

When **biostimulants** work, plants know it. *See it in real time.*

Plants tell you when biostimulants work. We let you listen.

Our wearable sensors decode plant biosignals to reveal true crop responses to biostimulants in real time. Biostimulant companies can prove efficacy and optimise formulations faster, while growers and advisors fine-tune dosages and application schedules for maximum impact. Less trial-and-error. More measurable crop health gains.



About Vivent Biosignals



Since 2020, Vivent Biosignals has united dedicated industry specialists to translate nature's language through deep tech expertise. As a Swiss-based B Corp SME, we take pride in playing a vital role in transforming agriculture, ensuring safe and secure food production while minimising environmental impact.

130+

Years of experience in
Agtech

11+

Nationalities on our
team

35+

Patents

10

Plant scientists

Plants communicate internally using electrical, mechanical, and chemical signals to coordinate growth and defence. Electrical signals travel rapidly, providing early indicators of stress. With Vivent plant sensors and artificial intelligence, **biostimulant companies** can detect and decode these electrical signals in real time. What makes this approach unique is that plants emit specific signals depending on the type of stress they experience—whether from climate fluctuations (heat, cold), water availability (deficit or excess), light levels, infections, or pest damage.

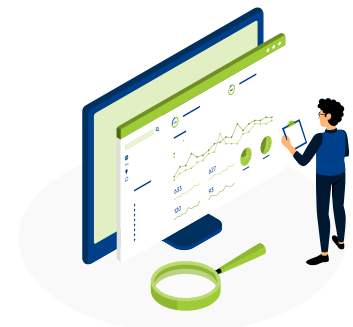
By combining machine learning with big data sets, Vivent translates plant signals into precise insights about real-time crop health. Biostimulant companies and their customers (farmers and advisors) are able to:



**Optimise biostimulant
performance**



**Detect disease and pests well
before visual symptoms**



Take data-based decisions

“

“Using Vivent’s plant sensors has transformed how we work with our customers. The real-time plant insights allow us to clearly demonstrate biostimulant efficacy, while fine-tuning application schedules and optimising formulations for specific crops and field conditions.”

KRYSTIAN RĘBISZ
MANAGING DIRECTOR AT ANDERMATT POLSKA

From root to shoot, *Vivent sees it all*

Monitoring what happens above and below the surface

How it works

Two electrodes are gently attached to a plant to capture its natural internal electrical signals, which are amplified and recorded continuously. The sensors remain in place throughout the crop cycle, providing a direct, real-time view of plant health and stress responses under real field conditions. Data from the field is transmitted via a Lora gateway to Vivent's cloud where it is processed. Crop health metrics are visible on an engaging dashboard accessible from any connected device.

In a homogeneous field, we typically deploy **8 Vita biosensors**, each monitoring a single representative plant. This setup allows growers to track how crops respond to irrigation, fertiliser programs, and other agronomic practices across the field. A simple interface translates plant signals into clear indicators of crop health status and alerts farmers to emerging stress. Crop health insights are available in real time and on demand wherever you are.

Plant signals are continuously compared against a library of diagnostic algorithms covering key abiotic stresses such as water stress, nutrient imbalances (N, P, K, Ca, Fe, Mn), and climatic stress, as well as biotic pressures including pests and diseases. Diurnal (nycthemeral) rhythms, and plant responses to light and climate conditions, are clearly visible.

The effectiveness of crop treatments is assessed in real time and can be directly linked to weather conditions, soil parameters, and irrigation events, helping growers understand not just what works, but why and when.

Real time information from plants

Plants respond to stress long before visible symptoms appear. By capturing these early signals, growers gain timely insight into when crops are under pressure—allowing interventions before yield or quality is compromised. Even small reductions in periods of high stress can translate into meaningful yield improvements.

Direct feedback from the plant supports data-driven optimisation of irrigation strategies and fertiliser mixes, helping growers apply the right inputs, at the right time, and in the right amounts. This reduces over-application, improves resource efficiency, and supports more consistent crop performance across variable field conditions.

By revealing how crops respond to changing weather, soil moisture, nutrient availability, and emerging pest or disease pressure, Vivent enables growers to make informed agronomic decisions based on plant responses—not on assumptions. The result is healthier crops, improved resilience, and more confident day-to-day management.

Our partners



CASE STUDY

Measuring biostimulant impact on maize performance with VITA sensors.



Faster recovery after water stress



Lower kernel moisture at harvest



Higher dry matter proportion and marketable yield



Better physiological stability during critical growth stages marketable yield



“Vivent sensors allowed us to clearly see how Andermatt’s Rhizo biostimulant stabilised maize performance during a challenging season. The benefits were visible in plant physiology, kernel quality, and real commercial yield.”

Agrii Farm

PROBLEM During the 2025 season, maize crops experienced atypical and challenging conditions, including a prolonged cool spring and periods of water and thermal stress during key growth stages. Traditional field observations and end-of-season yield measurements made it difficult to understand how biostimulant treatments influenced plant performance, particularly under variable weather conditions.

SOLUTION Agrii deployed VITA plant biosensors across maize trial plots to continuously monitor plant electrophysiological signals throughout the growing season. This enabled real-time comparison of treated (Rhizo biostimulant) and untreated plants, providing direct insights into water status, nutrient dynamics, and physiological stability during vegetative growth, flowering, and grain filling.

- RESULTS**
- **Greater stress resilience**
Biostimulant-treated maize showed lower stress responses and faster recovery, particularly for water status during high-demand periods.
 - **More efficient nutrient use**
Nitrogen and potassium dynamics were more stable and better aligned with grain filling, supporting efficient assimilate transport.
 - **Higher commercial yield quality**
Although raw field yield differences were modest, treated maize had lower grain moisture at harvest, resulting in a significantly higher proportion of dry matter and improved marketable yield.
 - **Clear value in difficult seasons**
The biostimulant improved physiological efficiency and yield quality, delivering real agronomic and economic benefits in a cool, wet year.

Value across the agricultural chain.

With Vivent biosensors plant responses are visible—turning complex physiology into clear, decision-ready insights.

- **Farmers**
More stable crops and improved real-world returns
- **Advisors**
Objective, plant-based data to support recommendations
- **Biostimulant companies**
Clear, field-validated evidence of performance and mode of action.



One platform, *clear answers from the plant itself*

Vivent connects farmers, advisors, and biostimulant companies through real-time crop health insights. Our wearable sensors capture plant electrophysiological signals and translate them into practical, data-driven guidance—helping all stakeholders understand what works, when it works, and why. The result is better decisions in the field, stronger product performance, and more confident recommendations.

1. Make faster, better agronomic decisions

Plants respond to inputs long before visual symptoms appear. With Vivent Biosensors, farmers and advisors can see early signals of stress or recovery in real time, allowing timely adjustments to irrigation, nutrition, or biostimulant programs—delivering more consistent yields and quality.

2. Prove and communicate biostimulant performance

Biostimulant companies gain quantitative, plant-based evidence of efficacy, while advisors and growers can clearly see how products perform under real field conditions, with key insights on when products make a real difference. This shared understanding strengthens trust, improves adoption, and supports confident recommendations.

3. Apply the right product at the right time

Timing matters. Vivent reveals when plants are most responsive, helping optimise application schedules across crops, fields, and seasons. Farmers benefit from improved product efficacy, while advisors and biostimulant companies refine usage guidelines based on real plant feedback.

4. See what the plant sees

Many plant responses are invisible to the naked eye. Vivent translates subtle growth and stress signals into actionable insights, enabling continuous optimisation of formulations, application strategies, and crop management—guided directly by the plant itself.

Vivent plant sensors enable:



Real-time insight into plant responses

Understand how crops react to inputs as conditions change



Data-driven confidence

Support farmer and advisor decisions with objective plant data



Smarter product and practice optimisation

Improve formulations, recommendations, and on-farm performance



More resilient crop management

Reduce guesswork and respond earlier to emerging stress



Get in touch

Vivent connects biostimulant companies, farmers, and advisors through real-time crop health insights. See how crops respond, optimise products and practices, and make more confident decisions, based on plant data, not guesswork.

Let's connect to explore the future of agriculture together!
Plants are talking, we let you listen in.

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