



EIR

BIOSTIMULANT

Seeking Partners for the
EIR Biostimulant Project

EIR-BIOSTIMULANT

Science, feasibility and partnership

Botanical formulation technology for crop vitality, resilience and integrated plant health. This overview sets out the evidence to date, what remains to be shown, and how we would like to work with partners and investors.

PART I

Science and feasibility

- Rationale and existing evidence
- Laboratory, greenhouse and field results
- Measurement plan and development status

PART II

Partnership

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OVERVIEW

What the evidence shows, and what it would take to bring the product to market

NONTOXECO LABS LLC develops formulation technologies for sustainable agriculture and animal health. EIR-BIOSTIMULANT is its proprietary botanical formulation for crop vitality, resilience and integrated plant health.

Where the program stands

Laboratory, greenhouse and field studies on development formulations report activity at product concentrations of 0.05–0.25%. Direct biostimulant outcomes have not yet been measured and are the priority for joint work.

What we are looking for

Partners to run replicated trials, define the product pathway, manufacture and distribute, and investors to support that work. Part II sets out what we bring and how cooperation could be structured.

≤0.25% Product concentration at which lethal activity was found against all five plant pathogens tested in a 2024 laboratory report.	98.4% Lower final disease severity than the untreated control in a pepper greenhouse study at 0.10%. Descriptive result; no statistics assigned.	0 of 10 Plants lost in the preventive banana TR4 challenge group at 0.2%, against 80% mortality in the infected untreated group.	86% Aphid control at 0.25%, three days after treatment, reported for a pepper field trial with four replicates. No inferential statistics provided.
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All four figures concern EIR-BIOSTIMULANT development formulations. Each is explained, with its limits, in Part I.

How this document is organized

Part I: Science and feasibility. What has been studied, what the results do and do not show, how the product would be made, and what still has to be established.

Part II: Partnership. What NONTXECO brings, who we would like to hear from, the forms cooperation can take, and the joint program we propose.

What this overview does not claim

- Disease or pest suppression alone does not establish a biostimulant effect. Nutrient-use efficiency, abiotic-stress tolerance, biomass, yield and quality remain to be measured directly.
- The studies were carried out on development formulations. Their relationship to a final commercial specification is to be documented during technical due diligence.
- The crop results are descriptive or come from small groups. Replication and statistical analysis are part of the proposed joint work.
- Composition, ingredient identities, ratios and processing conditions are confidential and are not disclosed here.

PART I

Science and feasibility

Botanical formulation technology for crop vitality, resilience and integrated plant health.

The development proposition

EIR-BIOSTIMULANT brings together botanical chemistry, formulation engineering and a plant-health research program. The technology aims to make naturally inspired active materials practical in water-based agricultural applications. Its rationale combines consistent application performance, management of selected biological stressors and potential support for plant physiological responses.

This creates a platform for studying how reduced biological stress and plant-mediated responses can contribute to healthier crop performance. Formulation composition, raw materials, manufacturing methods and delivery mechanisms are confidential.

Scientific rationale

Supporting healthier crop function

Biological stress can reduce functional leaf area and interfere with normal crop development. The laboratory and crop studies summarized here provide a basis for evaluating whether the program can help preserve healthy foliage and crop performance under such pressure.

Biostimulation and crop resilience

The biostimulation proposition is to support the plant’s own performance and resilience. Relevant outcomes include root and shoot development, nutrient-use efficiency, recovery from stress, maintenance of photosynthetic function and consistency of crop growth. The existing crop observations are encouraging starting points for measuring these benefits directly.

Reduced disease severity and improved visual condition are relevant plant-health observations. Dedicated physiological and agronomic measurements are needed to establish the size and consistency of a direct biostimulant response across crops and growing conditions.

What the existing evidence contributes

EVIDENCE	KEY OBSERVATION
Laboratory antimicrobial studies	A 2024 research-institute report found inhibitory and lethal activity against selected plant-pathogenic bacteria and fungi at 0.1–0.25% product concentrations.
Pepper greenhouse evaluation	At 0.1%, mean disease severity declined from 2.89 to 0.08 over 29 days in a descriptive dataset.
Banana challenge study	A preventive 0.2% development treatment was associated with reduced disease severity and no mortality in a small TR4 challenge group.
Arthropod development program	An insect-development presentation reports 86% aphid control at 0.25% in a replicated pepper field trial, assessed three days after treatment.

These findings support further development. Direct biostimulant outcomes remain priorities for dedicated measurement.

EIR-BIOSTIMULANT · LABORATORY EVIDENCE

Activity at low concentrations against five plant pathogens

The 8 October 2024 report by Dr. Ben Shahar, Shamir Research Institute, evaluated a development formulation against three bacterial and two fungal plant pathogens. Assays used 96-well plates, 200 µL per well and four replicates per concentration. Tested concentrations ranged from 0.1% to 2%. Fresh-medium transfer was used to distinguish growth inhibition from lethal activity. [S5]

ORGANISM	MIC (%)	MBC / MFC (%)
<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i>	≤0.10	≤0.10
<i>Erwinia amylovora</i>	0.25	0.25
<i>Xanthomonas campestris</i>	0.10*	0.25
<i>Alternaria mali</i>	≤0.10	≤0.10
<i>Botrytis cinerea</i>	≤0.10	≤0.10

MIC: minimum inhibitory concentration. MBC/MFC: minimum bactericidal/fungicidal concentration. Percentages describe tested product dilution, not isolated active content. "≤0.10%" means activity was found at the lowest tested concentration; a lower threshold was not determined. *The report describes later regrowth at 0.10% for *Xanthomonas*, making 0.25% the more robust lethal endpoint.

Why the result is scientifically useful

Activity across both Gram-positive and Gram-negative bacteria and two fungal targets suggests a useful breadth within the tested panel. The distinction between inhibition and lethal action strengthens the interpretation beyond a simple visual growth screen. For the fungal assays, the starting material was spores; the results do not independently establish eradication of mature infections in crops.

Additional historical screening

The March 2022 screening materials describe activity against *Rhizoctonia solani*, *Alternaria alternata*, *Botrytis*, *Fusarium oxysporum* and *Colletotrichum* at the lowest tested 0.1% concentration, together with bacterial activity. These are supporting development observations. An active formulation blank in parts of that study means that individual-component contribution and synergy cannot be inferred from the complete-mixture results alone. [S9–S10]

What this justifies. A focused program to confirm the spectrum with a locked formulation, reference strains and crop-relevant isolates. A dilution series below the current 0.1% floor would refine potency estimates, and appropriate formulation controls would help characterize the contribution of the complete proprietary system.

EIR-BIOSTIMULANT · CROP AND ARTHROPOD OBSERVATIONS

Greenhouse, challenge and field observations

Pepper: greenhouse disease-pressure study

The technical report describes a Bangkok-region greenhouse study with two foliar applications, on days 0 and 14. Five treatment zones occupied approximately 250 m². Ten leaves per treatment were assessed with image-based severity scoring. [S1, S3]

TREATMENT — MEAN DISEASE SEVERITY	DAY 0	DAY 14	DAY 29
Untreated control	2.84	4.47	5.00
EIR-BIOSTIMULANT development formulation, 0.05%	3.03	1.02	0.39
EIR-BIOSTIMULANT development formulation, 0.10%	2.89	0.44	0.08

At 0.10%, final severity was 98.4% lower than the untreated control; cumulative disease severity, calculated by trapezoidal AUDPC, was 77.7% lower. These are descriptive results. Independent plot replication and variance data are not available, so no statistical significance is assigned. The endpoint was disease severity, not a direct measurement of yield or abiotic-stress tolerance.

Banana: importance of preventive timing

The February 2026 report by Dr. Stanley Freeman, Volcani/ARO, describes a TR4 challenge in young Grande Naine banana plants, with ten plants per treatment. At 0.2%, the group exposed before inoculation had mean disease severity of 0.8 on a 0–4 scale and no mortality, compared with 3.6 and 80% mortality in the infected untreated group. Treatment beginning at inoculation produced severity of 3.3 and 60% mortality. The report found a significant severity reduction for the preventive group. These observations support further investigation of timing; they do not isolate a plant-priming mechanism. [S6–S8]

Aphids: an additional plant-health capability

An insect-development presentation reports 86% aphid control at 0.25%, three days after treatment on pepper at Tzrufa, Israel, in March 2022. The stated design included four replicates and three assessors. A second trial at Geva Carmel reported 66% control at 0.10% and 54% at 0.05%. Because these rates span two sites, they should not be interpreted as one controlled dose-response experiment. Inferential statistical analysis was not provided. [S11]

Whiteflies and mites are proposed extension targets; replicated efficacy results for those targets are not available. No direct algal efficacy dataset was identified. *Phytophthora* is an oomycete, so its study should not be presented as proof of algicidal activity.

EIR-BIOSTIMULANT · MEASUREMENT, INGREDIENTS AND POSITIONING

From plant-health observations to measured biostimulation

A focused evaluation framework

A joint program can compare treated and untreated crops under both normal and defined stress conditions. Measurements can include leaf area, chlorophyll fluorescence, root development, water-use efficiency, nutrient uptake, biomass, marketable yield and crop quality. Replicated trials under heat, salinity or restricted irrigation would directly evaluate the abiotic-stress resilience proposition.

Ingredient status

The botanical components are compounds with an established history of use as flavor or fragrance ingredients, and formulation aids are chosen from materials in established agricultural use. Ingredient identities, raw-material specifications and formulation details are confidential. The regulatory status of each ingredient is specific to its conditions of intended use and will be documented for the final commercial specification; it is not, by itself, approval of a finished agricultural product or a determination of its environmental performance.

Environmental development objective

NONTOXECO's objective is effective agricultural performance with a lighter environmental footprint. Low effective dilution can reduce the quantity of concentrate required for an application. The program aims to translate this into practical crop-management value and a well-characterized environmental profile. Environmental performance can

be assessed through degradation behavior, residue profiles and compatibility with beneficial organisms and soil biology; these measurements would support specific environmental claims for the final formulation and its intended use pattern.

A consistent name with study traceability

EIR-BIOSTIMULANT is the updated program name used throughout this overview. Historical results remain associated with the development formulations and study conditions actually tested. The final commercial specification and its relationship to those studies can be documented during technical due diligence.

U.S. development positioning

The proposed collaboration focuses on measuring biostimulant value and selecting an appropriate product pathway. U.S. classification depends on intended use and claims as well as composition. A partner's regulatory team can assess the proposed commercial positioning.

EIR-BIOSTIMULANT · FEASIBILITY

Development status

What is in hand today, how the product would be made, and what a partner would help establish. The next step is a jointly designed pilot, described in Part II.

ASPECT	STATUS
Stage	Development formulations with laboratory, greenhouse and field observations.
Evidence in hand	Laboratory report on five plant pathogens (2024); pepper greenhouse study; banana TR4 challenge report (2026); aphid field reports (2022); earlier screening (2022).
How it would be made	Liquid concentrate for dilution in water. Studies used product concentrations of 0.05–0.25%.
Still to be established	Direct biostimulant outcomes under stress and non-stress conditions; replication and statistics for the crop results; mapping of studies to a locked commercial formulation; environmental profile; product pathway and claims.
Protection	Composition, ratios and processing conditions are held as confidential know-how. Supporting technical documentation can be reviewed under mutually agreed confidentiality arrangements.

PART II

Partnership

NONTOXECO LABS is a formulation-led development company. EIR-BIOSTIMULANT has reached the point where the next gains depend on capabilities a partner can add: replicated trials, regulatory strategy, manufacturing scale and market access. We are looking for companies that want to shape that work with us, and for investors who want to support it.

What NONTXECO brings

- **A proprietary formulation and the know-how behind it.** Full composition and processing details are available for review under confidentiality.
- **An existing evidence package.** Research-institute reports from Shamir Research Institute (2024) and Volcani/ARO (2026), together with greenhouse and field observations, give a partner a defined starting point instead of a blank page.
- **Formulation experience.** Founder Ido Eco Ofek brings more than two decades of formulation and biotechnology experience.
- **A defined development plan.** A four-step joint program with the measurements and endpoints already identified.
- **Freedom to choose crops and endpoints.** Partners can select the crops, production systems and endpoints most relevant to their portfolio, while the proprietary formulation remains protected.
- **Flexibility on structure.** We are open to evaluation, joint development, licensing, manufacturing and distribution arrangements, and to combinations of them.

Who we would like to hear from

PARTNER	WHAT YOU WOULD BRING	WHAT THE COLLABORATION OFFERS
Crop-input and biostimulant companies	Trial networks, agronomy and regulatory teams, a portfolio to place the product in.	A botanical formulation with existing low-concentration data, and the choice of crops and endpoints that matter to you.
Manufacturers and formulators	Scale-up, packaging and stability capabilities.	A manufacturing role in a new botanical product line.
Distributors	Market access and customer relationships.	An early position in a product line, by territory or segment.
Research institutions and trial organizations	Independent, replicated trials and analytical methods.	Well-defined research questions with direct commercial relevance.
Strategic and financial investors	Capital and commercial guidance.	Participation in a development-stage crop technology with an existing evidence package. Terms are discussed directly, not in this document.

WAYS TO WORK TOGETHER

Cooperation can start small and grow with the results

MODEL	WHAT IT INVOLVES
Technical evaluation	Your team tests samples to an agreed protocol, under confidentiality and material-transfer terms.
Joint development	A shared trial program with a co-defined product specification, endpoints and responsibilities.
Licensing	Rights defined by territory, crop or field of use.
Manufacturing	Scale-up and contract or toll production, including packaging and stability work.
Distribution	Regional commercialization once the product pathway and positioning are settled.
Investment	Strategic or financial participation in the program or the company.

The joint program we propose

1 Define the product. Select the formulation and specification to be commercialized, and map existing studies to that version.	2 Measure biostimulation. Run replicated trials under defined abiotic stress and non-stress conditions, with plant physiology, nutrient efficiency, biomass and yield endpoints.
3 Confirm complementary activity. Reproduce the strongest microbial and aphid findings with relevant crops and agreed methods.	4 Build the commercial fit. Evaluate manufacturing, stability, application economics and compatibility with your portfolio.

Partners choose the crops, production systems, reference treatments and endpoints most relevant to their business. Trial designs, controls and success criteria are agreed in advance.

NEXT STEPS

How an engagement would run

1	2	3	4	5	6
Introductory call	Confidentiality	Technical review	Pilot plan	Pilot and review	Commercial terms
Technical fit, target crops, and what each side is looking for.	A mutual agreement, so that composition and study reports can be shared.	Your team reviews the formulation, the original reports and the open questions.	Protocol, controls, endpoints, timeline and responsibilities agreed in writing.	Trials run; both sides review the data together.	A structure suited to the results: license, supply, distribution or investment.

This is a proposed path. Steps can be combined or reordered to suit a partner's own process.

ABOUT AND CONTACT

About NONTXECO LABS

NONTXECO LABS LLC develops technologies for sustainable agriculture and animal health. The company seeks practical solutions that combine agricultural performance with a reduced environmental footprint.

Founder Ido Eco Ofek brings more than two decades of formulation and biotechnology experience. Guy Shafrir contributes expertise in entrepreneurship and international business development.

An invitation. We invite your R&D, business-development or investment team to an introductory call on technical fit and a joint pilot program. Detailed composition and the underlying study materials can be shared under appropriate confidentiality arrangements.

START A CONVERSATION

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SOURCES AND NOTES

Evidence reviewed

S1	51-page technology presentation.	S2	Investor presentation.
S3	Pepper greenhouse technical report.	S4	27-page crop-resilience presentation.
S5	Shamir Research Institute antimicrobial report, 8 October 2024.	S6-S8	February 2026 banana TR4 report, in duplicate formats and branding; one experiment.
S9	Screening report, 16 March 2022.	S10	Follow-up methods, 27 March 2022.
S11	21-slide insect-development presentation.		

The crop-resilience presentation repeats the pepper values while changing the location and endpoint description; this overview uses the detailed pepper technical report and does not count it as a second trial.

About this document

This is a selective, non-confidential scientific and partnership summary prepared from NONTXECO's development records. It is not a replacement for the original laboratory reports. Proprietary formulation details and investment terms are omitted. Historical results relate to the development formulations and study conditions actually tested. Nothing in this document is a regulatory claim for a finished product or an offer of securities.