PIVOT BIO

Why Now

INNOVATION AT WORK FOR AMERICA

2024 IMPACT REPORT

Third-generation farm
Clinton County, MI

Cover photo: Harvest
Clinton County, MI

2024 IMPACT REPORT

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INSIDE PIVOT BIO

Farmers make the world a better place. They do it season after season, growing the crops we all rely on and also day by day, building businesses, strengthening communities and serving as role models for the next generations.

Pivot Bio's job is to create more opportunities for farmers. That's way bigger than building products. It's bringing forward solutions that address the challenges farmers actually face: creating more resiliency through more predictable outcomes, higher yields and lower costs, against a backdrop of increasing volatility in the market and overall environment.

The biggest opportunity on the table right now is to fundamentally improve crop nutrition.

Of the three major pillars in agriculture — plant genetics, crop protection and crop nutrition — we're 40 years into the cycle of gains in plant genetics and in the midst of a global shift in crop protection from synthetic chemistry to biological solutions. Meanwhile, crop nutrition is a farmer's second-largest input after seed — and there is not a viable crop without it — yet, it's the last frontier of our modern innovation cycle in agriculture. Today when farmers apply nitrogen fertilizer, on average, less than 50%[1,2] is absorbed by the crop; the remainder is lost to the environment. Our premise is simple: Industry has revolutionized plant genetics and crop protection, it's time to ensure farmers get the full value of their fertilizer.

We can solve this.

And here's the thing: It's not going to be just Pivot Bio. The solutions farmers need go beyond nitrogen. It's all the macro- and micronutrients working together. It's optimizing traditional fertilizer and advancing new sources, including biologicals. The way we see it, it means competitors and partners are often one and the same. If together we can deliver better outcomes to farmers, we want to work with you.

That's exactly what we're doing — bringing together more partners to serve farmers in a bigger, better way. It's how we're driving our new and next-generation products. It's how we're enabling new strategic partners' solutions. And it's how we're expanding grower access through retail.

We're here to earn our ride in the buddy seat. That relationship begins with honesty. We're not perfect, and we know that. But we're motivated every day to continually improve. We use it as a strength to boldly go out and genuinely ask farmers what they need from us as their partner. Across our business, we spend countless days in the field learning from our customers. It's not for attention; it's just doing the work.

Trust is earned in the field, season after season. It's built on grit, good judgment and standing beside each other. It's proven on the monitor and on the P&L statement. And at the end of the day, it's about fulfilling our purpose: to improve the lives of farmers and the health of the planet.

Chris

CHRIS ABBOTT, PIVOT BIO
CHIEF EXECUTIVE OFFICER

AT A GLANCE

Pivot Bio PROVEN® 40 microbes deliver up to 40 lbs of nitrogen per acre at 1/20,000 the volume, 99% fewer emissions, and 1,000 times less water used in manufacturing compared to urea.[1,2,3,4,5,6]

2024 PROVEN 40 Performance Results*

In-field customer trials demonstrate **yield parity** with a **37+ lbs/ac nitrogen reduction** and **16% improvement in nitrogen use efficiency** (across 172 fields in 97 counties in 20 states).

Our 2024 Impact

>567,000 mt[4,7,8,9]
CO_2e emissions reduced

>331 million gal[6]
manufacturing water avoided

>48,300 mt
synthetic nitrogen fertilizer reduced (net)

>51,600 mt[4]
nitrate leaching avoided

** Data represents national averages taken from 2024 on-farm customer trials and demonstration plots reporting replacement rates from 10 to 40 lbs/acre. Actual performance varies by factors including climate conditions, soil type, and management practices.*

MADE TO MEET THE MOMENT.

Pivot Bio exists at the intersection of some of the most remarkable opportunities of our time: growing crops to sustain billions more people, improving our air, water and soil, and increasing the independence and resilience of essential supply chains.

Our business is purpose built to harness advanced American technology in the service of farmers. And our aim is ambitious: deliver the reliable, affordable — and critically — scalable crop nutrition farmers need to grow the crops we all rely on, in the face of conditions that are increasingly volatile and challenging.

Pivot Bio microbes deliver up to

40 lbs

of nitrogen per acre at

1/20,000

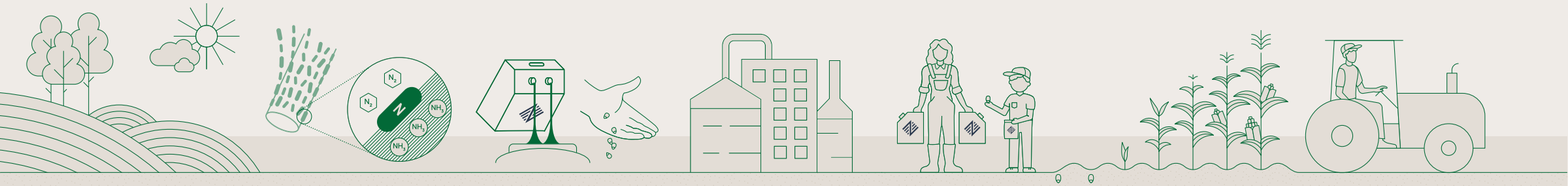
the volume

Our microbes do the work of traditional fertilizer at a fraction of the environmental and economic costs. Pivot Bio microbes deliver up to 40 lbs of nitrogen per acre at 1/20,000 the volume, 99% fewer emissions and 1,000 times less water used in manufacturing, compared to urea.[1,2,3,4,5,6] And our highly scalable fermentation facilities are a fraction of a fraction of the capital costs required for conventional fertilizer plants — more than 200 times less costly to construct.

The world is at a crossroads. Nowhere are we better poised to meet the moment than here in America. And every day, across millions of acres, Pivot Bio products are proving we have the technology to do it — with innovation stretching from lab bench to combine cab to grain elevator.

Counting kernels
Clinton County, MI

Pivot Bio is driven by a flywheel of learning, insight and innovation:



Our products have been used and evaluated on **over 13 million acres**, providing millions of acres of real-world performance and impact data.

We've profiled millions of microbes in the lab, and use machine learning and field learnings to identify which microbes will be most effective at fixing nitrogen. We then use gene-editing tools to enhance their strengths.

Each year, we get better at formulating our products to extend shelf life and fit seamlessly into each farmer's unique operation. Pivot Bio products are currently offered as **liquid in-furrow and on-seed treatments**, and we're exploring expansion into additional applications for new markets.

We leverage bio-manufacturing to drive down costs and improve sustainability with affordable, scalable infrastructure to grow our microbes:

- 1/200 cost to scale compared to Haber-Bosch construction
- 1/1000 the manufacturing water use[5,6]
- 1/74 the manufacturing emissions[3,5]

Our ability to produce locally with extreme volume efficiency — **1/20,000th the shipping volume** compared to Haber-Bosch — results in a streamlined supply chain that strengthens the resilience of American farmers and agriculture. This volume advantage will grow with new generations of products.

We have millions of acres of data on how our products impact **crop nutrition and plant health**, providing us with unparalleled agronomic insights that we are leveraging to provide our customers with guidance for holistic nutrient management to improve efficiency.

Reduced synthetic nitrogen resulting in **lower on-farm and manufacturing emissions** provides new revenue opportunities through Pivot Bio's N-OVATOR® insetting programs and other incentives, helping to drive grower success, and the adoption and scale of our products.

In 2024, the state of Nebraska passed first-of-its-kind legislation offering growers a $15 per-acre payment for measurable synthetic nitrogen reductions — including through the use of biological products like Pivot Bio's — that have the potential to improve water quality in the state. Not only are growers enthusiastic about the program, with first-year applications exceeding available funding by two to one, additional Midwest states are following suit, introducing similar bills into their legislatures.

Dismal River, NE

OUR WORK IS GROUNDED IN PURPOSE

Pivot Bio is driven by a purpose: making agriculture more productive, profitable and sustainable to improve the lives of farmers and the health of our planet.


Silage harvest
Clinton County, MI

Three tenets guide how we activate this purpose.

1 FARMER OBSESSED

Growers are the reason we exist and the center of all we do. We wake up thinking about the challenges growers face. We are inspired by their steadfastness, their stewardship and their resilience. We spend our days (and many of our nights) working to create products, services and solutions that make tangible, positive impacts for growers and their operations.

2 INNOVATE FAST

There's no time to waste when it comes to developing solutions that strengthen grower profitability, meet global crop demands and secure the health of our planet. We're on the clock. So we design and act with outcomes in mind. We make decisions — and corrections — quickly. And we bring partners together to advance faster.

3 IMPACT MORE

In all we do, we seek to increase our positive contributions. That absolutely means an unwavering attention to strengthening growers' operations and improving environmental outcomes. It also means contributing to the sciences, advancing the agriculture industry, elevating our own business performance, and building our culture of courageous innovation and belonging.

Family farm
Houston, TX

Growers Ask. We Listen.

Being farmer obsessed means taking seriously feedback from the farmers we work with — listening to how our products perform under different conditions, learning how we can partner better and tackling the challenges that matter most to growers. 2024 was no exception:

EXPANDING TO NEW CROPS

In 2024, we finalized the development of CERT-N™, the first gene-edited nitrogen-fixing product for cotton, bringing the benefits of Pivot Bio microbial nitrogen to the fiber value chain for the first time. This technology provides a steady nitrogen supply from emergence to harvest. In large-scale trials, CERT-N replaced 20% of synthetic nitrogen while increasing lint yield by 50 pounds per acre and boosting ROI.

INCREASING PRODUCTIVITY

We continually push the productivity of Pivot Bio microbes. In 2024, we completed development of the third generation of PROVEN. PROVEN G3 enhances nutrient uptake and nitrogen efficiency through multiple modes of action, and will be available to growers for the 2026 season.

ENHANCING GROWER PURCHASING POWER

To support growers in an unpredictable market, Pivot Bio reduced product prices by 25% and maintained 0% financing. These changes ensure greater accessibility and cost predictability, allowing farmers to plan with confidence. Our commitment remains steadfast: providing reliable, high-performing nitrogen solutions that deliver value without unexpected financial barriers.

EXPANDING RETAIL PARTNERSHIPS

Farmers want flexibility in purchasing inputs, and Pivot Bio has expanded access beyond independent reps to include nine new regional retail partners — adding nearly 500 ag retail locations in 2025, with more coming. This expanded network gives farmers more ways to access Pivot Bio's reliable nitrogen solutions through trusted local suppliers while maintaining strong agronomic and product support.

SHARING BEST PRACTICES

Based on grower feedback and field research, new best management practices (BMPs) help farmers optimize nitrogen efficiency, improve nutrient balance and maximize yields. These BMPs, developed based on real-world conditions, ensure stronger performance tailored to each farm's needs.

Midseason roots
Rock Hall, MD

PIVOT BIO

N-OVATOR®

Increasing the Benefits of Better Nitrogen Management

Pivot Bio's N-OVATOR program strengthens the operations of growers by turning their verified fertilizer replacement into validated environmental assets that power a remarkable new revenue stream and meet industry demand for Scope 3 emissions reductions.


On-seed product
St. Louis, MO

— IN 2024 —

1.4 million acres
enrolled in the N-OVATOR program by 1,235 participating farmers — nearly double the 2023 acreage

48.6 million lbs
of synthetic fertilizer replaced at an average reduction of 41.2 lbs/acre — a 5.3 lbs/acre further reduction compared to 2023

$4.5 million
total annual program payout — an average $5/acre payment for avoided GHG emissions — representing nearly 30% of growers' Pivot Bio product cost

100% continuation
of 2023 corporate partners — including Bartlett, Ingredion, Nestle and Suntory Global Spirits

FOR FARMERS:

N-OVATOR rewards growers for their lower carbon intensity production when they replace synthetic nitrogen with Pivot Bio biological nitrogen — reducing N_2O emissions and nitrate runoff while preserving yields.

- N-OVATOR transforms farmers' Pivot Bio-enabled practice improvements into quantified environmental assets that power a new revenue stream.
- Growers can enroll in N-OVATOR directly through the online portal, which provides easy, seamless data entry.
- Pivot Bio sales reps and the customer support team are trained to support every step of the process.

FOR CORPORATE PARTNERS:

N-OVATOR offers companies measurable, audit-ready Scope 3 decarbonization solutions through the permanent, quantifiable reduction of synthetic nitrogen — one of the largest hidden GHG sources in the ag supply chain.

- For many food, fiber and fuel companies, Scope 3, or value chain, emissions make up the majority of the carbon footprint — often more than 90%.
- N-OVATOR offers a reliable source of high-quality, permanent environmental assets and provides corporate partners traceable, field-level impact data that supports SBTi targets, regenerative sourcing goals and climate disclosures.

Pivot Bio team member on her family's farm
Elsberry, MO

PIVOT BIO PROVEN 40

Advancing our Research Backing

Broadening and deepening research is essential to true leadership. Our flagship product, PROVEN 40, is the most tested microbe on the market today: backed by more than a decade of R&D; validated across 6,147 fields in 34 states by over 2,500 farmers; protected by 60 patents and 250-plus pending applications.

Our commitment is to transparency and continuous improvement. PROVEN 40 has been independently studied by more than 20 leading universities, including published peer-reviewed journals by the University of Illinois, Purdue and the University of Wisconsin-Madison, representing testing across geographies, soil types and management systems. In 2024, we continued our deep research engagement:

Agronomy Journal — University of Illinois[10]

- Multiyear study affirmed Pivot Bio PROVEN 40's measurable benefits, observing: enhanced plant nitrogen uptake, increased atmospheric-derived nitrogen absorption and increased kernel numbers resulting in a boost to yield potential.

Scientific Reports — University of Wisconsin-Madison, Purdue University and Pivot Bio[11]

- Peer-reviewed study showing PROVEN 40 microbes can fix and supply nitrogen up to levels comparable with 40 pounds of synthetic nitrogen fertilizer per acre, while maintaining similar yields. The research includes a variety of isotopic experiments, conducted under real-world conditions, to demonstrate nitrogen fixation and quantify nitrogen levels in the plant.
- Published in November 2024, the report received more than 7,840 downloads in its first seven weeks alone.

Precision Planting, Precision Technology Institute

- Named PROVEN 40 the top performer in its 2024 complete corn fertility trial in North Dakota, delivering a 17.4 bu/acre yield increase and a $53.17 net return. These results underscore the strength of our technology when integrated into real-world systems.

Frontiers in Industrial Microbiology — University of Grenada, University of Puebla and Pivot Bio[12]

- Using Klebsiella variicola as an example, the authors examine the many factors that industry members and regulators should consider when evaluating whether a microbe is safe for environmental release, as well as human and animal exposure. This provides scientific context for evaluating the biosafety profile of microbial products for agricultural use.

To explore Pivot Bio's growing library of research, visit: pivotbio.com/research-reports

Awards and Recognitions

FAST COMPANY
- World's Most Innovative Companies

TIME
- Best Inventions of 2024
- World's Top Greentech Companies

MIT TECHNOLOGY REVIEW
- Climate Tech Companies to Watch

OUR IMPACT

In 2024, growers using Pivot Bio products helped contribute to:

>567,000 mt[4,7,8,9]
CO_2e emissions reduced

>48,300 mt
synthetic nitrogen fertilizer reduced (net)

>331 million gal[6]
manufacturing water avoided

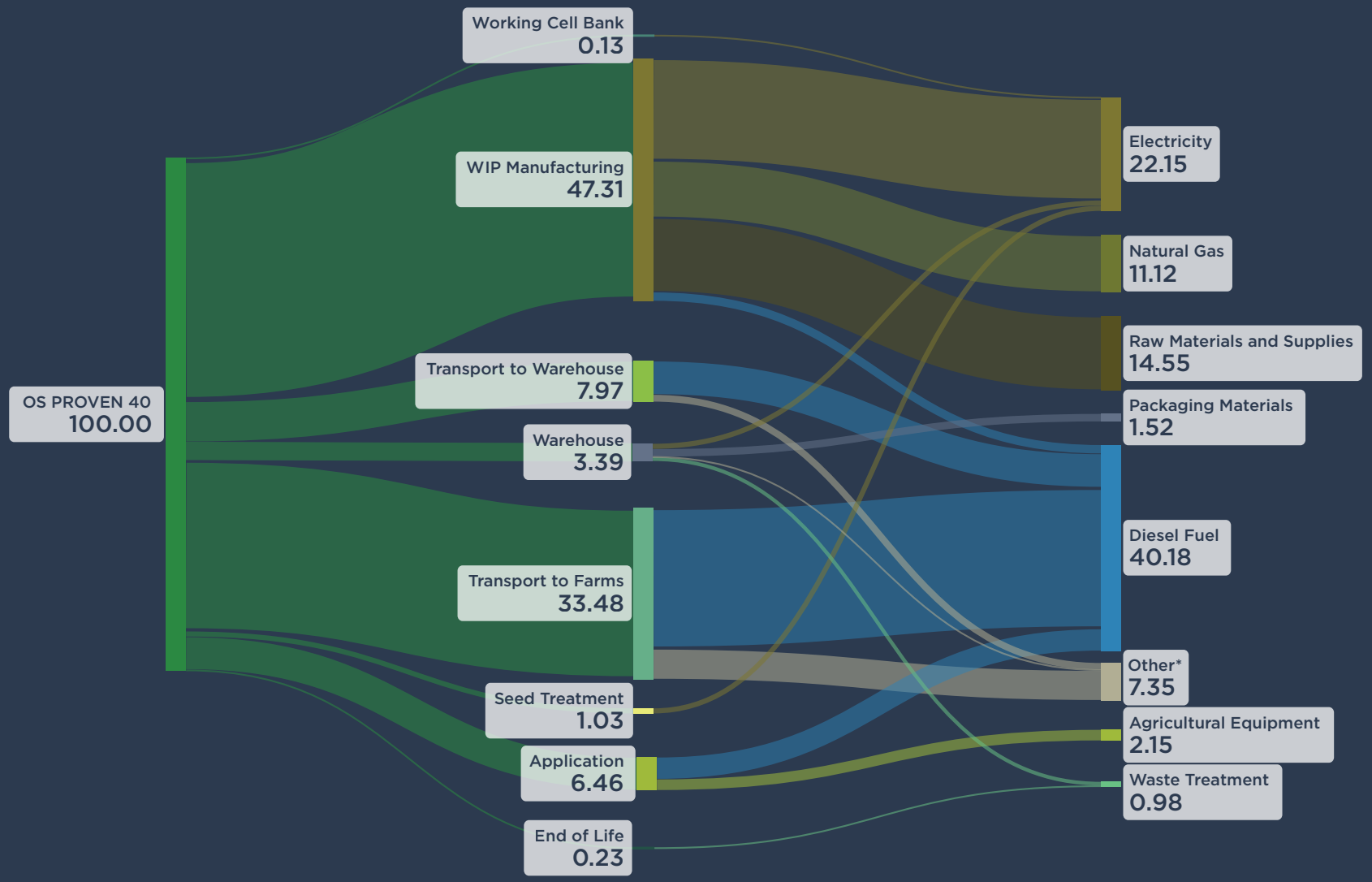
>51,600 mt[4]
nitrate leaching avoided

Planting
Amarillo, TX

Product Life-cycle Assessment

With SCS Global Services, we completed an ISO 14044–compliant life-cycle assessment (LCA) of Pivot Bio's PROVEN 40 in both liquid in-furrow and on-seed formats. The cradle-to-grave analysis spans manufacturing, transportation, storage, use phase and disposal, focusing on critical impacts such as acidification, eutrophication, ozone depletion and climate impacts. The Sankey diagram on the right provides a contribution analysis of each process step and material input to the overall global warming potential (2021) of each product.

While the emissions profile of Pivot Bio's microbial nitrogen delivery platform is more than 99% lower than that of Haber-Bosch nitrogen,[1,2,3,4,5] there is always room for improvement. As we continue to scale, we will evaluate and implement efficiency measures in manufacturing, packaging, and transport and logistics to further drive down the carbon intensity of our products and reduce waste. We look forward to sharing our progress in future reports.

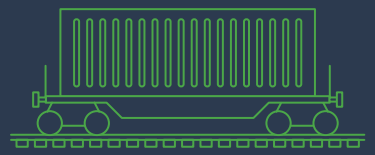


SINCE 2022, GROWERS USING PIVOT BIO PRODUCTS HAVE REDUCED CO_2e EMISSIONS BY MORE THAN 1,300,000 mt[4,7,8,9]

This is about the same as avoiding the emissions for one year from

3.4 gas-fired power plants

Reducing emissions by more than 1.3 million mt of CO_2e is like:



Avoiding the emissions from
>7,200
rail cars of coal[13]

— that's like a train nearly 68 miles long,[14] stretching from Madison, Wisconsin, to Milwaukee.

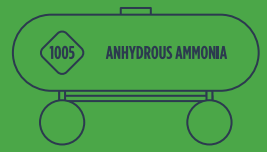
Avoiding the emissions from
>270,000
homes' annual electricity use[13]

— that's nearly the housing stock of Oklahoma City, Oklahoma[15]

The annual carbon sequestered by
>1.3 million
acres of U.S. forest land[13]

— that's larger than Black Hills National Forest in South Dakota[16]

When growers use Pivot Bio products to reduce and replace their traditional synthetic nitrogen fertilizer, the difference adds up to something remarkable. By replacing synthetic nitrogen with Pivot Bio products since 2022, growers have:



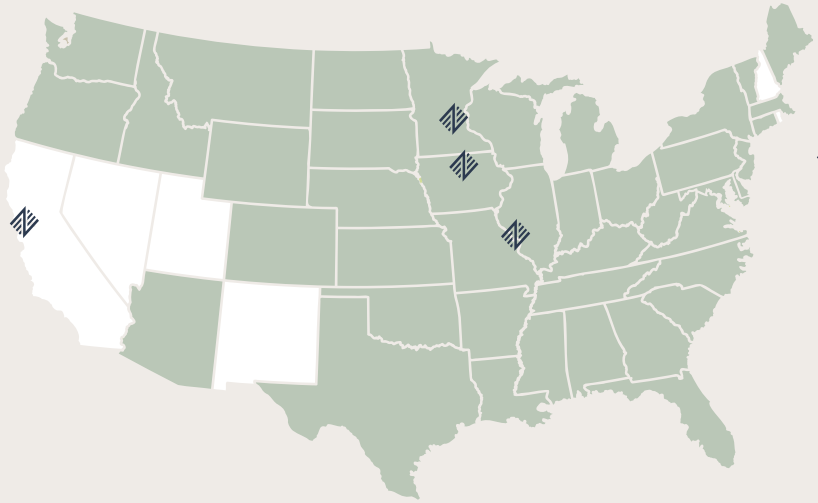
Used
>129,000 mt
less synthetic nitrogen fertilizer

Conserved
>665 million gal[6]
manufacturing water

Avoided
>102,600 mt[4]
of nitrate leaching

INSIDE PIVOT BIO

Where to find us



Main Hubs

Berkeley, CA: Lab and Administration

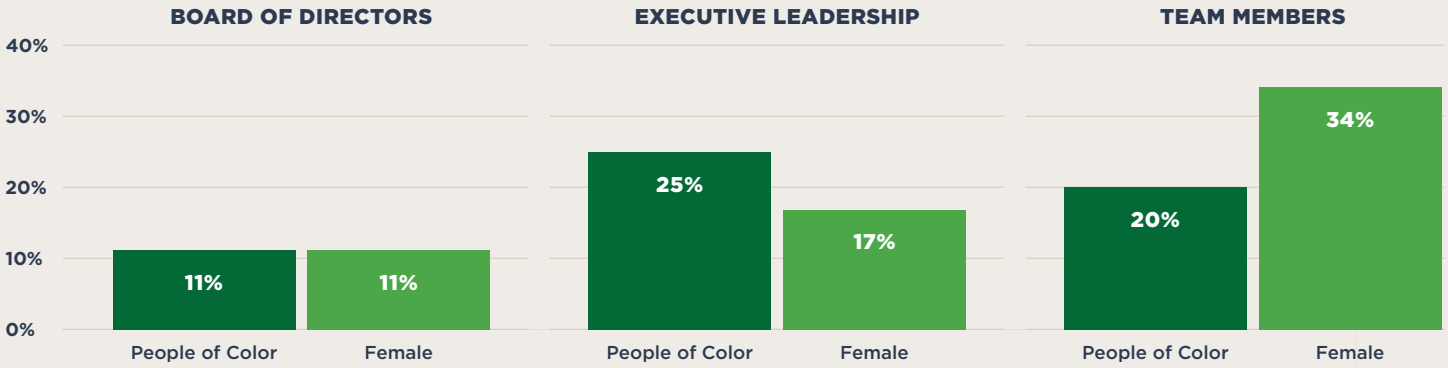
Wayzata, MN: Corporate Office

Ames, IA: Customer Success Center

St. Louis, MO: Product Success Center

On-field product

Our Team (As of 12/31/2024)



Company Culture Highlights

Pride of the Jersey — Launched in 2024, Pivot Bio's Pride of the Jersey is a company-wide initiative to recognize team members' exceptional contributions to our company values and purpose.

Disaster Relief — Across our nation, major disasters were a poignant feature of 2024. Pivot Bio made donations through Convoy of Hope to supply food, other essentials and humanitarian services in the wake of Hurricane Helene and the Palisades Fire.

Internship Program — Pivot Bio is actively cultivating the next generation of talent. In 2024, we welcomed 11 interns in 10 locations to experience commercial operations, agronomy, sales and sustainability facets of our company.

Our Absolute Emissions[17]

Emissions	2023	2024
Scope 1	1,031 mt CO_2e	**720 mt CO_2e**
Scope 2 (location-based)	1,671 mt CO_2e	**1,186 mt CO_2e**
Scope 3	24,490 mt CO_2e	**19,597 mt CO_2e**
Scope 4 (product-enabled avoided emissions)	512,004 mt CO_2e	**567,034 mt CO_2e**

Measurement	2023	2024
Energy Use (GWh)	5.4	**3.3**
Energy Use from Renewables (%)	82%	35%
Waste Generated (metric tons)	5,637	**1,472**
Waste Recycled (%)	91%	74%
Water Use (cubic meters)	16,683	**3,548**


Early wheat checks
Box Elder, MT

In 2024, we made a number of business decisions and improvements that are reflected in our year-over-year numbers:

- We optimized our facilities and supply chain footprint, consolidating our research facilities and distribution operations to realize business efficiencies. As a result, our Scope 1 and Scope 2 (location-based) emissions, energy use, waste generated and water use metrics reflect a year-over-year reduction.
- We made significant improvements in the implementation of information systems to better align forecasting and inventory build. Improvements in product formulation and expansion of cold storage capabilities in our St. Louis manufacturing facility enabled us to extend the shelf life of finished inventory and inventory in progress, reducing both A) overall Scope 3 emissions due to more efficient use of material inputs and B) waste generated in operations due to less-discarded inventory.
- The decrease in percentage of energy from renewables reflects the optimization of our facilities and supply chain footprint. Changes in the geographic distribution of the footprint resulted in an overall energy mix with fewer renewables.
- A significant portion of our waste in 2023 was inventory discards, which were disposed of in a waste-to-incineration recycling facility. Improvements in product stability and inventory forecasting led to an overall reduction of discarded inventory and therefore, reduction in the percentage of waste recycled. Consolidation of R&D facilities led to efficiency increases in lab operations and reduced waste across R&D as well as to an overall reduction in water use.


Midseason checks
Nebraska

APPENDIX AND CITATIONS

FIGURE 1

50%
of meals eaten around the world are made possible by synthetic fertilizer[18]

1.31 GT
annual GHG emissions from the production and use of synthetic nitrogen fertilizer[19]

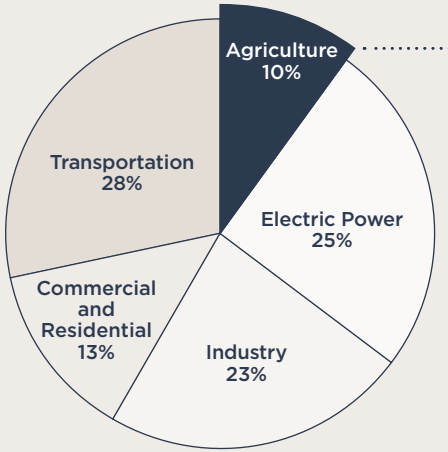
NITROGEN FERTILIZER IS A GLOBAL ISSUE THAT DEMANDS ATTENTION

FIGURE 2

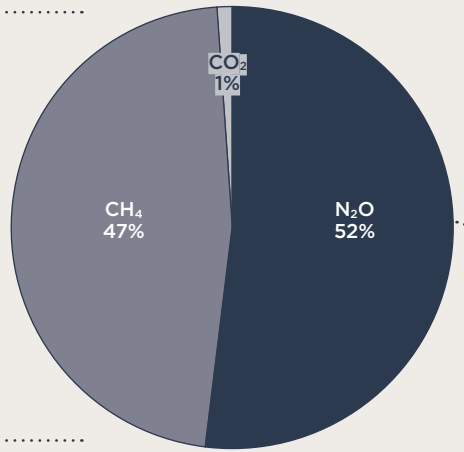
CHART DATA SOURCE[21]

FIGURE 3

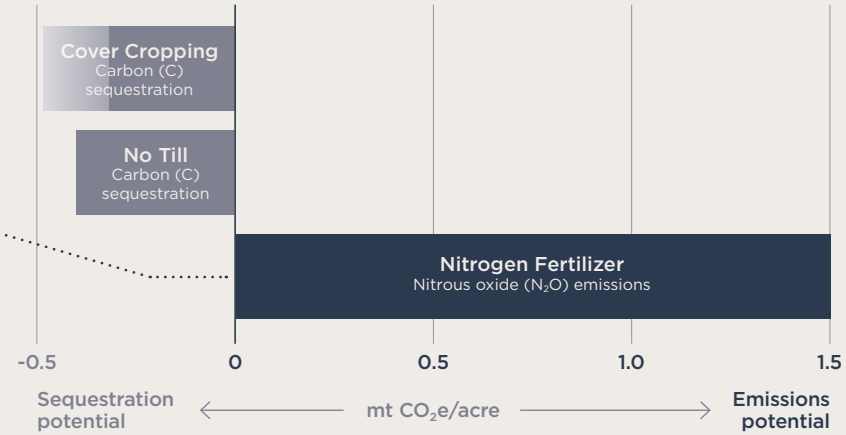
The pathway to decarbonizing agriculture runs through methane (CH_4) and nitrous oxide (N_2O), and the path to reducing N_2O emissions must include nitrogen fertilizer.



Total U.S. Greenhouse Gas Emissions by Economic Sector (2022)[22]



U.S. Greenhouse Gas Emissions from Agriculture (2022)[22]

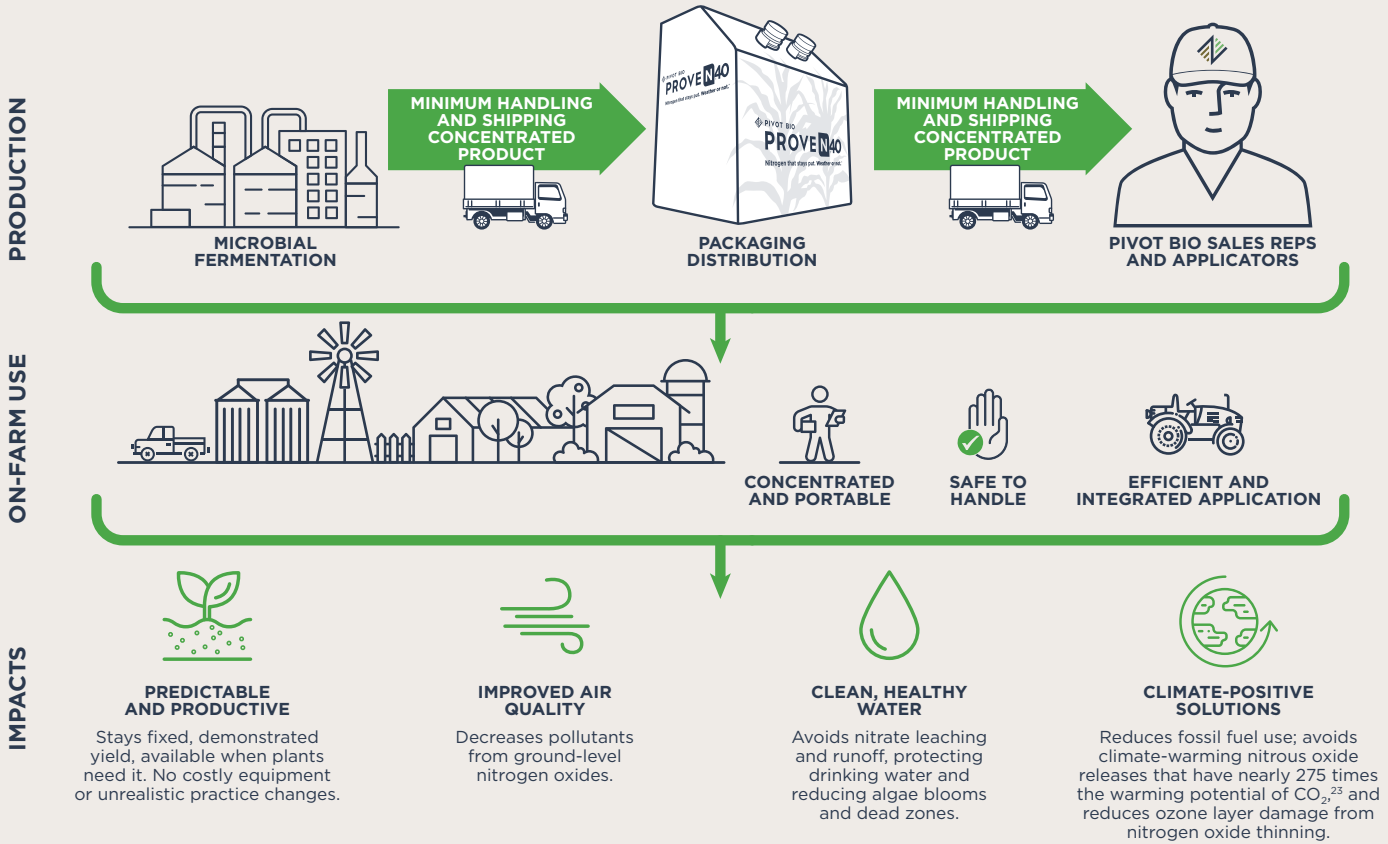


Sequestration vs. Emissions Potential per Acre of Farmland[9]

FIGURE 4

Pivot Bio's **transformational solution**

Pivot Bio set out to reimagine how growers get nitrogen to their crops. We've done so by identifying prime nitrogen-fixing microbes in the soil, enhancing their strengths and rigorously testing their efficacy before delivering them for on-field use. Our microbial nitrogen results in improved operational efficiency for growers, and cleaner air and water for all of us.



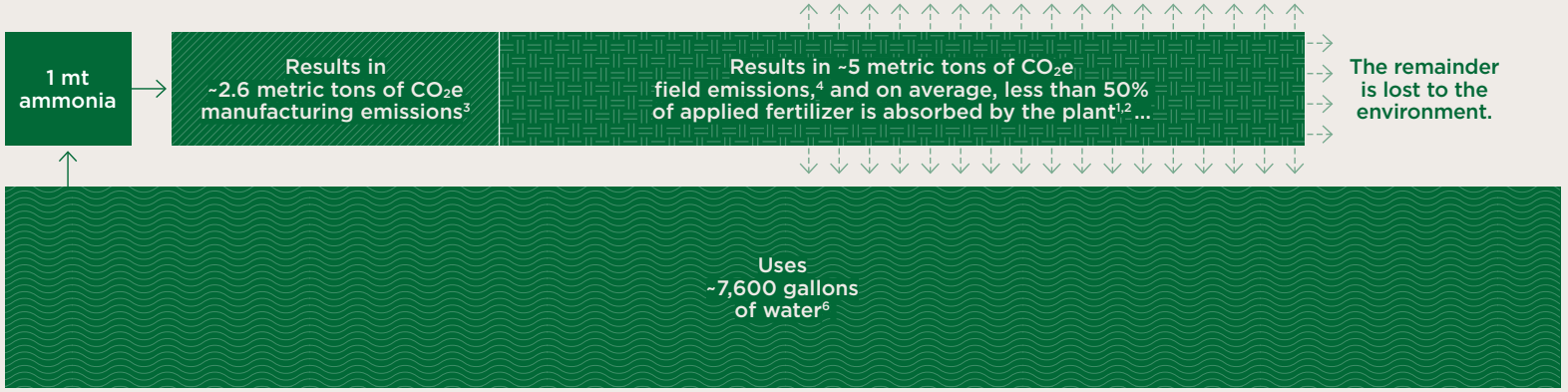
Wheat planting
Box Elder, MT

"It will take a long time to fully decarbonize high-emissions industries while delivering the superior economics American businesses expect, but there is a way to shrink their carbon footprints in the near term that's good for all stakeholders: use new low-carbon or zero-carbon chemistries as cost-effective, high-performance drop-in substitutes for traditional feedstocks and fuels."

Matt Ocko
Co-Founder and Managing Partner, DCVC

FIGURE 5

Producing 1 metric ton of ammonia:



By contrast, producing 1 metric ton of Pivot Bio microbial nitrogen:

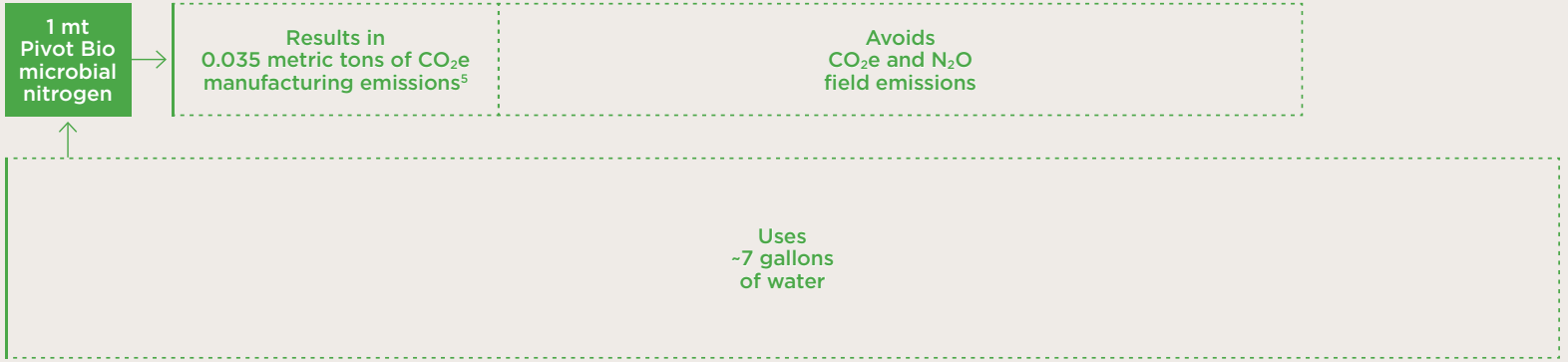
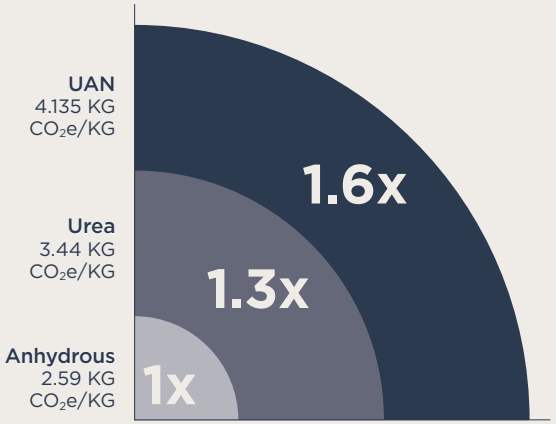


FIGURE 6

The comparative impact of synthetic fertilizers

Each type of synthetic nitrogen has a different environmental impact. Knowing exactly which types were replaced with our microbes is significant in calculating the true impact of our products.



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4 IPCC. *2019 Refinement to the 2006 Guidelines for National Greenhouse Gas Inventories.* "Chapter 11: N2O Emissions from Managed Soils and CO2 Emissions from Lime and Urea Application." https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/4_Volume4/19R_V4_Ch11_Soils_N2O_CO2.pdf

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6 The Fertilizer Institute (2022). *Sustainability in the Fertilizer Industry.* https://www.tfi.org/sustainability

7 Manufacturing emissions calculated using reference values from Argonne GREET R&D Model (anl.gov), 2023 v1, Feedstock CI Calculator (FD-CIC Tool 2023), released April 30, 2024.

8 Field emissions calculated using a combination of regional emissions factors derived from Lawrence et al (2021) and IPCC (2019) default emissions factors.

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Assumptions and Limitations

Certain statements in this report, including statements regarding our sustainability goals, targets and future initiatives, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are subject to various risks and uncertainties, including, but not limited to, changes in regulations, market conditions and technological advancements. Actual results may differ materially from those expressed or implied by such forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Sustainability and Impact Governance

Impact and sustainability data and governance are embedded throughout the company. The audit committee reviews metrics and strategy twice annually, and a joint management-board-employee sustainability committee meets quarterly to review progress and define targets. The company maintains an internal GHG task force to provide science-based oversight to emissions avoidance methodologies used for both the N-OVATOR program and the annual impact report. An internal audit review is conducted to provide independent assurance on impact data management and reporting.

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