIN was launched to communicate checkoff supported research projects to soybean farmers across the country and be a virtual resource full of information and toolkits for more efficient soybean production.

Each article on the SRIN website provides insight and explanation on the research findings and links directly to the study in the research database for further exploration.

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