



# INNOVATION & INVESTMENT

## Quartile Insights

**Biologicals Series:**  
Plant Biostimulants

2026 REPORT SAMPLE

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Accumont is a **boutique global agrifood and agtech advisory firm** supporting innovators, investors, and industry stakeholders navigating the transition to climate-resilient food systems.

Founded in 2020 and headquartered in London, with an international operating footprint, Accumont combines deep sector expertise with proprietary data, methodologies, and global networks to accelerate the development, validation, and scaling of novel agrifood innovation.

The global food system is under increasing pressure from climate change, resource scarcity, regulation, and capital constraints. At the same time, innovation across genetics, biologicals, precision agriculture, data, and alternative production systems is advancing rapidly, but often struggles to translate into scalable, investable, and commercially viable solutions. Accumont exists to bridge this gap between innovation, capital, and market adoption.

Accumont operates at the intersection of **intelligence, strategy, and execution**, supporting clients across the full innovation lifecycle:

#### **Market & Technology Intelligence**

Through its proprietary AFID data platform and sector-specific research, Accumont provides structured insight into emerging technologies, companies, investment activity, and sustainability impact across the global agrifood landscape. This intelligence underpins strategic decision-making for corporates, investors, and innovators.

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# Accumont differentiates itself through a combination of **proprietary data, rigorous methodology, and a global expert network.**

As a trusted, independent advisor, the firm delivers bespoke, high-touch engagements with speed, intellectual rigour, and commercial focus, providing clients with clarity in complex, capital-constrained, and rapidly evolving markets.

Please contact us at [info@accumont.com](mailto:info@accumont.com) to find out more on how we can work together.

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# Preface

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This report takes a ground-up view of plant biostimulants. We start with clear working definitions and a technological view of the product universe, then take a look at the innovation trends in the sector over the last 10 years.

We then connect biology to business: market size and growth dynamics, adoption drivers and frictions, and the two dominant commercial models (white-label versus own-label/defined actives) with their value-chain economics. To anchor the analysis in real technologies, we apply the Accumont Quartile - our two-axis assessment of Technology Leadership and Technology Traction - to a set of technology classes.

Finally, we translate evidence into guidance for capital: where investment has flowed, how valuations and exits are evolving, the principal risks, and the indicators we believe matter for timing. The intention throughout is practical clarity: a common language, consistent evidence standards, and a narrative that helps investors and operators make better, faster decisions.

# Methodology Summary

Accumont has undertaken a detailed analysis of the plant biostimulants sector to provide strategic guidance and support for the innovator and investor communities. Our methodology identified over 230 companies worldwide with plant biostimulant products in their portfolio's, of which 64 were considered **focused-portfolio companies** - a company considered oriented primarily around providing plant biostimulant solutions to the market. Our novel approach provides detailed sector-specific information on the innovative technologies and investment trends that lay behind the surface numbers in the plant biostimulants sector.

## COMPANY IDENTIFICATION

| Plant Biostimulant/s | No. of Identified Companies |
|----------------------|-----------------------------|
| Present In Portfolio | > 230                       |
| Focused Portfolio    | 64                          |

## INVESTMENT INSIGHTS

The **valuation corridor** considered the evolution of focused portfolio companies in respect to their post-valuations and equity rounds. These were plotted against exits including merger & acquisition, buyouts and IPO's.

The **investment analysis** considered where investments into the industry were going, looking at the technology characteristics of company portfolios and how these investments have changed over 10 years.

## ACCUMONT QUARTILE ANALYSIS

**Technology leadership** considers the scientific novelty, performance advantage, scalability, precision and defensibility of a biological control technology.

**Technology traction** considers the extent to which a biological control technology is achieving real-world adoption, commercial validation and operational readiness in the market.

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# The Problem Statement

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## PLANT BIOSTIMULANTS

Feeding demand while shrinking the environmental footprint now hinges on getting more from the same agronomy stack - genetics, fertilisers, crop protection and biostimulants working together. The biggest drag on yields is no longer just pests or nutrition gaps; it's abiotic stress - heat, drought, salinity, transient waterlogging and erratic weather - now a routine feature of seasons rather than an exception. Add volatile fertiliser costs, tired soils and public concern about chemical intensity, and growers are actively seeking complementary tools that stabilise performance without sacrificing reliability.

Biostimulants fit that brief. They don't replace nutrients or pesticides; they prime plant physiology so crops make better use of what's already applied, maintain growth under stress, and recover faster after weather shocks. On farm, the ROI shows up as steadier yields, quality uplift (grades/pack-outs), nutrient-use efficiency (same yield on less N, or more yield on the same N), water-use efficiency, and crop uniformity that reduces waste and improves labour use. In regenerative or reduced-input systems, biostimulants act as risk buffers - supporting soil function (root architecture, exudation, microbe-root signalling) and helping maintain output while rebuilding resilience.

Adoption has been held back by inconsistent performance across crops, soils and seasons, uneven evidence standards, and evolving regulation - but these are solvable execution gaps, not structural flaws. The path forward is clear and underway: better-characterised modes of action; fit-for-purpose formulations and stacking protocols with nutrition and protection; independent, multi-site trials with farm-relevant endpoints (yield, quality, NUE/WUE, margin); and harmonised, claim-based labelling. Done well, biostimulants become an everyday resilience layer in conventional and regenerative systems alike - additive, not adversarial - so growers can buy on predictable ROI, not hope.

# Plant Biostimulants: The Big Picture

## AN ENABLING TECHNOLOGY, NOT JUST INPUTS



### In Simple Terms, Plant Biostimulants:

- Are comparable to functional foods in human health: not medicine, but tools that build resilience and long-term performance.
- They support crop health, so plants are less prone to abiotic stress and better able to sustain yield and quality across ever-changing conditions.



### Performance Role

- Enabling technology : Maximise the efficiency of existing inputs (fertilisers, water, crop protection).
- Performance-enhancing : Help close the yield gap by stabilising outcomes and improving quality.
- Resilience building : Buffer plants against climate volatility (drought, heat, salinity, flooding).



### Strategic Positioning

- Do not replace fertilisers or crop protection but complement them.
- Represent the emerging fourth pillar of crop production alongside genetics, fertilisers, and crop protection.
- Offer investors scalable impact: address climate risk, input efficiency, and sustainability targets in one platform.



### Takeaway for Investors

Biostimulants are a performance-enabling category: they enhance ROI from existing practices, provide resilience under stress, and represent a structurally growing market as agriculture shifts from yield maximisation to efficiency and stability.

# Sector Definitions

**“a product stimulating plant nutrition processes independently of the product’s nutrient content with the sole aim of improving one or more of the following characteristics of the plant or the plant rhizosphere: (a) nutrient use efficiency (NUE), (b) tolerance to abiotic stress, (c) quality traits, (d) availability of confined nutrients in soil or rhizosphere”**

The EU definition (European Union Regulation 2019/1009 on Fertilising Products (FPR), active July 2022), that anchors plant biostimulants in a wider concept of plant nutrition and soil fertility has been widely adopted across the world. Argentina, Canada, Chile, China, Ecuador, India, Mexico, USA, and the International Organisation for Standardisation (ISO) have all either adopted or are considering definitions in line with the EU definition.

In 2022, the European Commission launched an EU survey inviting submissions of microbial strains for possible inclusion under CMC 7 of the FPR, receiving 88 proposals. The Austrian Institute of Technology (AIT) was contracted to develop a methodology to assess their safety and agronomic efficiency, with results due by December 2025. However, no mechanism currently exists for ongoing updates to the CMC 7 list, and no budget or timeline has been set for future rounds, creating uncertainty for manufacturers and investors. EBIC and others are therefore advocating for a criteria-based, proportionate system to replace the static positive list, and have submitted proposals as part of the Commission’s FPR simplification initiative.

The EU is moving from a static “positive list” to a criteria-based system for microbial biostimulants under the FPR - a dynamic process that keeps pace with innovation and accelerates market access. Inclusion in the Chemicals Omnibus simplification package is a step forward, but the proposal must still pass the full Ordinary Legislative Procedure (Commission, Parliament, and Council) to reach a compromise text. That process will take time, and companies should be ready to back it with their own data to demonstrate safety and agronomic efficiency.

# Sector Definitions



## USA

The 2018 Farm Bill provided a definition for plant biostimulants as "a substance or micro-organism that, when applied to seeds, plants, or the rhizosphere, stimulates natural processes to enhance or benefit nutrient uptake, nutrient efficiency, tolerance to abiotic stress, or crop quality and yield". The Plant Biostimulant Act of 2025 aims to finally establish a federal definition for plant biostimulants by amending FIFRA.



## Brazil

Brazil has a dual classification system for plant biostimulants. The primary definition aligns with the general concept of biostimulants, focusing on substances that enhance plant growth and health. Additionally, Brazil recognizes a "second group" of biostimulants under plant protection rules, which correspond to plant defence elicitors.

In this analysis, EU and USA definitions have both been used:

- EU for evaluating product characteristics.
- USA includes wider range of microbial technologies.

# Sector Technologies

Our analysis identified **231 companies** that had a plant biostimulant product within their product portfolio, of which **64 companies** *primarily* had plant biostimulant product/s within their product portfolio. These were considered as **focused-portfolio companies** for our analysis.



# Sector Technologies

Of the 425 plant biostimulant products captured across the 231 companies, **299 products** were carried forward for further characterisation and assessment due to the following three guiding principles:

1. Where one company has multiple products with the same active/s, only one representative product was carried forward for assessment
2. Where two companies have the same active/s within a product, they were considered separate technologies
3. Where a single product has multiple technology classes, the product was considered as one, although the technologies were considered as separate.

The technology groupings used are as follows:

| Technology Grouping | Active Substance Class   | Technology Sources   |
|---------------------|--|--|
| Microbial           | Bacteria<br>Fungi<br>Consortia   |  |
| Non-Microbial       | Humic/fulvic substances<br>Algal extracts (inc. seaweed)<br>Botanical extracts (non-algal)<br>Protein hydrolysates<br>Free amino acid blends<br>Oligosaccharides & chitosan<br>Small-molecule signaling modulators<br>Silicon formulations<br>Osmoprotectants/compatible solutes<br>Postbiotics/fermentation filtrates | Animal<br>Algal<br>Plant<br>Mineral<br>Synthetic<br>Microbial<br>Other |

# Sector Technologies

## PRODUCT LANDSCAPE



## TECHNOLOGY GROUPING

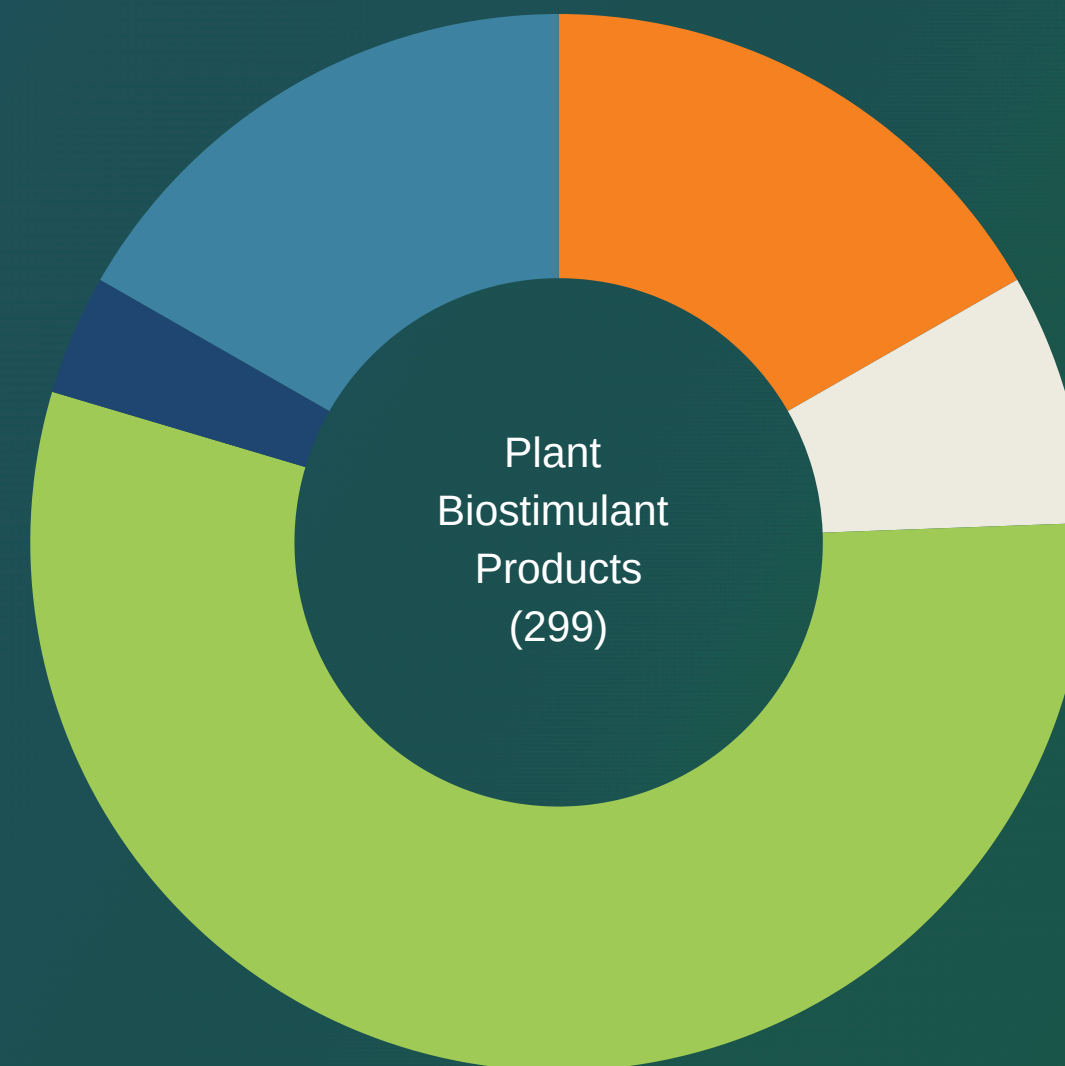
## ACTIVE SUBSTANCE CLASS

Initial analysis of *plant biostimulant products* identified in the market showed:

- XX% of all plant biostimulant products are composed of *non-microbial* technologies only.
- XX% of all plant biostimulant products are composed of *microbial* technologies only.
- XX% of all plant biostimulant products are *combinations of microbial and non-microbial* technologies.

Just under XX% of plant biostimulant products identified in the market are combinations of technology classes. Of these:

- XX% are *non-microbial* technology combinations
- XX% are *microbial* technology combinations
- XX% are *microbial and non-microbial* combinations



# Sector Technologies

## PRODUCT LANDSCAPE

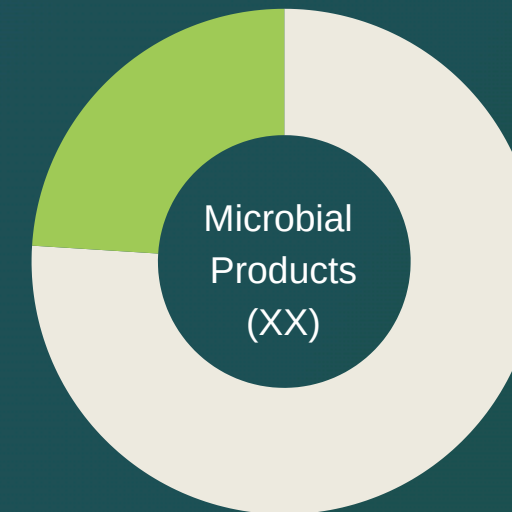
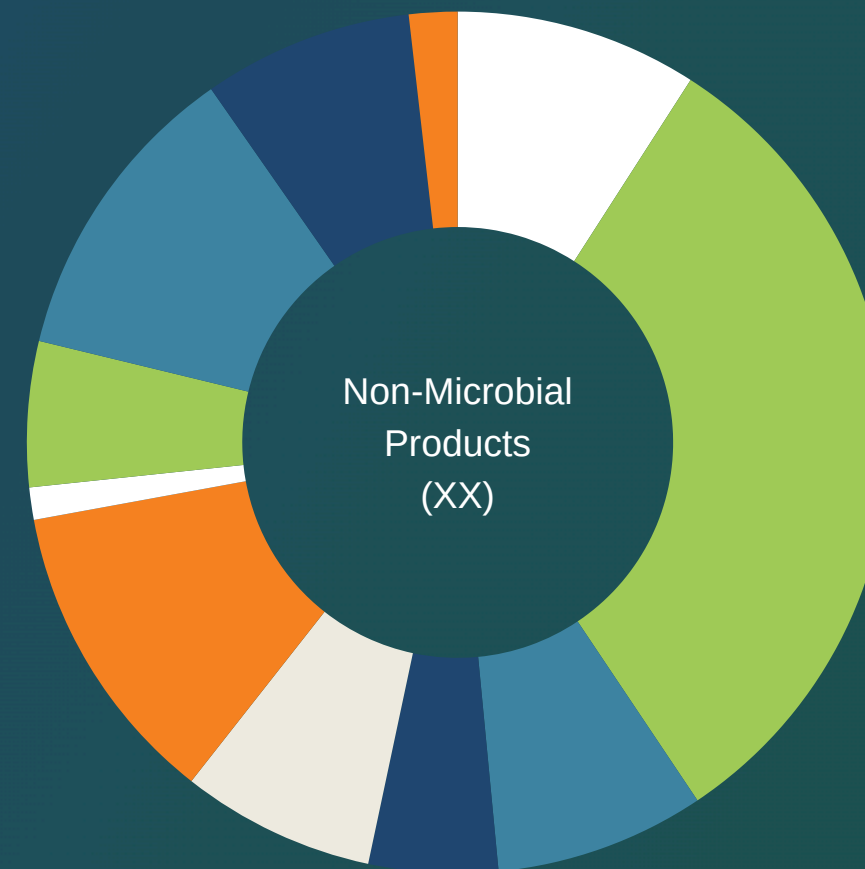
XX of microbial products are based on bacterial technologies.

XX are fungi-based, primarily represented by XXX.

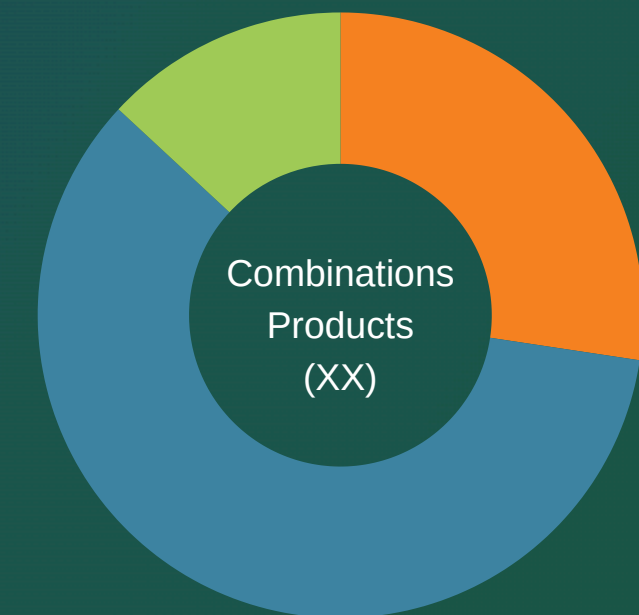
XXX, alongside XXX and XXX, are joint second-most represented *non-microbial* products.

Older technologies, including XXX, appear frequently as *non-microbial combination* technologies.

## TECHNOLOGY GROUPING



## ACTIVE SUBSTANCE CLASS

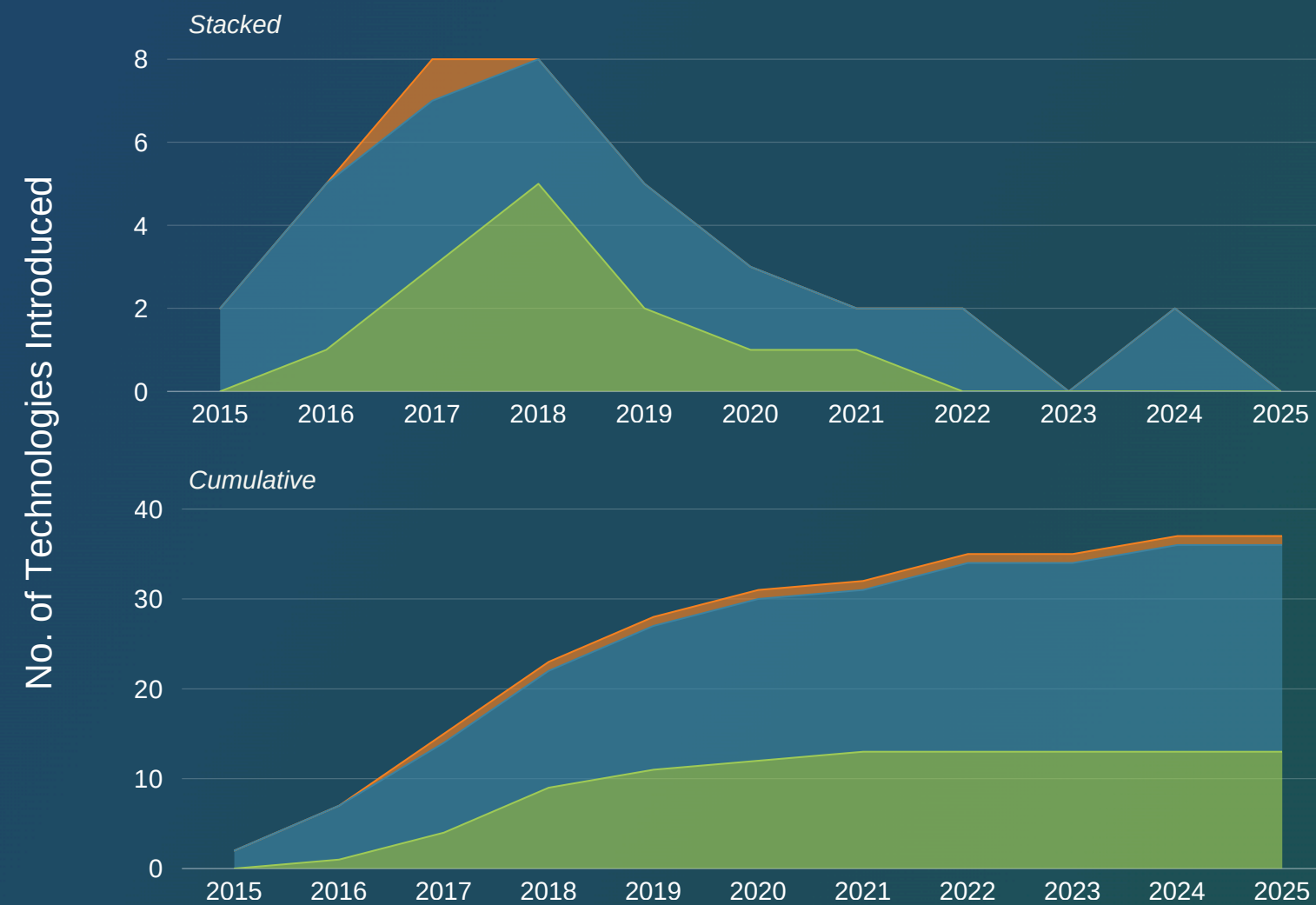


# Innovation Trends

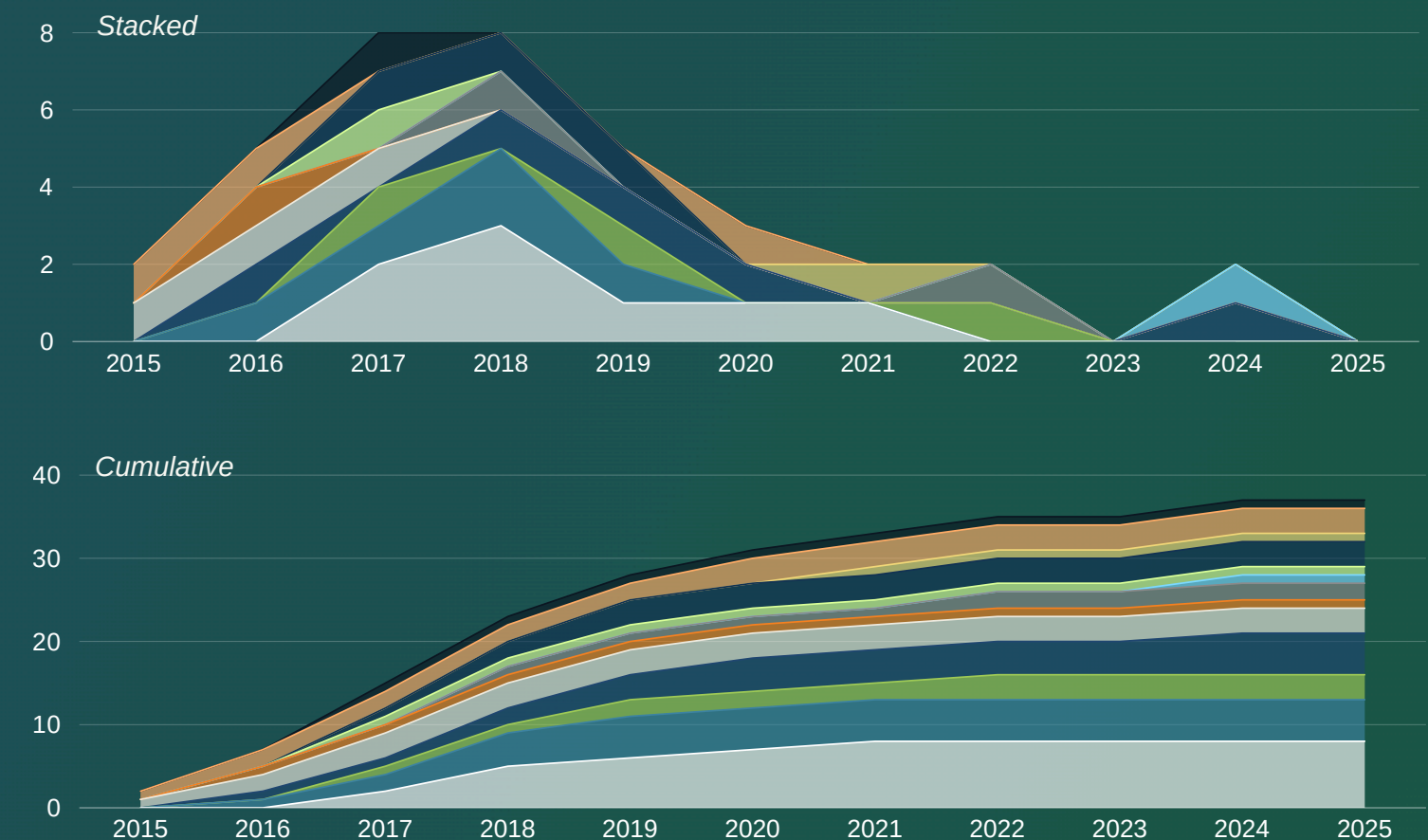
To take a look at the emerging technologies in the sector in more recent years, we identified the focused-portfolio biostimulant companies founded in the last 10 years (2015 - 2025) and separated the identified products of these companies to review the types of technologies entering the plant biostimulant arena.

**BASED ON 31 FOCUSED-PORTFOLIO COMPANIES 'FOUNDED' BETWEEN 2015 – 2025**

### Product Technology Groups

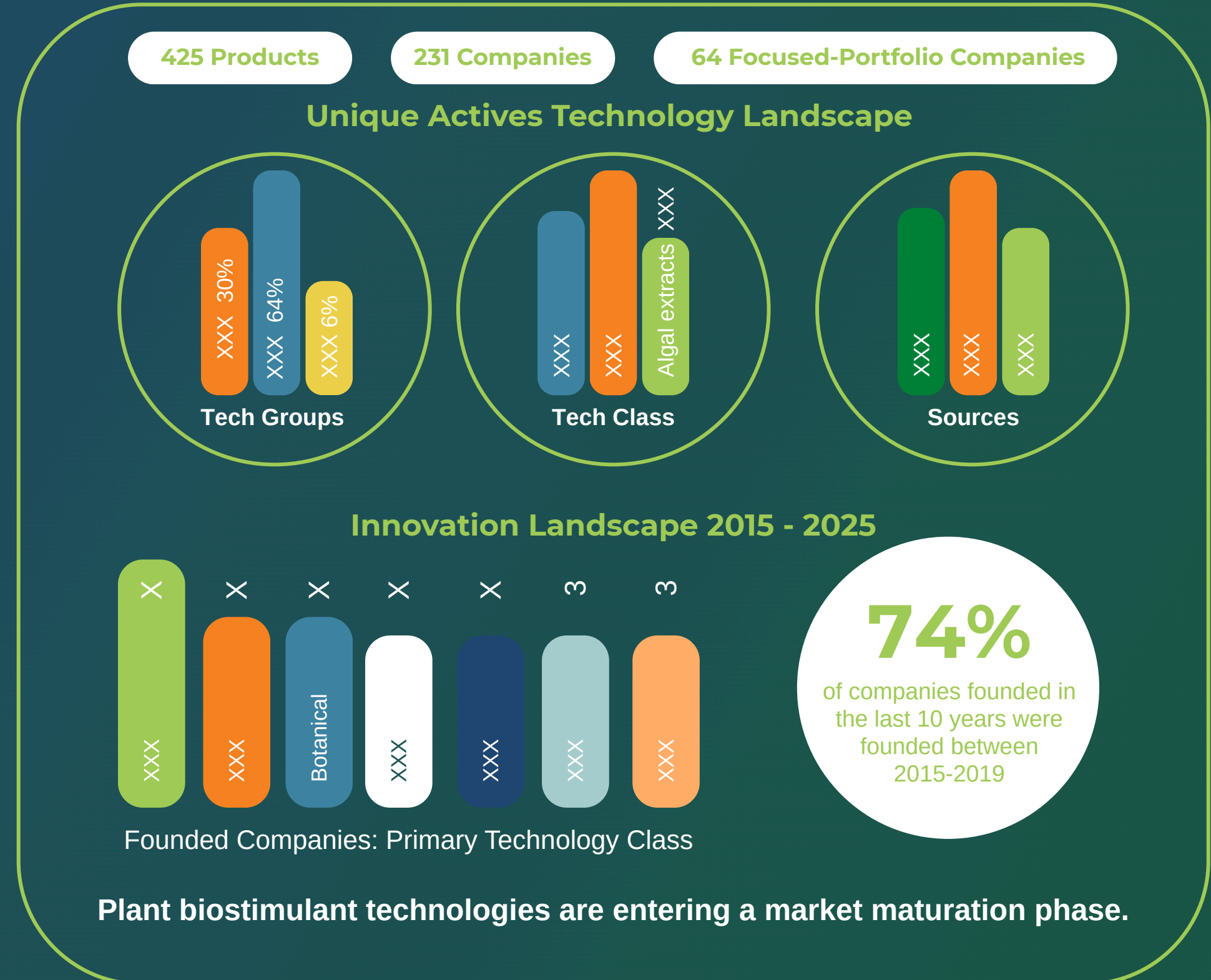


### Product Technology Classes



# Technology Sector Overview

The biostimulants toolbox is broad but not yet maturely architected. Today's market is dominated by XXX growing but still skewed XXX, and relatively few true XXX hybrids. The next wave is moving from "broad, sometimes noisy" responses to crop- and claim-specific, to more predictable outcomes.



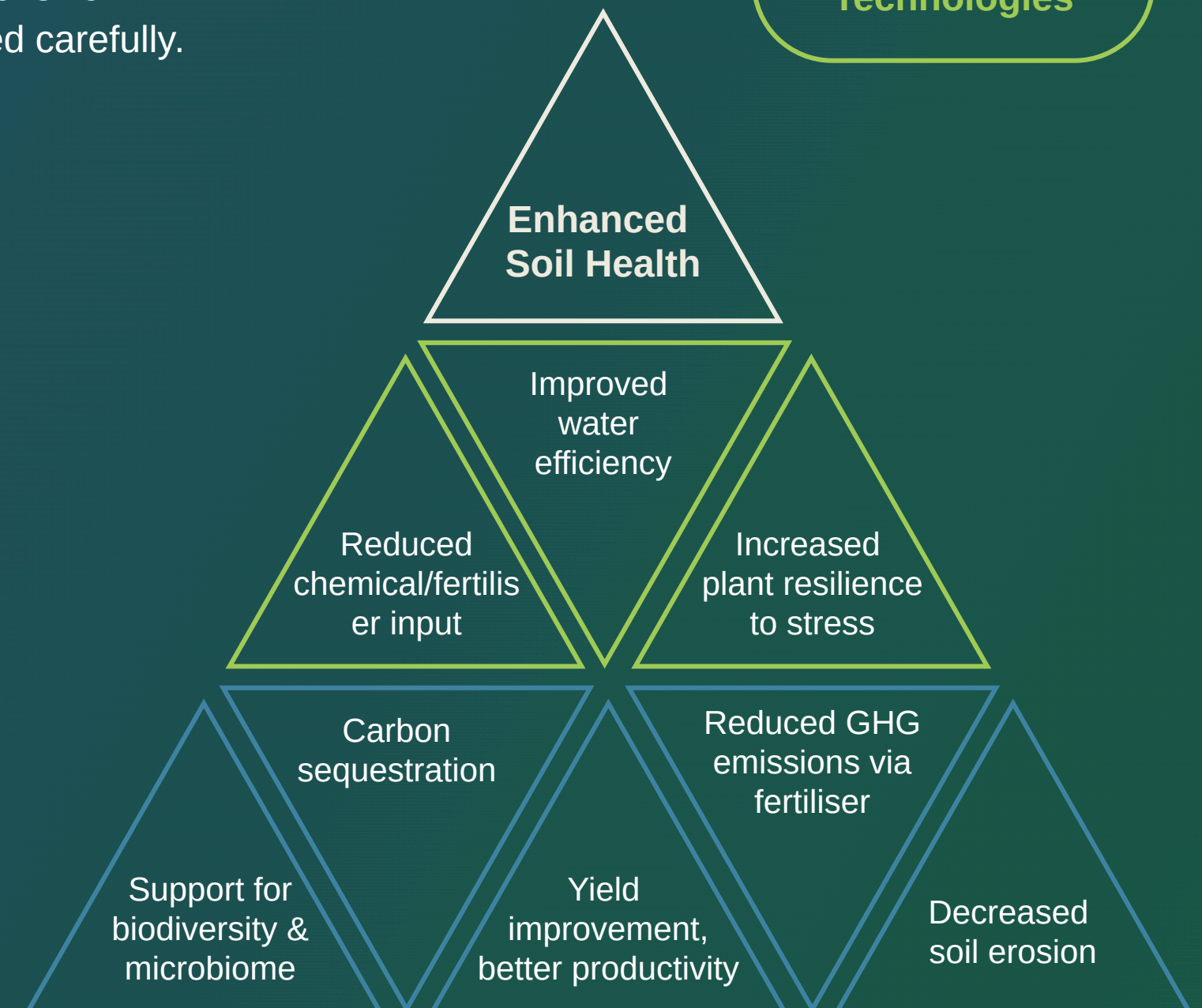
# Sustainability Impacts

Biostimulant technologies offer numerous sustainability benefits, particularly in enhancing nutrient use efficiency, improving resilience to environmental stresses, and reducing the reliance on synthetic chemicals. These technologies contribute to more sustainable agricultural systems by promoting soil health, reducing pollution, and supporting the circular economy through organic waste recycling. However, these benefits are often accompanied by challenges such as resource-intensive production, variability in effectiveness, and potential environmental risks if not applied carefully.

**Sustainability Benefits for Plant Biostimulant Technologies**

**Sustainable from Source?**

| Animal                             | Algae   | Plant  |
|------------------------------------|---|--|
| Circular economy from animal waste | Harvesting impact<br>Energy requirements        | Resource-intensive extraction<br>Biodiversity concerns |
| Mineral                            | Microbial                                       | Synthetic  |
| Mining impact<br>Toxicity risks    | Variable performance<br>Storage and application | High processing costs                                  |

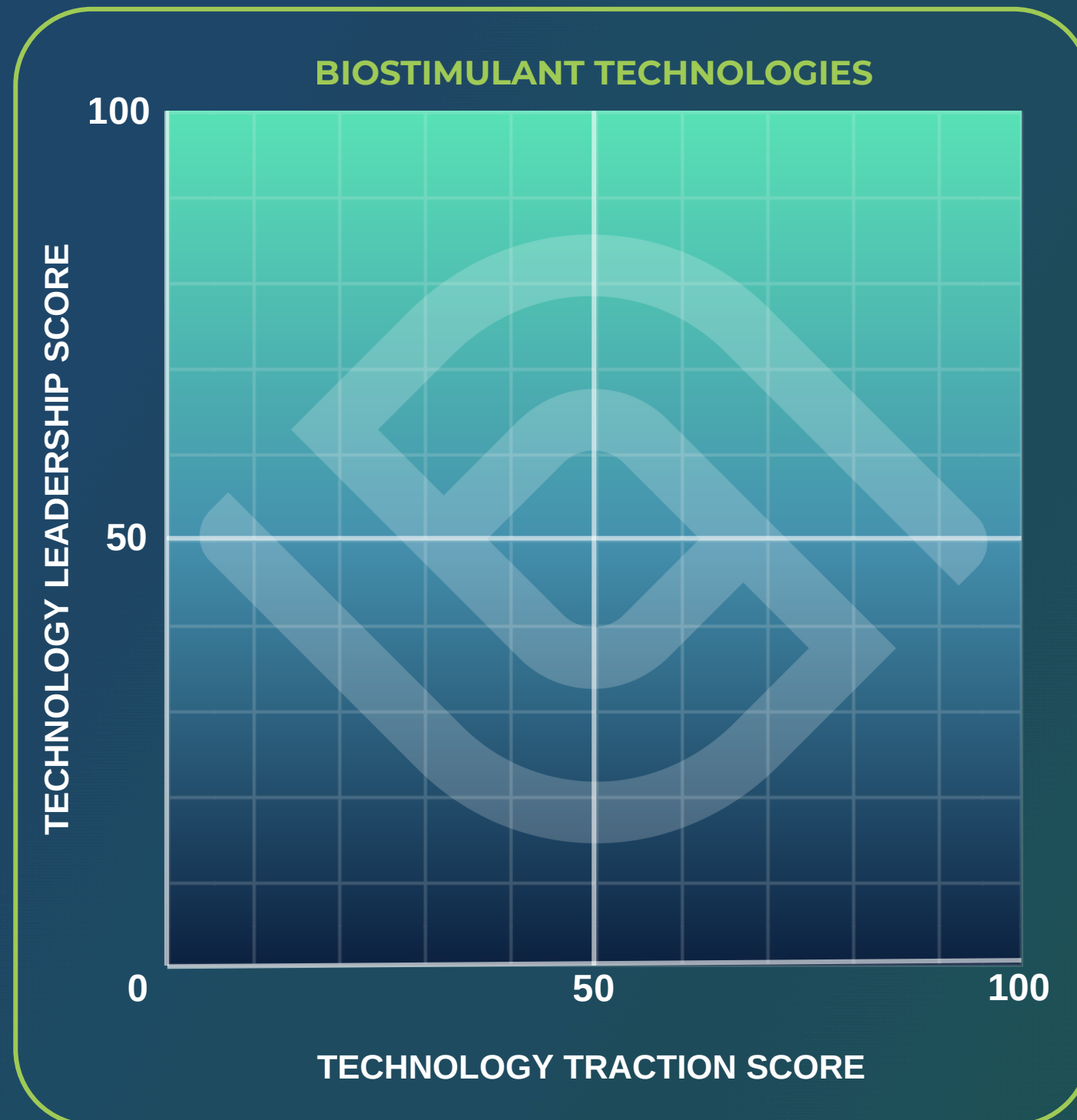


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# Accumont Quartile Methodology



The **Accumont Quartile** is a structured framework that evaluates and positions technology classes within a sector by assessing both **Technology Leadership** and **Technology Traction**. This dual-axis approach provides a clear view of how advanced a technology is and how effectively it is gaining real-world adoption, enabling comparison across technologies and identification of high-potential investment opportunities.

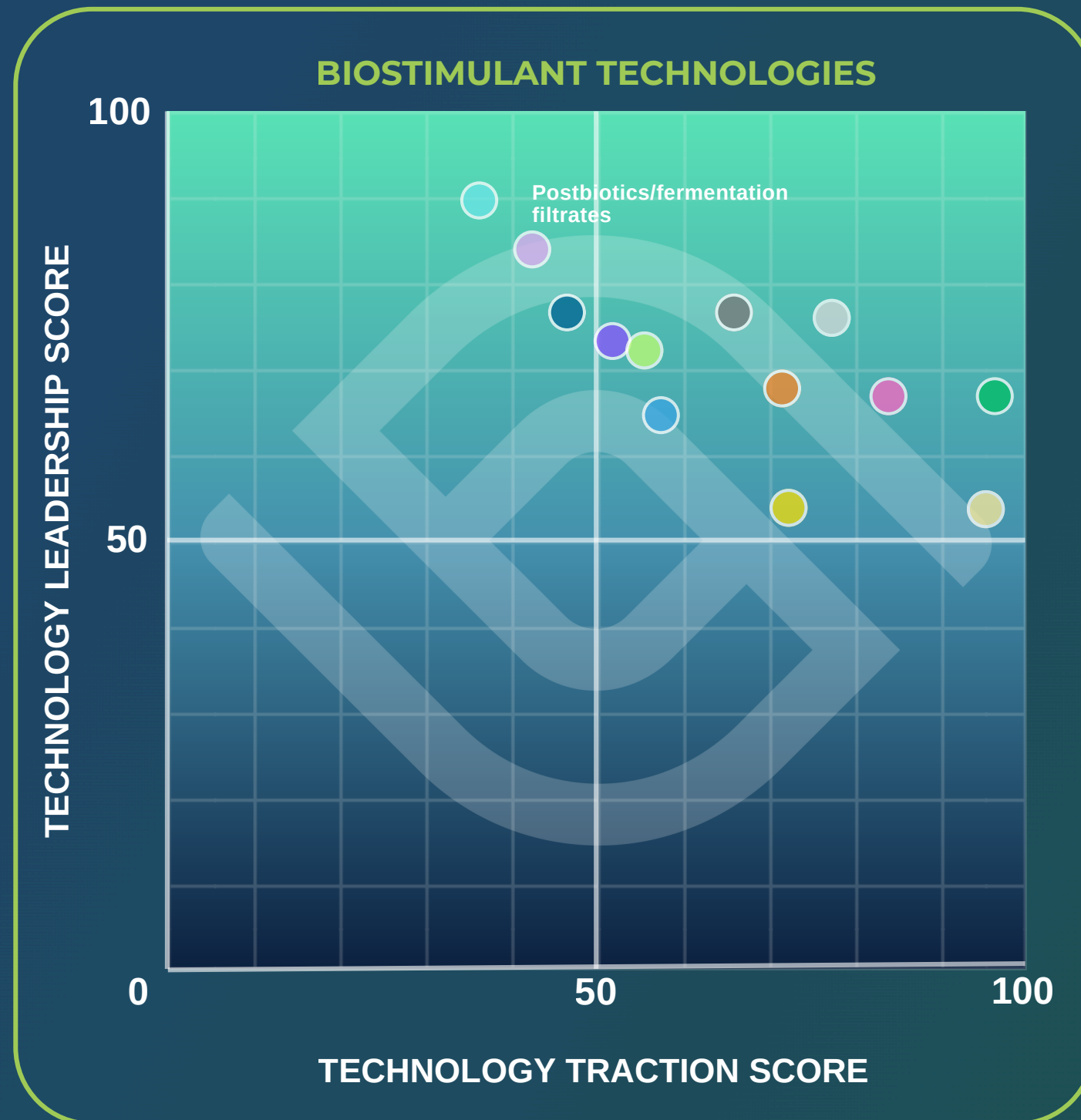
## Technology Traction considers...

- **Commercial adoption:** customer numbers, acreage treated, units sold, and repeat use.
- **Market momentum:** growth rate, adoption velocity, and overall revenue scale.
- **Operational readiness:** regulatory status, field-proven reliability, cost competitiveness, and supply chain maturity.
- **Market confidence:** industry trust, customer perception, partnerships, and broader ecosystem support.

## Technology Leadership considers...

- **Innovation and novelty:** the originality of the science, distinctiveness of the mechanism, and advancement beyond current approaches.
- **Performance and robustness:** the degree of technical advantage, consistency across environments, and precision of outcomes.
- **Scalability and applicability:** the ability to scale efficiently and be adapted across multiple use cases or systems.
- **Defensibility and future potential:** IP strength, barriers to replication, integration with existing workflows, and scope for further development.

# Accumont Quartile Highlights



The top-right quadrant (high leadership, high traction) is anchored by XXX.

The top-left quadrant (high leadership, lower traction) captures XXX, postbiotics/fermentation filtrates, and XXX. This is the innovation frontier of the sector. These approaches are more mechanistically advanced, platform-oriented, and in many cases more defensible, but they have not yet achieved broad commercial penetration. The gap here is not scientific credibility but translation - field consistency, regulatory clarity, and scalable go-to-market execution. This quadrant signals where the next wave of category leaders is likely to emerge.

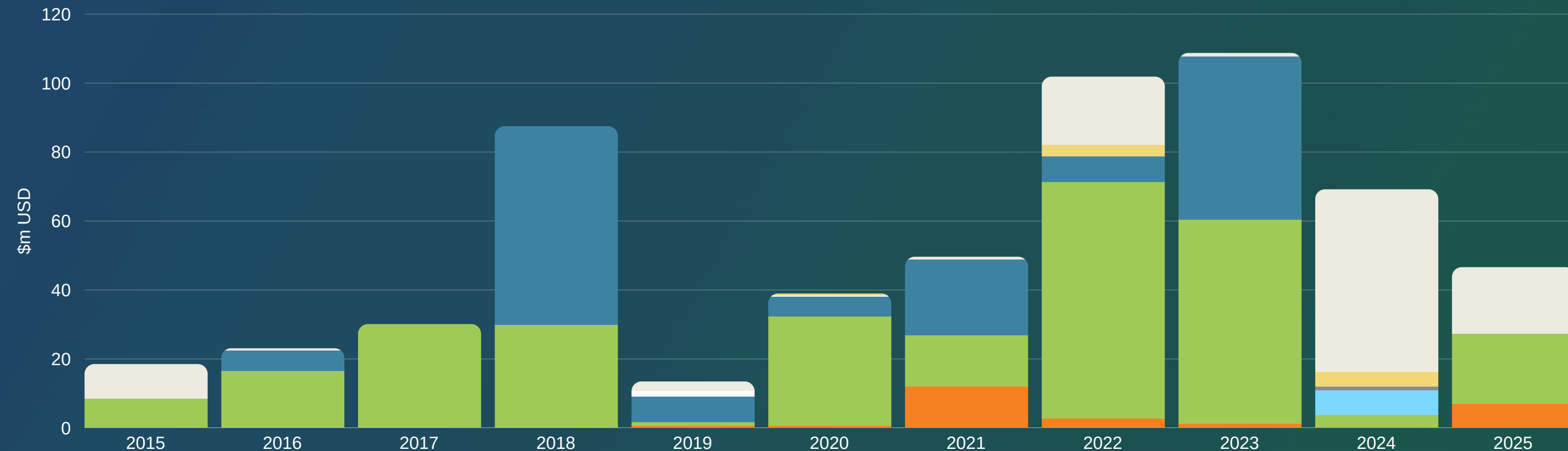
The bottom-right portion of the landscape (lower leadership, higher traction) includes XXX. These are mature, high-volume categories that underpin much of today's market activity. Their strength lies in simplicity, familiarity, and ease of use rather than precision or breakthrough innovation. They continue to perform a critical role in crop programs, but their long-term differentiation is limited, and they are increasingly being complemented - or challenged - by more targeted, mechanism-led technologies.

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# Investment Landscape (2015 - 2025)



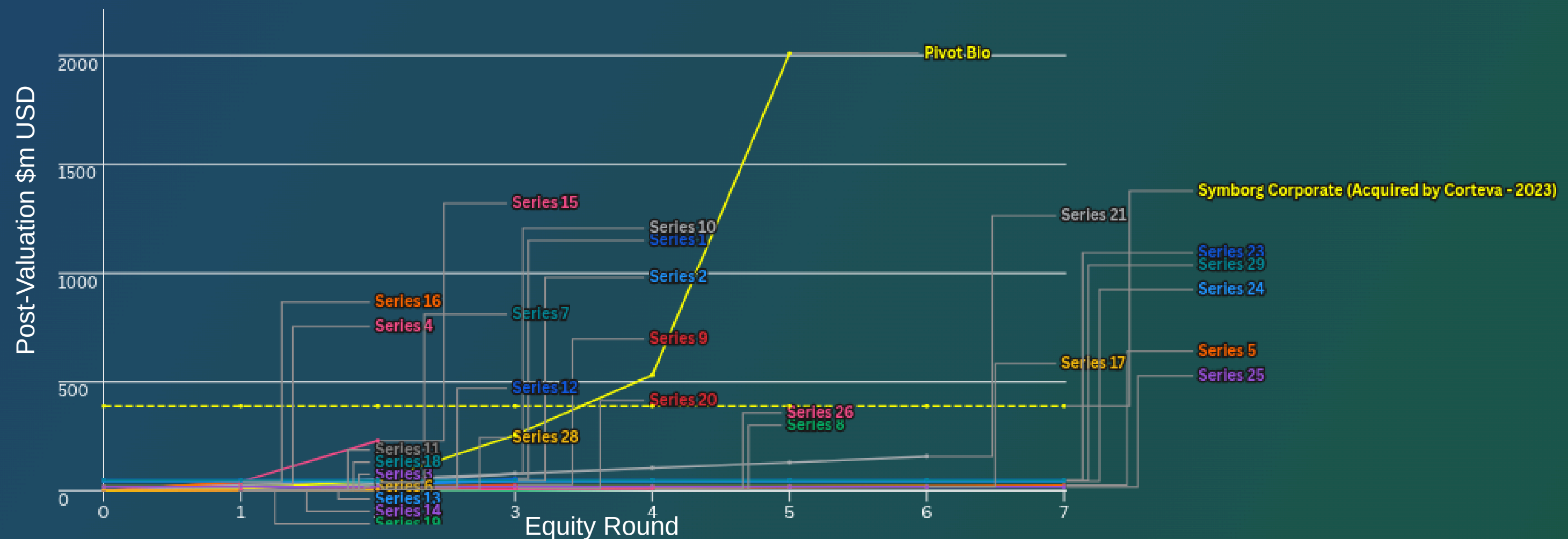
- When broken down into the technology classes, the investment trends become clearer.
- While XXX companies have seen fairly consistent levels of investment over the last 10 years, companies with technologies based around XXX have been a significant player in the biostimulants market between 2018 - 2023.

- Since 2020, there has been greater diversification towards the types of technology companies receiving venture capital funding, as regulatory frameworks were introduced and innovation progressed.
- In the most recent years (2022-2025), XXX have received the most capital, with innovations unlocking a new realm of plant biostimulants.

# Plant Biostimulants Valuation Corridor

Standard Scale

Figures adjusted for inflation



- For focused-portfolio plant biostimulant companies, only a limited number have surpassed the \$100m post-valuation mark so far.
- Of those companies which have, they are primarily XX technology companies such as Pivot Bio, XX, Symborg and XX. This is in part due to their early entry technological approach in this sector.
- Meanwhile, the majority of identified focused-portfolio plant biostimulant companies are yet to surpass the third equity round, as well as a limited number of exits (dotted lines), demonstrating the youth and competitiveness of this technology sector, that is experiencing increasing market adoption.



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