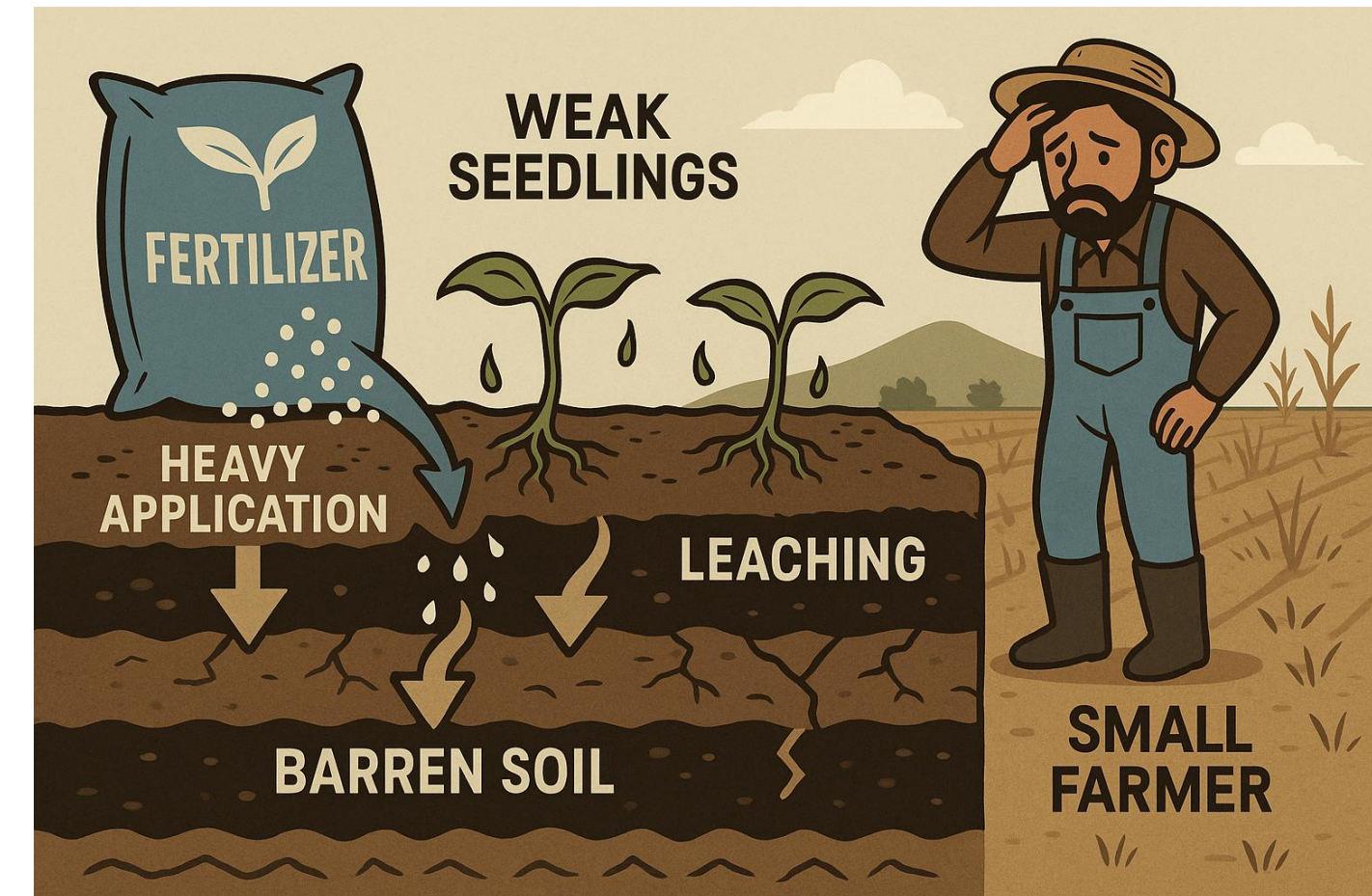




11.2025

Problem Statement

- ❑ Weak seedlings force heavy fertilizer & pesticide use, degrading soil biology and structure.
- ❑ Repeated chemical inputs leach nutrients and reduce long-term soil fertility
- ❑ Nutrient-depleted lands struggle to support healthy crop growth, threatening yields
- ❑ Small and mid-scale growers lack affordable, effective treatments, exacerbating food-security risks



Our Mission

At NanoSeedra, we believe that the future of agriculture starts at the seed. By harnessing accessible nanotechnology, we empower every seed to:

Impact

- ❑ Sprout Strongly: Up to 100% emergence and robust early growth.
- ❑ Grow Sustainably: Cut fertilizer & pesticide use, safeguarding soil and water.
- ❑ Deliver Impact: Boost early biomass 10–30 % for reliable yields.

Why Now?

Historical Evolution

- ❑ *Protect* – Chemicals (fungicide/insecticide) to stop early loss
- ❑ *Handle* – Polymers for flow & planting speed
- ❑ *Biology* – Microbial add-ons (modest, variable gains)

Gap: No low-cost, reliable boost to *germination* + *early vigor* without more chemicals

Recent Trends (Enablers)

- Fertilizer & pesticide **cost + regulation** pressure
- **Climate stress** (heat, drought, salinity) is hitting emergence
- **Scalable nanotech** is now cheap & simple to produce
- Demand for **measurable ROI** (germination%, biomass)
- **Sustainability / ESG** push to cut runoff & inputs

Why NanoSeedra Now

Accessible nano-coating delivering near-100% emergence + 10–30% early biomass **right when** the market needs performance *and* sustainability.

Existing solutions - Direct competitors

Company	Product	Key Focus
BASF	<u>Flo Rite Pro 02</u>	Polymer film for improved flow & singulation
Bayer	<u>Acceleron®</u>	Bio-enhancers + chemical protection
Syngenta	<u>Cruiser® 5FS</u>	Insecticide coating for stand establishment
BASF	<u>Poncho® 600</u>	Systemic insecticide for corn seedlings
Incotec	<u>Seed Coating Solutions</u>	Film-coating & encrusting for plantability

NanoSeedra's Edge

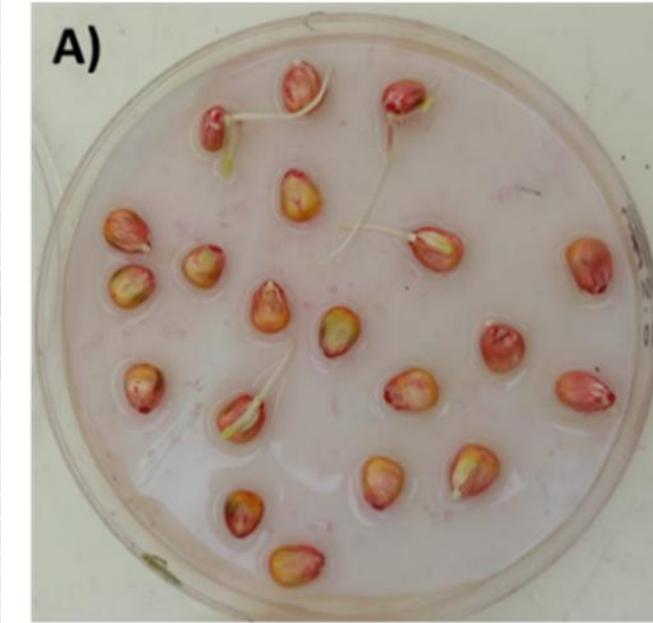
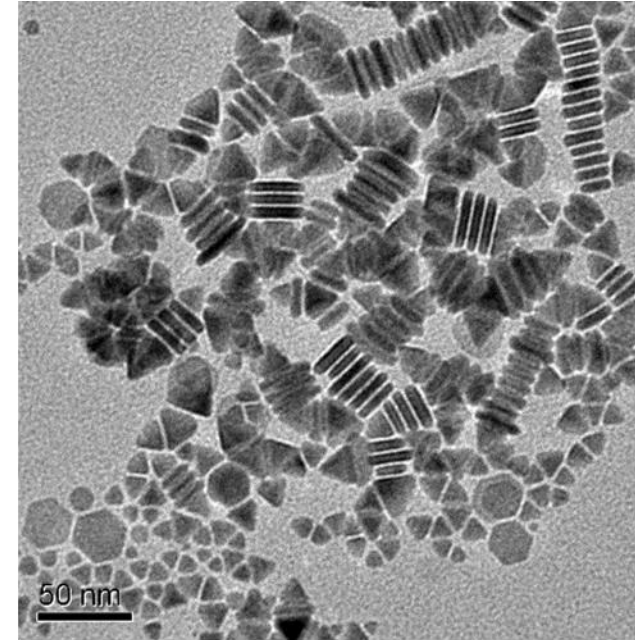
- 100 % Emergence** vs. ~80 % with polymer & insecticide coatings
- 10–30 % Biomass Gain** vs. 5–15 % from microbial or polymer solutions
- Generally**, the technology applies to a wide range of seed types
- Simple Scale-Up** on existing seed-line equipment without cold-chain or culture upkeep

This comparison highlights how NanoSeedra transforms passive coatings into active seed-vigor solutions, delivering superior germination and early-growth performance.

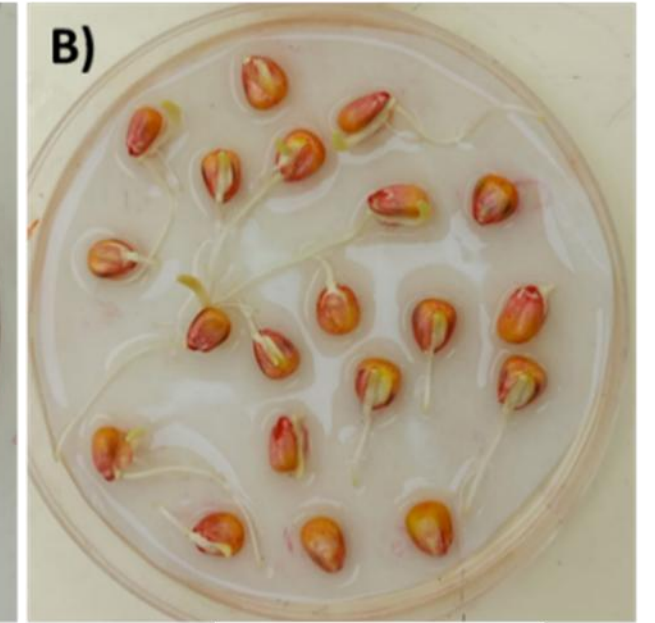


Achievements

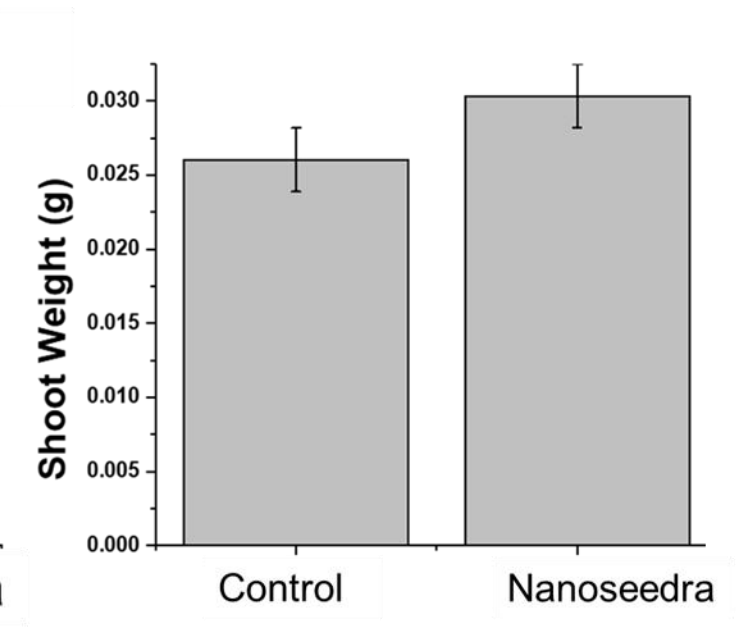
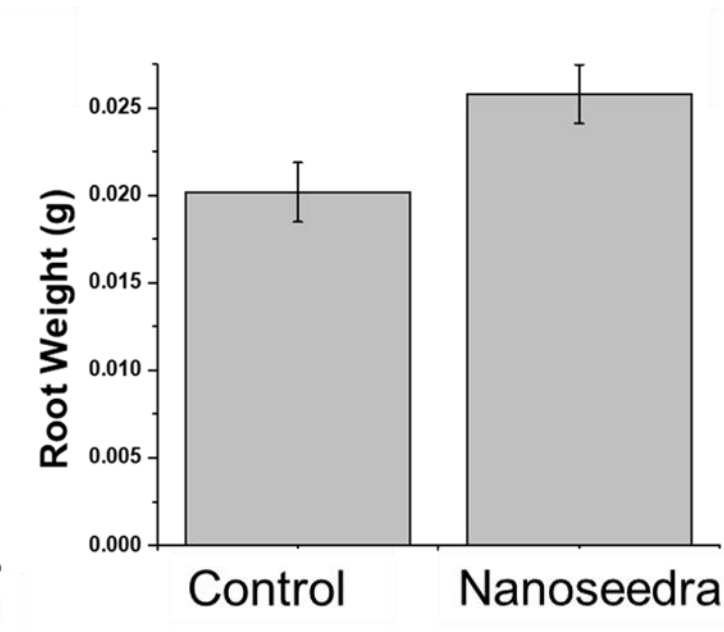
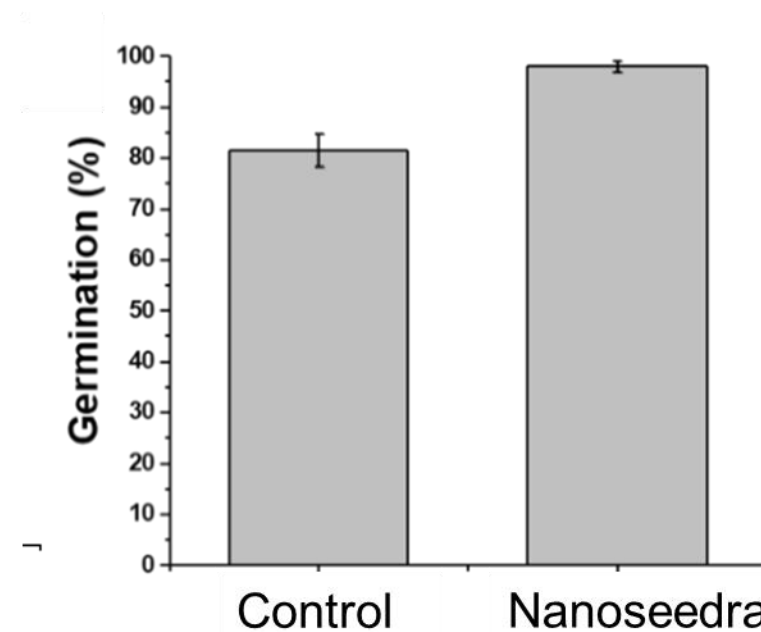
- Nanoparticle Characterization: Size Range: 10 – 50 nm.
- Germination Success: Control: 80 % , NanoSeedra: 100 %
- 10–30 % increase in maize root + shoot biomass



Control



Nanoseedra



Roadmap

Submit to TUNFA (IIA)\$

Prepare & file a proposal for the Israel Innovation Authority's TUNFA track.

Q4 2025



Q2 2026



Hydroponic Trials

Run growth trials, for example:
Lettuce and Basil.

Q3 2026



Q4 2026



Reactor Development & Scale-up

Build a pilot reactor and optimize nanoparticle synthesis at 1 kg scale

IIA Start-ups Submission

Submit the full application to the IIA's "Start-Up Companies" program.

Business Model



B2B Licensing

Seed companies & distributors

Co-brand or white-label our coating

Royalties per ton/hectare treated



Pilot Collaborations

Progressive growers & networks

Trial-pack kits + support

Data-for-contract → commercial deals



Scalability

Leverage existing seed processors—no new capex

Same formulation from lab to pilot runs

Tap partner channels to reach millions of hectares

Royalties grow with treated volume

Total Addressable Market

\$9.4 billion

The global seed-treatment market in 2024

\$2.4 Billion

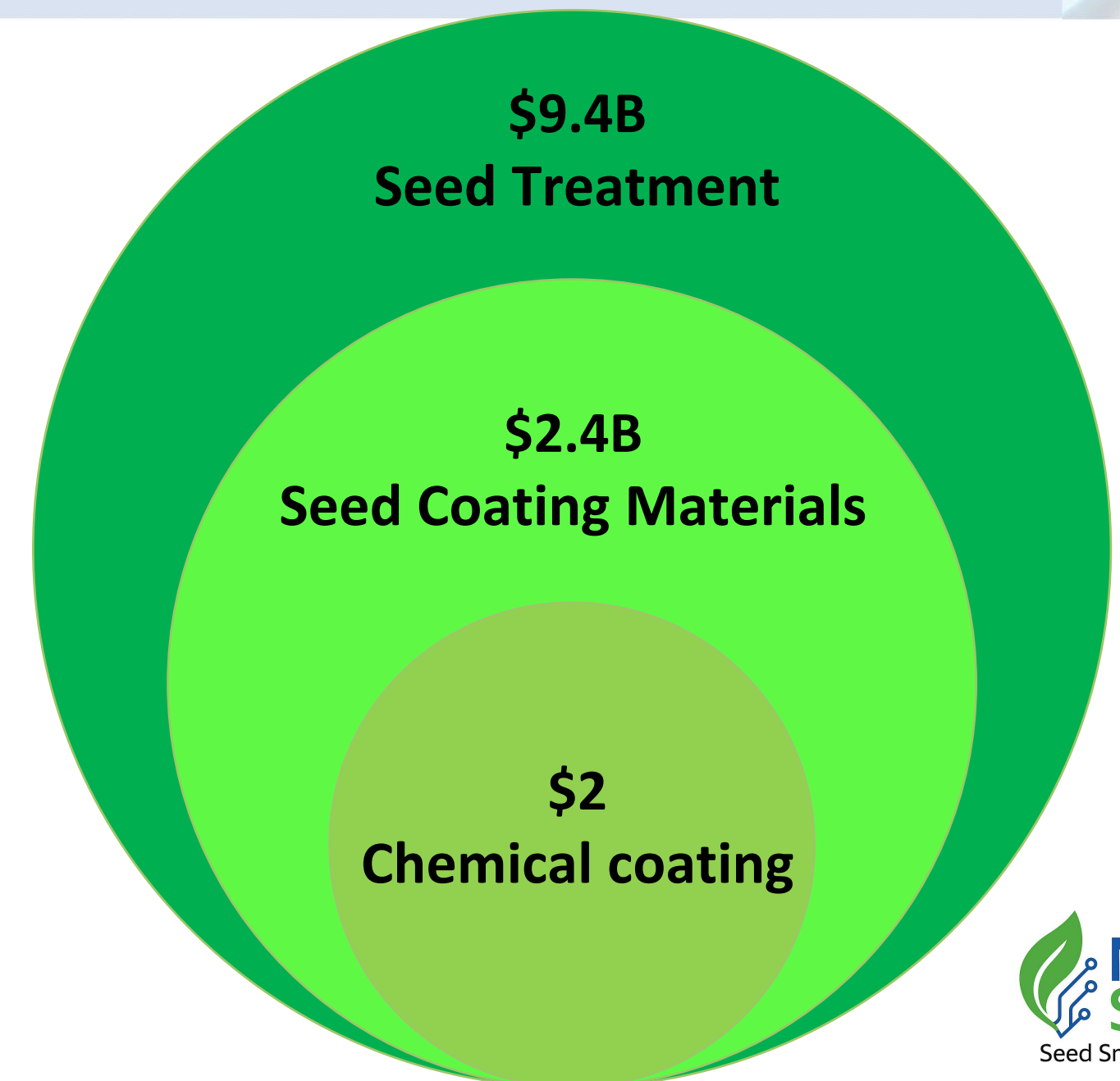
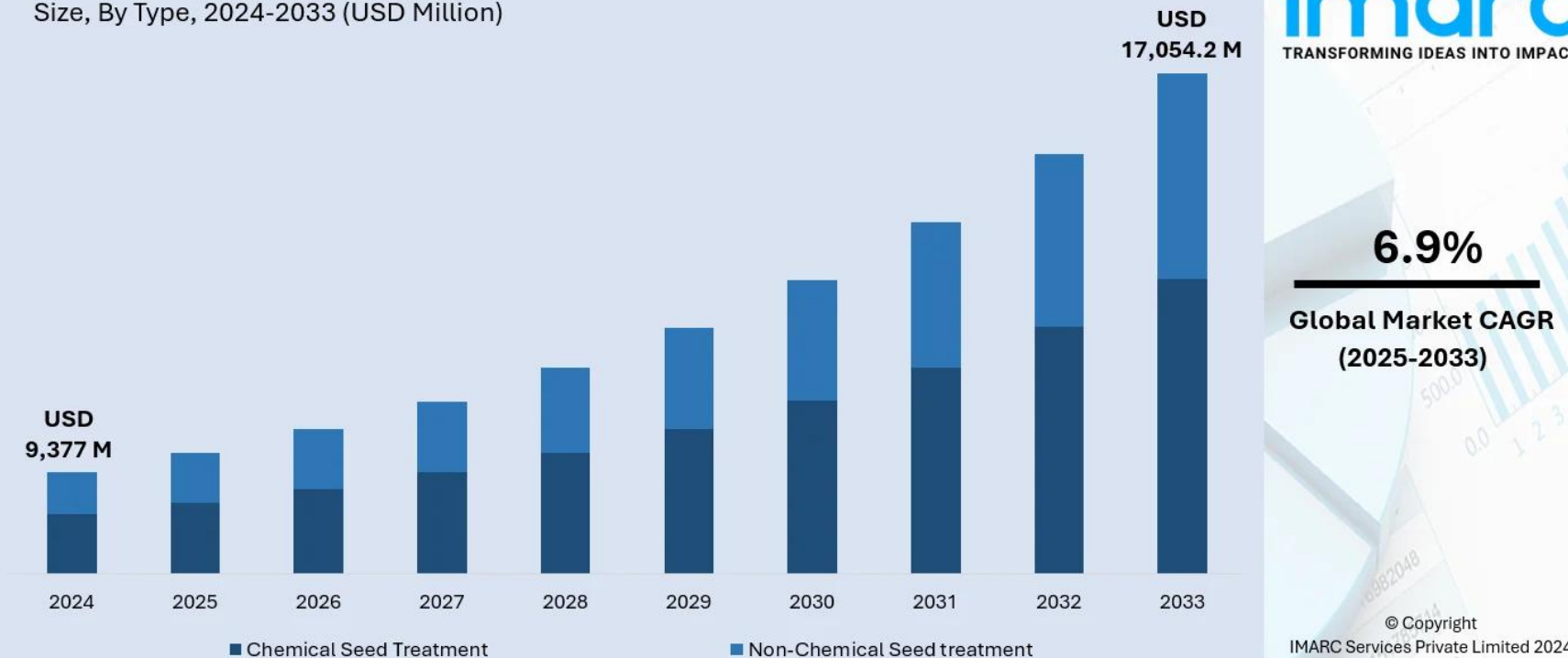
Seed coating materials market in 2024

\$2 Billion

Chemical coating technologies (84% of 2.4B)

Seed Treatment Market Forecast

Size, By Type, 2024-2033 (USD Million)



NanoSeedra – Funding Needs

- ❑ Funding Ask 💰 \$675,000 To accelerate development and prepare the technology for market readiness
- ❖ 🔬 R&D & Lab Work – advancing nanocoating formulations and performance optimization
- ❖ 🌱 Field Trials – large-scale validation with maize, wheat, and vegetable crops
- ❖ 🏭 Pilot Manufacturing – setting up coating capabilities and ensuring scalability
- ❖ 🤝 Business Development – building partnerships with seed companies and agricultural stakeholders
- ❖ 🛡️ IP & Regulatory – patent protection and regulatory approvals

Team



Founder & CTO, i-EcoGuard | Founder & CTO, NanoSeedra.

Ph.D. in nanochemistry with 10+ years of R&D leadership, 26 peer-reviewed publications and three patents. As a serial AgriTech CTO, he has successfully taken lab-validated innovations through pilot stages to commercialization.



Hasan Haidar: Agromonist (Plant Sciences, Hebrew University) with agritech startup experience, specializing in plant physiology and experimental design.

ADVISORY BOARD

- **Mohamad Abo Nada:** 25+ years in sales, marketing, and international business. Holding a Bachelor's degree in Systems Engineering and an MBA in International Business/Trade/Commerce. Serving as CEO of Ibtikar BaseCamp and as Co-Founder of Tafakur
- **Omri Cohen:** Former Early-Stage fund administrator and Director at the Israeli Innovation Authority, helps companies secure funding for innovative R&D projects, with expertise in support tracks and benchmarks.

THANK YOU

Mahmud Diab
Founder and CTO

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