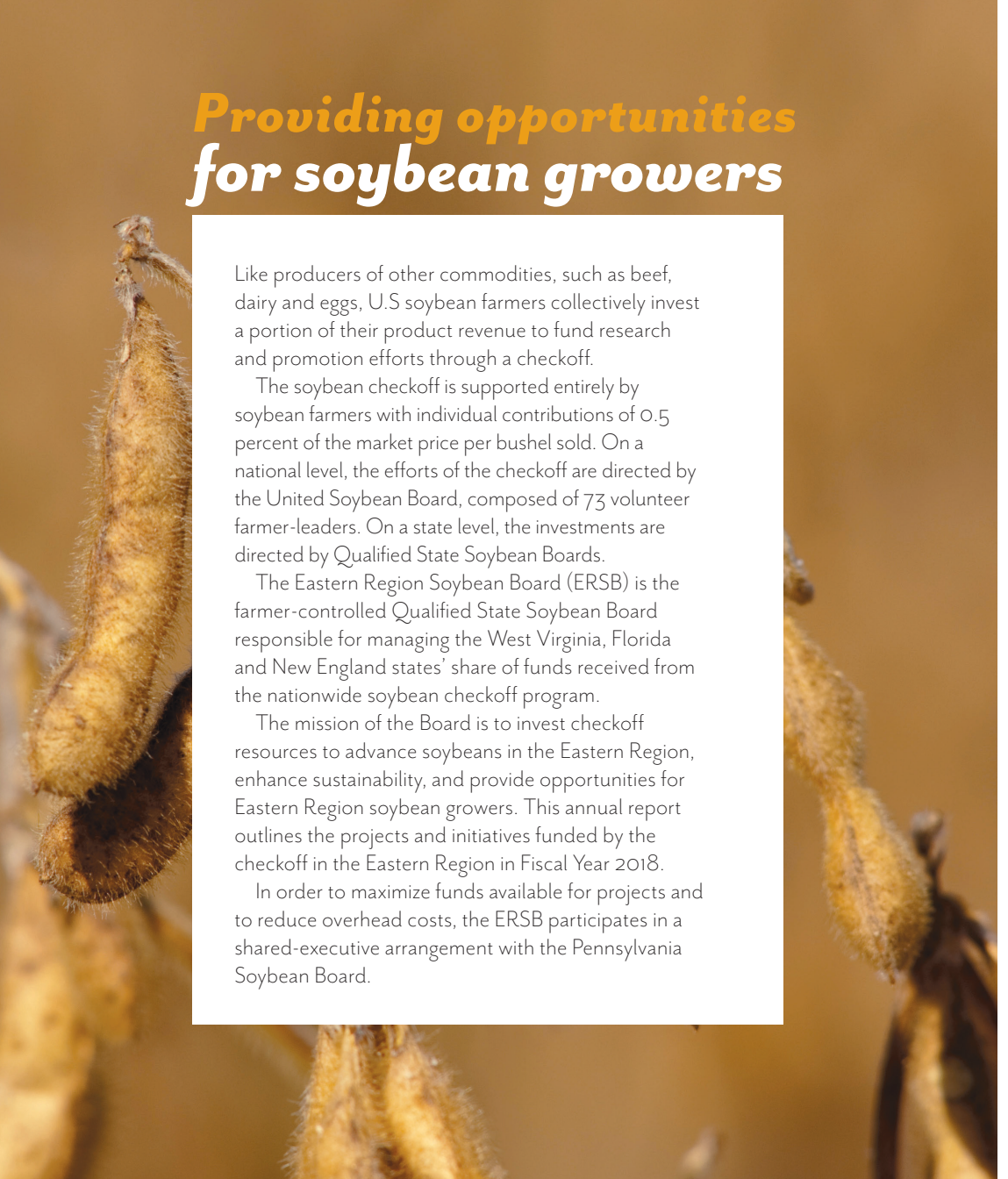

EASTERN REGION
SOYBEAN BOARD
ANNUAL
REPORT
FISCAL YEAR 2018
OUR SOY
CHECKOFF™



Providing opportunities for soybean growers

Like producers of other commodities, such as beef, dairy and eggs, U.S soybean farmers collectively invest a portion of their product revenue to fund research and promotion efforts through a checkoff.

The soybean checkoff is supported entirely by soybean farmers with individual contributions of 0.5 percent of the market price per bushel sold. On a national level, the efforts of the checkoff are directed by the United Soybean Board, composed of 73 volunteer farmer-leaders. On a state level, the investments are directed by Qualified State Soybean Boards.

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 nationwide soybean checkoff program.

The mission of the Board is to invest checkoff resources to advance soybeans in the Eastern Region, enhance sustainability, and provide opportunities for Eastern Region soybean growers. This annual report outlines the projects and initiatives funded by the checkoff in the Eastern Region in Fiscal Year 2018.

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.

Your checkoff works for U.S. soybean growers

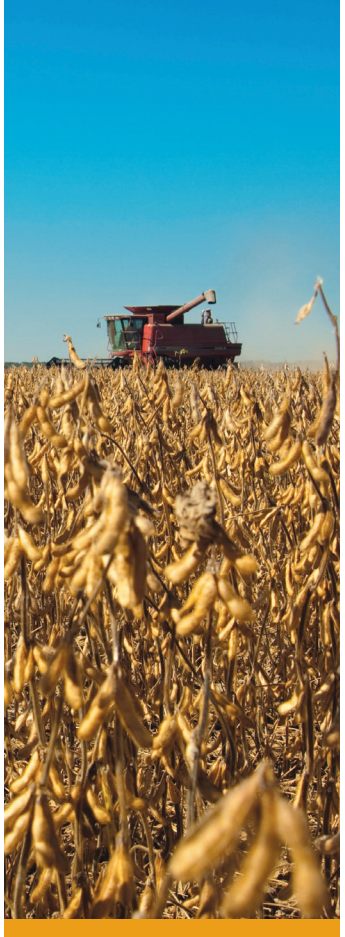
Since its inception, the soy checkoff has existed for one reason: to create profit opportunities for America's soybean farmers. Success for soybean farmers in today's market takes more than just a good harvest. Increasing demand for soybeans is an essential part of the equation. The soybean checkoff helps facilitate market growth and creation by funding and directing marketing, research and commercialization programs. By building demand both at home and abroad, the soybean checkoff helps ensure a strong and profitable future for U.S. soybean farmers.

At the checkoff, we call profit opportunities "cropportunities." From feed to fork, biodiesel to car tires, U.S. soy has evolved into the ultimate raw material. Each of these numerous, diverse uses began as a single #Cropportunity.

After 25 years of cropportunities, revenue has nearly quadrupled for U.S. soy farmers from $11 billion to $41 billion. Creating cropportunities is an innovation-by-innovation, around-the-clock mission. That's why the checkoff will always have an eye on the future, looking for the next #Cropportunity that can make a difference to the bottom line.

What is a #Cropportunity? It's looking out and thinking big. It's being aware and identifying every possibility to put soybean crops to use. It's ideas, research, strategy and drive all put into action to help soybean growers prosper.

#Cropportunity is your checkoff dollars at work — new revenue streams created, existing markets expanded or revived in new, exciting ways that open up demand and drive sales.



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Volunteers sought to serve on Soybean Board

The Eastern Region Soybean Board (ERSB) is currently seeking nominations of individuals who would be willing to serve on the Board of Directors. To be eligible to join the Board, nominees must grow soybeans in Connecticut, Florida, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont or West Virginia and participate in the checkoff.

The ERSB is committed to growing leadership to serve on its Board that reflects a diversity of perspectives. That diversity is aimed at reflecting size of operation, experience of members, methods of production and distribution, ethnicity and gender, marketing strategies, and other distinguishing factors that will bring different perspectives and ideas to the table.

Individuals who are interested in being considered to serve on the Board are asked to contact Jennifer Reed-Harry, Executive Director, at (717) 651-5922 or via email at *jrharry@pasoybean.org*.

Soy Stats
Florida harvested
476,000 BUSHELS
of soybeans, valued at $4.2 million in 2017.

Soy Stats
West Virginia harvested
1,404,000 BUSHELS
of soybeans, valued at $13.1 million in 2017.

FISCAL YEAR 2018

Oct. 1, 2017 – Sept. 30, 2018

INCOME		
Carryover from FY '16-17	$	20,869
FY '16-17 Assessments	$	71,942
TOTAL INCOME	**$**	**92,811**

EXPENSES		
50% of FY '17-18 Assessments to United Soybean Board	$	35,971
Administration, Compliance, Audits, Insurance	$	11,100
Communications	$	11,300
Promotion/Education	$	8,120
Research	$	15,380
TOTAL EXPENSES	**$**	**81,871**

CARRYOVER		
Carryover available for FY '18-19	**$**	**10,940**

PRODUCTION RESEARCH

Maximizing Soybean Production in the Northeast

University of Vermont

Due to the relatively short growing season in New England, little research has been conducted on soybeans and the insects and diseases that can affect yield and quality. However, a research project funded by the Eastern Region Soybean Board and conducted by Dr. Heather Darby, University of Vermont Extension, is changing that.

Now into its third year, Dr. Darby's research at the University's Borderview Research Farm in Alburgh, Vermont, aims to evaluate yield and quality of short-season soybean varieties as well as documenting optimum planting dates for the region and developing cover cropping practices for soybeans.

VARIETY TRIAL

The soybean variety trial included 23 varieties from five different seed companies spanning maturity groups 0.07 to 2. Population counts were taken and then scouted for insects and disease throughout the summer. The plots were then rated on a 1-10 scale to provide insight into relative disease and aphid susceptibility of the varieties.

Despite wet weather through most of the season, soybean yields were high, ranging from 38.1 to 71.6 bu./acre. Fourteen of the 23 varieties in the trial yielded greater than 60 bu./acre.

PLANTING DATE TRIAL

"One of the goals of the planting date study was to determine how late soybeans can be planted in Vermont while still reaching maturity and producing adequate yields," says Darby. "In addition, we wanted to determine how soybeans respond to shifting planting dates in terms of other characteristics such as pest and disease pressure. As more producers in the region look for additional crops to diversify their operations, we hope to provide basic agronomic information to help producers succeed."

The planting date trial included two varieties, one early (1.0) and one mid-group (1.7) maturity, planted approximately weekly from May 20 through June 10. The research showed that planting date significantly impacted soybean yields.

"This suggests that delaying planting until June in this region could lead to increased yields," says Darby. "However, May was unseasonably cool and wet, which may have impacted soybean performance. Additional years and environments of research are required to develop planting date recommendations for the region."

COVER CROP TRIAL

"With a growing concern of agriculturally related water quality implications in Vermont waterways, farmers are now required in some instances to cover crop their annually cropped fields," says Darby. "However, with this increase in cover cropping there is a need to investigate potential effects on following cash crops including soybeans."

Of the 10 cover crop treatments examined, five did not produce living vegetation in the spring while the other five treatments did. Overwintering treatments produced on average 67.9 bu./acre while the treatments that had living spring biomass produced on average 60.4 bu./acre.

"This suggests that soybean yields may be negatively impacted by preceding overwintering cover crops," says Darby. "But to fully understand this interaction, we need to collect more data, such as nutrient content of the cover crop biomass and availability, as differences between mixture composition would likely influence soybean yields differently.

"We also attempted to interseed cover crops into established soybeans. We'll continue to investigate cover crop seeding methods and timings that support cover crop establishment and high yielding soybeans."

The complete report, including the results of the variety trials, will be available after April 15, 2019 at www.easternregionsoy.com.

Soybean leaves infected with soybean rust. Photo by Christine Stone

PRODUCTION RESEARCH

Improving Soybean Agronomic Practices

University of Florida

SENTINEL PLOTS

Soybean rust continues to be a serious disease of soybeans in the U.S. and it's on the move. Soybean rust must have live, green tissue to survive, and in frost-free areas like Florida, kudzu is the most important overwintering reservoir for the fungus. It allows for the increase of spores, which can be readily carried long distances by the wind to new, rust-free regions.

Eastern Region Soybean Board checkoff funding granted to the University of Florida is enabling researchers to monitor soybean rust on kudzu populations and soybean sentinel plots to inform a national monitoring network.

To stem the spread of the disease, early detection is a must along with an aggressive fungicide control program. The sentinel plot system that has been established provides an early warning of infection to nearby states. This information helps growers time their fungicide applications.

VARIETY TRIALS

Variety trials funded by the Eastern Soybean Board checkoff enabled researchers at the University of Florida to investigate differences in yield and disease between determinant and indeterminant varieties. Yields differed significantly between varieties with determinant variety achieving a significantly higher mean yield (86.08 bu./acre) than either of the indeterminant maturity group IV varieties.

"High yields were achieved in field studies with both indeterminant maturity group IV and determinant group V varieties under growing conditions in Florida," says Dr. David Wright, Professor of Agronomy, who along with Dr. Ian Small, Assistant Professor of Plant Pathology, was the principal researcher for the project.

"Although we hypothesized that there might be a potential advantage conferred by the indeterminate nature of the maturity group IV varieties selected for this study, we did not observe higher yields for these varieties. It is possible that early planting and harvesting of maturity group IV varieties might confer an advantage, but we followed standard planting dates for this study. In Florida, maturity groups 5 through 7 are recommended and the results of this study support the existing recommendations. Although the acreage of soybeans produced in Florida has declined relative to historic acreages it is apparent from this study that high yields can still be achieved under our local production conditions."

University of Florida researchers have also recently initiated a four-year life cycle analysis (LCA) that will include soybean as one of the crops in the study. An LCA is a tool that can be used to evaluate the potential environmental impacts of a product.

PRODUCTION RESEARCH

Double-Crop Soybean Following Wheat Harvest

Mid-Atlantic Soybean Research Consortium

Preliminary findings in a research project partially funded by the Eastern Region Soybean Board indicate that planting soybean early following high-moisture wheat harvest is an excellent management practice for increasing double-crop soybean yield for growers in the Mid-Atlantic region.

"Other practices help, but are not nearly as important," says Dr. David Holshouser, Associate Professor and Extension Agronomist at Virginia Tech, who headed the multi-state research project. "Furthermore, early wheat harvest resulted in greater wheat yields and quality. This research provides the strongest and most comprehensive data ever developed in the Mid-Atlantic region that supports early high-moisture wheat harvest."

Holshouser notes that soybean following winter wheat is the most prevalent double-cropping system in the United States. Nearly half of Mid-Atlantic soybean acres are planted after small grain harvest. "Although the advantages of double-crop wheat-soybean systems are many, the late planting date historically results in 10-30% less yield versus full-season soybean," says Holshouser. The research project aims at increasing yield and profitably for Mid-Atlantic double-crop soybean by evaluating cropping practices that improve soybean yields following winter wheat.

The research evaluated the effect of early high-moisture wheat harvest on wheat and double-crop soybean yield and quality through coordinated multi-state trials across five Mid-Atlantic states including Pennsylvania, Maryland, Delaware, Virginia and North Carolina during 2015 to 2017. According to Holshouser, the research of more than 20 site years is the strongest and most comprehensive data set ever developed in the Mid-Atlantic region that supports early high-moisture wheat harvest.

"The next step is to begin intensive dialog with buyers of wheat and soybean and with dryer manufacturers that will allow higher-moisture wheat harvest," says Holshouser. "Harvesting wheat at higher moisture (15-20%) can increase wheat yield by reducing test weight loss and increasing quality. Additionally, double-crop soybean yield increases by allowing earlier planting. This practice may increase overall double-crop income. However, we must recognize that drying costs could increase, especially if specialized drying is needed. Future efforts will focus on an economic analysis and beginning a discussion with grain buyers to encourage them to purchase high-moisture wheat without dockage."

New uses for soybeans

The future for soy-based products looks bright. Every year, new soy products come to market thanks in part to checkoff support. More than 1,000 soy-based products are currently commercially available — from flooring to tires to candles and personal care items.

In the last decade, industrial, non-biodiesel use of soybean oil in the U.S. increased by more than 50 percent. Manufacturers of both industrial and consumer products are using soybean oil and meal to replace petroleum and other volatile or hazardous ingredients, as well as increase product performance. The versatility of U.S. soybean components makes product applications remarkably wide-ranging, including rubber, fiber, coatings, solvents, plastics, lubricants and adhesives.

Adding yet another reason for product manufacturers to look at using soybeans, high oleic soybeans provide industrial users with an oil that remains stable in high-heat conditions. With the potential to add demand for soybeans in markets that require performance under high-heat conditions — such as synthetic motor oils and automotive lubricants — high oleic soybeans are currently grown in 12 states.

In addition to helping manufacturers reduce their dependency on petrochemicals and insulate themselves from price fluctuations for raw materials, soybeans enable manufacturers to replace possible carcinogens and satisfy consumer demand for sustainable, environmentally friendly products.

The soybean checkoff supports innovative research that leads to the development and commercialization of sustainable, high-performing products that use soy to increase and diversify demand for U.S. soybeans. Checkoff-supported research has demonstrated that soy works as a cost-competitive replacement for petrochemicals in manufacturing. This expedites commercialization of soy-based products.

During the United Soybean Board's 2017 fiscal year, 17 new checkoff-supported, soy-based products were commercialized. Thanks in part to checkoff-funded research, Goodyear Tire & Rubber Company discovered using soybean oil in tires resulted in better traction in wet and winter conditions and launched a line of soy-based tires offered in a wide range of sizes, covering 77 percent of cars, minivans and SUVs on the road today.

Find out more at www.soybiobased.org

Aquaculture – a promising market for U.S. soybeans

Fish love soybean meal, so fish farming is a promising market for U.S. soybeans.

According to research funded by the soybean checkoff, the aquaculture sector has the potential to use millions of bushels of U.S. soy.

The checkoff supports aquaculture producers along with all animal farmers, the leading customers of U.S. soybeans. Partnerships between seafood producers and U.S. soybean farmers continue to produce results as both seek ways to improve the aquaculture sector as a sustainable source of nutritious finfish and shellfish.

Health experts at the American Heart Association and other organizations recommend people eat fish twice a week. But wild-caught fisheries can't sustain the increasing pressure of global seafood demands. By 2030, an additional 41 million tons of fish per year will be needed to maintain current levels of seafood consumption. Wild fish capture reached its maximum volume cap in the mid-1980s and can't grow to meet this increased demand.

Responsible fish farming is the only way to bridge the gap between the wild supply shortfall, critical consumer demand, and health needs. Globally, aquaculture now provides 50% of all seafood for human consumption. Increasing the availability of soy-fed, farm-raised fish will fulfill this growing need while conserving natural resources.

Soybean meal, soy protein concentrates, soybean oil, and other vegetable proteins and oils, can replace from one-third to one-half of the fishmeal in feeds for many farmed species, reducing the need for wild-caught fish for fishmeal.

Another plus for aquaculture customers: soybean meal costs significantly less than most animal meals, including fish meal. Reducing feed cost is critical to improving efficiency and maintaining sustainability in aquaculture operations. Because the nutrient requirements of farmed fish and shellfish are so complex, each feed ratio is formulated based on the individual species' needs. Most farm-raised fish and shellfish can easily digest soymeal, which helps the fish more efficiently transform ingested protein into body weight.

Soybean meal provides a consistent product to fish farmers, which in turn allows soybean producers to supply consumers, chefs, and others with fish and shrimp of consistent quality, size, and supply.

Aquaculture is the fastest growing food production sector, and is expected to increase an additional 33% by 2021.*

***United Nations Food & Agriculture Organization**