Eastern Region Soybean Board

CHECKPOINT

A Newsletter for Florida, West Virgina and New England Soybean Growers

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SOYBEAN PRODUCTION GROWING IN VERMONT

Checkoff grant funds short-season variety trials and cover crop research

When you think of soybean production, Vermont certainly isn't the first state that comes to mind. But thanks to dairy producers, soybean production is growing in the state. In fact, in the past five years, soybean acres have doubled.

Nearly 80% of Vermont's farmland is devoted to supporting dairy production. Dairy producers are raising more soybeans than ever as a rotational crop and as an on-farm ration source. "The interest in growing soybeans is building, especially in the dairy community," says Dr. Heather Darby, an agronomist with the University of Vermont.

"Dairy farmers are trying to integrate soybeans into their production system and trying to become more self-sufficient by growing their own grain. They already grow corn for silage mostly, so it's a good addition to the rotation with a really positive crop that can be utilized on their farm."

A checkoff grant from the Eastern Region Soybean Board has enabled Dr. Darby to explore two research projects that have the potential of significantly impacting the profitability of soybean producers throughout the New England states. The first project is a variety trial to identify the best short season varieties and maturities. The second is a research project on cover crops that has the potential to increase soil quality, minimize pest pressure, and optimize yields. "I'm super excited," says Darby. "It's a great opportunity for us to get some far north region data that's not available right now."

Unique challenges

The New England states face a variety of production challenges unique to their climate. "The very short season is in itself a challenge," Darby explains. "Weather is a variable for any farmer, but variable weather is even more problematic when you have less of a season. That is our primary challenge.

"It's becoming increasingly difficult to grow reliability productive crops in our region due to the erratic climate," Darby continues. "In the Northeast alone, the incidence of rain storms with at least 2" of rain has increased by more than 70% since the 1950s. These types of extreme events predispose our farms to added risks, including unpredictable soil and nutrient losses and increased insect and disease pressures. It's important for us to identify practices that can help farmers adapt to these climate extremes to increase yields and farm profits."

Variety trials focus on short-season beans

The variety trials are being conducted at the Borderview Research Farm in the most northwestern corner of Vermont, just across the border from Canada. A total of 32 varieties with maturities from 000 to 1.5 were planted and monitored for growth and development as well as insect and disease pests. Once harvested, data will be collected on yields, moisture and test weight. Oil content and meal quality will also be documented.

"A lot of companies were really interested in this trial because they don't often have the opportunity to look at varieties that are very, very short season," says Darby. "Farmers here can see 60- to 70-bushel yields, but the average is probably around 40 bushels. We've never really had variety trials here, so I think that will really help farmers select the best varieties, which is really important."

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Cover crops research

For the cover crop research, cover crops will be established in the fall after a corn crop or interseeded into soybeans at different stages. The impact on cover crops on weed biomass, soil nutrients and soil health will be measured.

"These are short season soybeans so they tend not to canopy as much. They're not as bushy as other soybeans, so the timing of interseeding cover crops, and the types of cover crops we use, might be different than other areas of the country," says Darby. "We will be seeding as the beans are starting to dry down, once the leaves are starting to turn yellow. We'll seed again after all the leaves have dropped. We're going to use a dwarf rye grass with a short white clover, something that would be used in orchards that has very low growth that won't grow too tall and get in the way of harvest."

Sharing information

Sharing the results of the research with farmers is a prime objective of the checkoff grant. Dr. Darby and her fellow Extension educators and agronomists throughout the New England area collaborate by publicizing the information on their websites, on social media, and at a variety of field days, crop conferences, and other events that draw farmers and crop advisors.

"We have a very active website and we write farmer-friendly research reports on every project that we do," says Darby. "We post them and we also distribute them at the different agricultural events we host and also go to. That's probably at least 16 events a year. Even if we're not actually presenting on that topic, we bring the research reports with us so farmers have access to the reports they want."

In July, over 225 attendees from Vermont, New York, Pennsylvania, Connecticut, Massachusetts, New Hampshire, Maine, New Jersey, and Quebec came together to see the research first-hand when the Borderview Research Farm hosted a field day. "They actually got a close-up look at the soybean research plots and were able to see the short season varieties growing in the field," says Darby. At another field day in the fall, farmers can see the dried-down soybeans and the cover crop project.

Darby is appreciative of the opportunity afforded by the checkoff grant.

"The checkoff grant gives us the ability to fund projects that aren't normally funded through USDA grants and to research areas that are outside the larger soybean growing areas. To the best of my knowledge, there's been no research into cover crops in the far northern part of our region and very little research on short season bean varieties. Although the research done in other states is good, it's not all completely applicable to our region. That's why this is so important to farmers in New England."

One farmer at the research day echoed the thoughts of many who attended: "We have been interested in planting cover crops into soybeans for years although we just weren't sure how to best go about it. We were a bit nervous to take the risk on our own farm. We are really excited to see this research and can't wait to see the results!"

Oil content and meal quality will be documented for the beans planted in the variety trials.

Dr. Heather Darby instructed farmers on the research being conducted on cover crops.

Farmers from eight states and Canada assembled at the Borderview Research Farm to see research conducted on behalf of soybean producers.

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Short-season variety trials are part of the checkoff funded research in Vermont.

Photos courtesy of Dr. Heather Darby, University of Vermont Extension

KNOW WHAT'S IN YOUR SOYBEANS

It's time to look at protein and oil, not just yield

You know your soil. You know your climate. But do you know the protein and oil contents of your soybeans? All farmers should, says Bill Beam, a checkoff farmer-leader and Chairman of the Eastern Region Soybean Board.

"We're not growing pounds of soybeans," he says. "We're growing pounds of protein and pounds of oil that our end-users need."

Demand for soybeans is based on those pounds of protein and oil being harvested from your fields. For example, poultry and livestock farmers want protein to feed their chickens, turkeys and hogs.

Unfortunately, the protein content in U.S. soybeans has been slowly declining over the years. And buyers are aware of this trend.

"We go to great lengths to buy and source some of the highest-quality soybeans available," says Gary Cordier, senior vice president of domestic soy processing at Perdue AgriBusiness. "But nationwide, there's been a slow deterioration in soybean protein."

Competing for demand

U.S. soy has many advantages, but end users have other options.

"Some international regions are growing soybeans with higher protein than here in the U.S.," says Beam. "If those higher-protein soybeans are priced competitively, we're going to lose valuable sales."

The industry's main focus has been on yield, but it's time to look at the quality elements. And the first place to start is with your own soybeans.

"There's a gap between what end-users want and what we as soybean farmers are growing," says Beam. "We need to know what we have, and then we can start making changes."

From farmers to crushers to processors, those changes could lead to increased profit and opportunities for the entire value chain.

"Moving forward, bushels per acre yield won't be the only important factor," says Cordier. "The constituents – oil and protein – will enhance the value to the soybean farmer."

Numbers don't lie

Near-infrared (NIR) machines measure the protein and oil contents of soybeans.

Some elevators and crushers have near-infrared (NIR) machines that can measure the protein and oil contents of soybeans. The next time you deliver soybeans, ask to see your numbers to get an idea of your meal and oil quality.

Even if your local elevator can't provide an analysis of your soybeans, all farmers can take the next step toward quality.

Ask your seed representative which varieties will perform well with yield and quality, and take that information into consideration when making your final seed purchases.

Animal agriculture is the #1 customer of soybean meal. Increasingly, livestock producers are looking for high quality beans with a high protein content.

SOYBEAN QUALITY MATTERS

How Choosing Higher Quality Seeds Affects Your Price

SELECTING BETTER QUALITY VARIETIES

Growing seed varieties with higher protein content can increase soybean demand and value and ultimately impact your price per bushel.

HIGHER DEMAND FROM END-USER CUSTOMERS

When you raise the protein level in your soybeans, animal ag's demand for soybean meal will increase.

HIGHER PRICE OF SOYBEAN MEAL

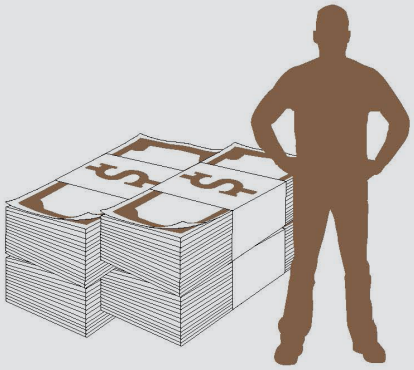
To meet demand, processors will pay more for soybeans with higher protein.

HIGHER PRICE FROM ELEVATOR

When an elevator receives a higher price for soybeans, it can pass along more value to the farmer.

HIGHER PRICE PER BUSHEL FOR YOU

When all customers in the value chain are demanding and paying more for higher protein, it improves farmers' basis and the price they receive.



GET THE MOST FROM YOUR SOYBEAN HARVEST

Manage soybean harvest timing, moisture to improve yield

Harvesting soybeans in a timely manner and at the optimum moisture is important to getting the best yields. Even though stems may be green, soybeans may be dry and ready for harvest.

The following adjustments in your practices can help you get the most from your harvest:

- When harvesting tough or green stems, make combine adjustments and operate at slower speeds.
- Begin harvesting at 14% moisture. What appears to be wet from the road may be dry enough to harvest. Try harvesting when some of the leaves are still dry on the plant; the beans may be drier than you think. Soybeans are fully mature when 95% of the pods are at their mature tan color.
- Harvest under optimum conditions. Moisture content can increase by several points with an overnight dew or it can decrease by several points during a day with low humidity and windy conditions. Avoid harvesting when beans are driest, such as on hot afternoons, to maintain moisture and reduce shattering losses.
- Avoid harvest losses from shattering. Four to five beans on the ground per square foot can add up to one bushel per acre loss. If you are putting beans in a bin equipped for drying grain, start harvesting at 16% moisture and aerate down to 13%.
- Harvest at a slow pace and make combine adjustments to match conditions several times a day as conditions change.
- While it's too late for this season, next year select your varieties and schedule your planting to spread out plant maturity and harvest.

EUROPEAN UNION APPROVES THREE BIOTECH SOY TRAITS

The U.S. Soybean Export Council (USSEC) has announced the long awaited European Union approval of three biotech soy traits for import and processing. The three stacked events are:

- Monsanto's Xtend (dicamba x glyphosate MON87708 x MON89788)
- Monsanto's Vistive Gold (high oleic x glyphosate MON87705 x MON89788)
- Bayer CropScience's Balance GT (glyphosate x HPPD inhibitor FG72)

"The EU's approval of these events is welcome news for U.S. soybean farmers," said USSEC chairman Laura Foell, a soybean grower from Schaller, Iowa. "We're happy that we can supply our European customers with a reliable supply of safe food."

Europe is one of the largest customers of U.S. soybean farmers with over 165 million bushels of soybeans in exports already this year.

The U.S. Soybean Export Council aims to maximize the use of U.S. Soy internationally by meeting the needs of global customers that use U.S. Soy in human food and feed for poultry, livestock and fish. The organization uses a global network of stakeholder partnerships, including soybean farmers, exporters, agribusinesses, agricultural organizations, researchers and government agencies, to accomplish that mission. USSEC programs are partially funded by the United Soybean Board (USB).