Alltech®

Sustainability Insights | 2023

Dear Friends,

My father, Dr. Pearse Lyons, had one primary goal in mind for what he wanted his business to do: Make a difference. In the late 1980s, he committed our company to the ACE Principle, which meant that everything we do should seek the safety and well-being of Animals, Consumers and the Environment. This principle has guided Alltech in all our endeavors.

In 2019, against the backdrop of a changing climate, diminishing natural resources and a growing population, we announced a new purpose for Alltech — and for our industry — that propelled the ACE Principle into the future: Working Together for a Planet of Plenty™. A world where there is enough nutritious food for all; the world's resources are responsibly managed for future generations; and the environment enables people, animals and plants to thrive.

Within months of launching Planet of Plenty, however, the world was hit with a series of crises: a deadly global pandemic, war, first in Ukraine and now in the Middle East, escalating geopolitical tensions, hyperinflation, disrupted supply chains, rising world hunger and extreme weather events on every continent.

The world has changed, but the need for a healthy, sustainable food system is even more urgent. And the only way to achieve this change is to work together as the requirement for collaboration has never been so clear.

My father always said we have two ears and one mouth for a reason. He insisted that we listen. In 2022 and 2023, we turned to members of the agri-food value chain, ready to listen. We asked for their opinions about the needs of the industry and sought their perspectives on global sustainability efforts so we could identify concrete steps to building a more sustainable future — and effect real change across the value chain.

As we listened, we grew even more convinced that agriculture has the greatest potential to shape the future of our planet, and that this potential can be realized by embracing every challenge as an opportunity to work together. We are encouraged by respondents' belief that we could achieve this change and are excited to learn of their willingness to engage in the process.

I am excited to share with you the findings of the 2023 Alltech Sustainability Insights Survey. Our industry is navigating extraordinary times, but the opportunities for positive impact are even more unprecedented. Imagine what is possible when we all work toward the shared goals of providing nutrition for all, revitalizing local economies and replenishing the planet's natural resources.

Let's build a stronger agri-food community together. Join us in Working Together for a Planet of Plenty™.

All the best,

Dr. Mark Lyons
President and CEO of Alltech

Agri-food leaders are optimistic about our industry's ability to create a more sustainable food system

Respondents say collaboration between regions and our industry is vital to meeting the world's climate-change goals

Around the world, agri-food leaders believe the industry can work together to create a better, more sustainable food system. That's one of the key findings of the **Alltech Sustainability Insights Survey**, which asked industry leaders to share their perspectives on the issues that matter most to the agri-food value chain.

The survey, conducted by Alltech in collaboration with Opinions, an independent, Irish-based research agency, collected insights through 26 interviews with industry leaders, as well as a comprehensive survey completed by more than 2,500 members of the global agri-food industry. This effort presented an exciting opportunity to quantify attitudes and perceptions about sustainability from stakeholders across the agri-food value chain and to identify tangible actions to build a more sustainable future.

The survey questions were focused on five areas: challenges and opportunities; drivers and priorities; attitudes toward change; support and guidance; and who the respondents believe is going to pay for sustainability.

> *"Our goal was to listen to the voices of our industry and develop a robust, future-facing program of insights support that is relevant, ambitious and genuinely impactful."* —Tara McCarthy, Alltech's global vice president of ESG

"We are an industry that has remained resilient and provides a robust and efficient food system. To be seen as sustainable food leaders, we need to adopt a holistic approach and continue to evolve the narrative," said Tara McCarthy, Alltech's global vice president of ESG. "While everyone across the value chain has a role to play, food producers are clearly front and center. The proactive role of the industry and policymakers in this conversation is absolutely vital."

Given the evolving understanding of sustainability and the complexity of our industry, Alltech believes there is significant value in exploring and sharing perspectives with agri-food stakeholders.

"This an opportunity to reframe the future," McCarthy said. "Armed with this data, we will be able to bring solutions to help our industry to adapt and partner."

Most respondents of the survey agreed that our food systems are vulnerable, climate change will make production more difficult in the future and global food security is becoming a bigger issue. They were optimistic, however, that the global food system can rise to the challenge — and that technology and innovation are key to creating more sustainable food systems. The following pages offer a summary of the survey's findings.

Working together to create a better, more sustainable food system

Across the world, there is agreement that we all need to work together to create a better, more sustainable food system, with 9 in 10 respondents agreeing. All areas of the value chain deemed this a priority. While there is little question that accomplishing this will be challenging, **85% of respondents within the industry believe that the system can rise to the challenge.** Respondents in the North American market were most likely to strongly agree with the statement, “I believe the food system can rise to future challenges,” with those in the Latin American market scoring slightly lower for this metric compared to others.

Conflicts Highlight Weaknesses

Recent events are only adding to the challenge, **with 9 in 10 acknowledging that the ongoing conflict in Ukraine and our recent experience of COVID-19 have shown us just how vulnerable our food systems are,** leading to a greater emphasis on national food security, alongside the persistent challenge of feeding our growing global population with quality, nutritious food.

Incentivizing Change

None of us can do this alone, and we particularly need to support our primary producers in their ambitions. These **producers are at the coalface and are considered by all to be most at risk from the transition to a more sustainable food system. Eight in 10 members of the agri-food value chain believe that farmers are not being fairly rewarded financially** for their role — and we also learned that 2 in 3 believe that unless farmers are incentivized financially, “things will never change”.

The majority (6 in 10) of primary producers feel that they are being unfairly targeted when it comes to sustainability, most particularly in the ruminant (dairy, beef) sector. Despite this, **almost 3 in 4 producers expressed a willingness to change their business practices to become more sustainable.** To achieve system-wide success, we need to support producers with adequate compensation and recognition for their contributions, as well as by paving the way for new technologies and enabling the transfer of knowledge.

Producer Priorities

When farmers were asked about which aspects of their business will become more important over the next three years, they ranked **productivity, profitability and controlling input costs as their top concerns,** followed by technology and innovation and improving soil and water quality. However, there are variances by farm enterprise type.

Who's Footing the Bill?

The need for a solid economic case for improving sustainability is clear, but there is a challenging conundrum regarding who should pay for this. Consensus in this regard is hard to find, but the **need for consumers to pay more for food is a prevailing viewpoint with 6 in 10 agreeing,** particularly in Europe (7 in 10). Which raises the question: Is this financially sustainable in the current economic climate?

> Market economics alone will not get us to where we need to go; regulation, technology, soft supports and government supports will be needed.

Guidance and Regulations

Almost 3 in 4 respondents reported feeling that a lot more guidance is needed to support their improvements in environmental sustainability. This is felt most acutely in Latin America, the Middle East and Africa, and Asia-Pacific. North American operators across the value chain were less likely to feel the need or to express the desire to receive greater guidance. The need for guidance is expressed most strongly at the latter end of the value chain (e.g., retailers, food-service operators and manufacturers).

Regulation is a key driving force for the future, and while it seems to be less influential in North America, where it is still a significant factor for 2 in 3 industry partners. Overall, there is **near-universal agreement that regulation is putting pressure on all areas of the supply chain,** with a large proportion agreeing that more stringent regulation will force the system to become more environmentally sustainable. Regionally, the starkest differences appear between those in North America and Latin America. North Americans seem to be averse to regulation and are least likely to agree that these standards will have an impact on our food system.

Differing Views on Climate Change

While **4 in 5 respondents agree that "climate change will make food production much more difficult in the future,"** perspectives differ across the regions, with North America less likely to agree. North American businesses express a different view on climate change and its role in food production compared to other regions. U.S. respondents are the least likely to say that the environmental sustainability of our planet is quite as important, placing a greater emphasis on the economic sustainability of food producers instead.

North American businesses are also **somewhat less concerned about declines in biodiversity and declining water quality. These views contrast with those in Latin America and the Middle East/Africa, where respondents are most likely to classify "environmental sustainability" as the most important factor shaping their future,** and where they are similarly concerned about declining biodiversity and water quality.

As we look to the future, commercial outcomes are a top priority globally, although, there is some variance across regions, with emissions reduction uniquely seeing the greatest focus in Europe. The Middle East/Africa and Asia-Pacific regions are concerned about sourcing raw materials, while the significance of soil and water quality is more prevalent in Latin America.

These findings show priorities will differ in importance across regions, and we look forward to seeing how these priority rankings may change in the coming years.

There is an overwhelming agreement on the importance of innovation and the application of new technologies.

Emphasis on Innovation

Globally, there is a huge belief and confidence in the role that technology will play with **9 in 10 of respondents agreeing that "technology and innovation are key to more sustainable food systems"**. This view is consistently held across all regions and along the entire value chain from primary producers through to the food sector.

While economic sustainability is highlighted as the top priority for the agri-food sector today, it is clear that technology and innovation will become just as important in future. When asked about which priorities will become more important within the next three years, respondents ranked **technology and innovation as the next highest priority** along with improving profitability and controlling input costs only after improving productivity.

There is a clear gap in confidence when it comes to measuring baselines for environmental sustainability, both across the agri-food supply chain and within individual organizations.

Keeping Tabs on Sustainability Metrics

Just under half of those surveyed say they currently measure baselines or set targets related to sustainability in their businesses, with those in Europe most likely to report that they are already setting targets. This metric was the lowest in North America. Primary producers, processors and manufacturers are most likely to measure baselines within the supply chain, with manufacturers most likely to convert them to key performance indicators (KPIs). The most common areas measured are productivity, water use and animal feed efficiency, with those in North America and Europe most likely to track feed efficiency. **Only a quarter (24%) currently measure methane emissions, even though confidence in meeting methane emissions targets is low.**

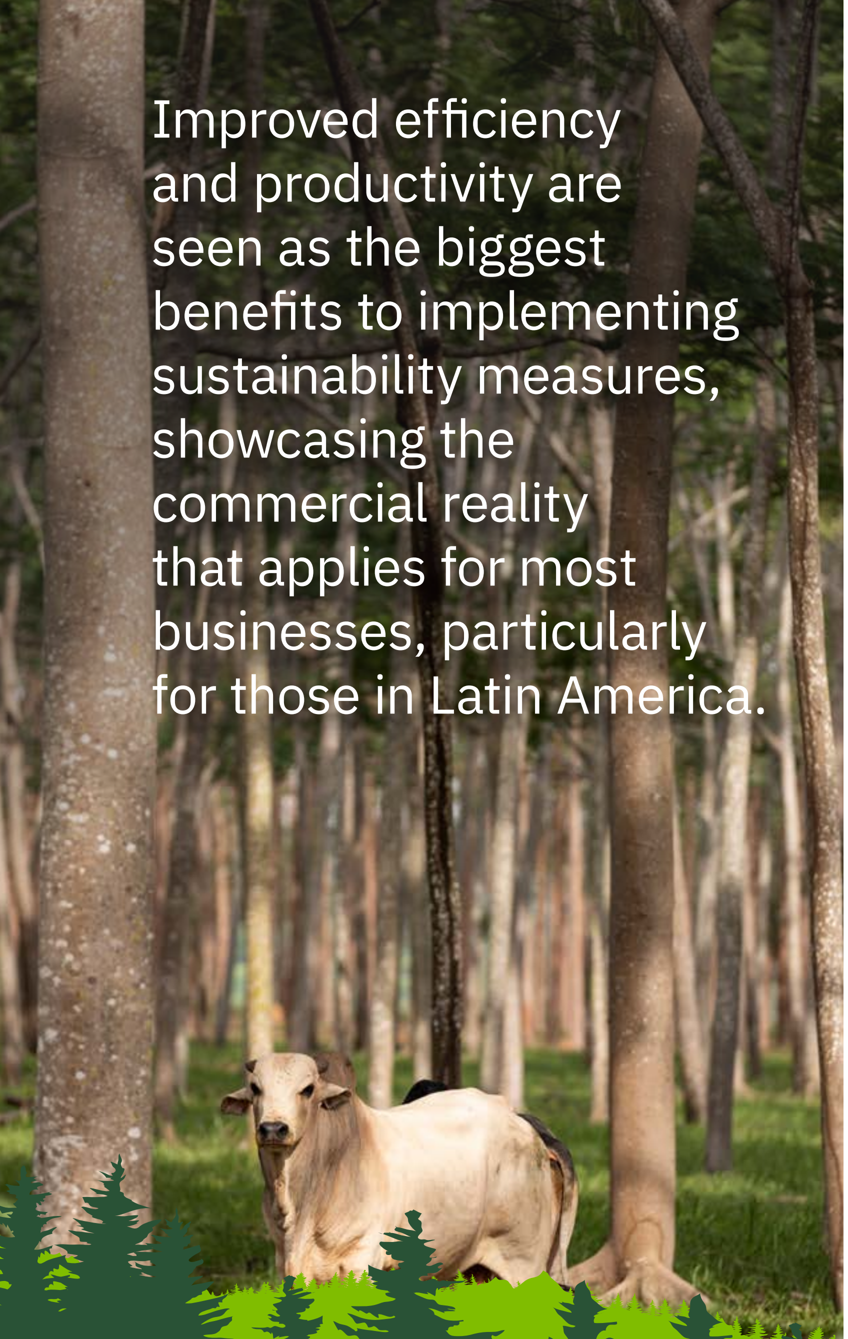
Sustainabile Agriculture and Society

Amongst those who do measure sustainability, there is a real lack of confidence when it comes to measuring social sustainability, both across the agri-food supply chain and within individual organizations. Social sustainability, while essential, is nebulous and difficult to define and measure, and as a result, it is deemed less important overall. Latin America and the Middle East/Africa are most likely to prioritize the social dimensions of sustainability.

As a facet of social sustainability, the vast majority of respondents agree that feeding our growing global population is a challenge, and that challenge is particularly evident in the fast-growing regions of Latin America and the Middle East/Africa. These regions are similarly aware of the influence of increasing affluence on our food choices, citing this as a key driver of the need for a more sustainable food system.

Out of the five regions included in the survey, respondents in North America are least likely to class social issues — such as feeding our growing global population, putting increasingly more attention on nutrition, and the need to support local communities and economies — **as likely to have a huge influence on sustainable food systems**.

The sectors of the value chain that are closest to consumers **such as manufacturers and retailers/food-service providers, are most likely to agree that an increased focus on nutrition is driving the need for more sustainable food systems.** Retailers and wholesalers are also concerned about enhancing the public's perception of the industry, along with talent attraction and retention. These sectors are also most likely to focus on the drive to support local communities and economies.



Improved efficiency and productivity are seen as the biggest benefits to implementing sustainability measures, showcasing the commercial reality that applies for most businesses, particularly for those in Latin America.

The top barriers to implementing these measures are costs and the need for certainty in terms of an economic return, with respondents citing a lack of reward and available finances as issues. Other challenges include difficulties with measurements and no clear path for implementation — both of which are areas where respondents felt that Alltech can provide guidance and support.

Geopolitics and Production

Geopolitical factors are currently a challenge for our food system, with pandemics, wars and political instability serving as cause for concern. Unsurprisingly, these geopolitical issues are felt strongly by those in governmental and regulatory roles, who are particularly concerned about food security, feeding our growing world population, and the vulnerabilities exposed by COVID-19 and the Ukraine conflict.

As alluded to previously, national food security is seen as a major issue around the world, with those in Asia-Pacific and the Middle East/Africa most concerned about its impact. There is strong agreement across the board that COVID-19 and the Ukraine conflict showcased the major vulnerabilities of our food system. This sentiment is felt most strongly in Europe and by those in government and regulatory roles.

Across the system, the challenge ahead is recognized by all, with particular concern about measurements, regulations, geopolitical instability, the rising population and supply-chain challenges.

The Importance of Feed Efficiency

While profitability cannot be ignored as the most important priority for all sub-sectors of the value chain, followed by efficiency and the need for a financial return, feed efficiency has a key part to play and is a particular area of focus in Latin America and Asia-Pacific.

Separately, the feed mill industry highlighted that improved digestibility of feeds is the next-highest priority after economic factors, followed by talent attraction and retention.

Alltech continues to have an important role to play, and our customers recognize that we can support them on their journey. Half of those who took part in the **Sustainability Insights Survey** are currently Alltech customers, and more than 8 in 10 of them reported believing that we can make a positive contribution to the delivery of a more sustainable system for them.

Alltech scores highly as a potential ally across the value chain, with a clear majority in all elements of the value chain saying that we can support businesses like theirs on their sustainability journey. We have already seen that the sector is in need of support in a number of areas, including decoding regulations, measuring impact, realizing efficiencies, fostering collaboration, accessing new technologies and more.

We know we have a critical role to play in bringing insight-led solutions to the market that can deliver on the needs of our industry partners, as identified in this and other research programs.

We also know that, as an industry, we can only succeed through collaboration. Join us in Working Together for a Planet of Plenty™.

A special thanks to the individuals who took part in the qualitative phase of the Alltech Sustainability Insights research which involved one-to-one interviews to gather their perspectives on the issues that matter most to the agri-food value chain.

Julie Mehrtens, Farm Business Owner
Enda Buckley, Director of Sustainability
Kim Stackhouse-Lawson, Director
Stephen Kenyon, Executive Chairman
José Luis Vial, CEO
Nicole Johnson-Hoffman, CEO
Paul Polman, Business leader, campaigner, co-author of "Net Positive"
Prof Li Defa, Dean of University
Prof Mai Kangsen, Dean of University
Michael Rinaldi, Vice President, Sustainable Business Development
Samuel Taylor, Food & Agribusiness Analyst
Tierney Seidel, Sustainable Capital Markets
Pacella Lehane, Relationship Manager
Karen Whaley, VP Administration
Duncan Everett, CEO

Mike Tetreault, VP / General Manager
Deirdre Ryan, Director of Sustainability
Mike DeGroot, Director
Charles Mear, Director
Aurelie Choiral Gupta, Corporate Finance Director
Danielle Thomson, Senior Associate
Andre Luiz Perrone Dos Reis, Managing Director
Tushna Dora, Senior Investment Specialist
Jackie Klippenstein, Senior Vice President
Hansel New, Director of Sustainability Programs
Kayla Rink, Director, Dairy Science and Farm Practices
Alexander Döring, Secretary General
Daniel Wolf, Director
Franziska Zimmermann, Director of Sustainability