



# AFSTA Congress

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CAPE TOWN, SOUTH AFRICA

Empowering Africa, One Seed at a Time



# Next-Gen seed care: where nature meets science

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**PROJECTED  
AFRICAN  
POPULATION:  
2.5 BILLION  
(2050)**

African crop yields are now 20-50% of global averages

every seed counts



1% stand loss = 650 missing plants/ha

✓ ~54 kg/ha (~0.9%)

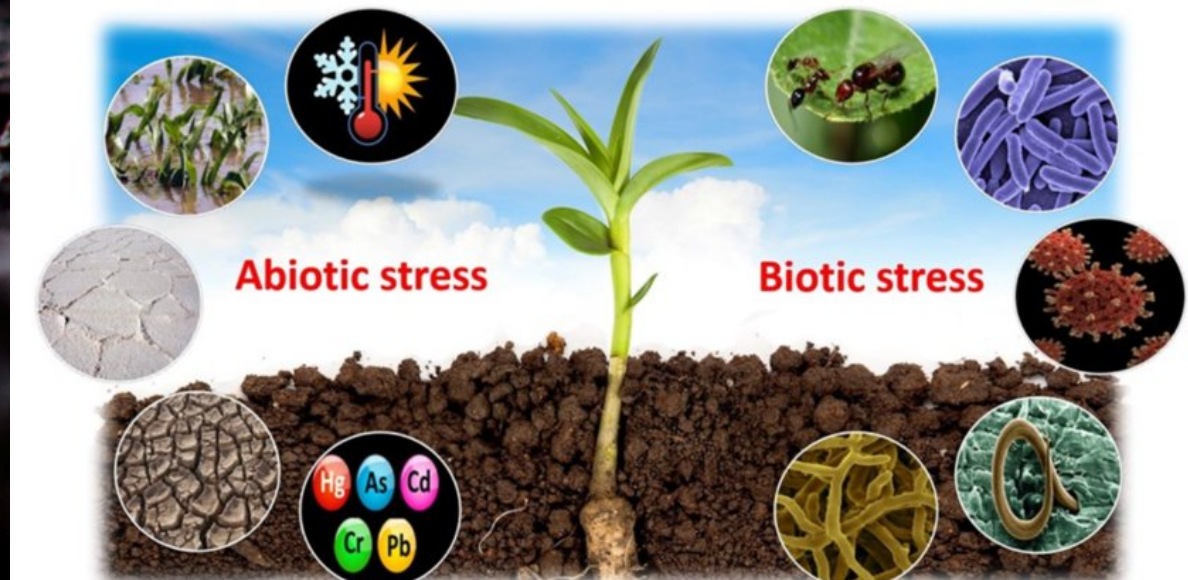
✓ ~11 USD\$/ha

(ChatGPT:Based on 6 t/ha yield potential, USD 200/tonne farm gate price)

# Seed care is non-negotiable













Soil is a hostile & harsh substrate exposing seeds to various stresses



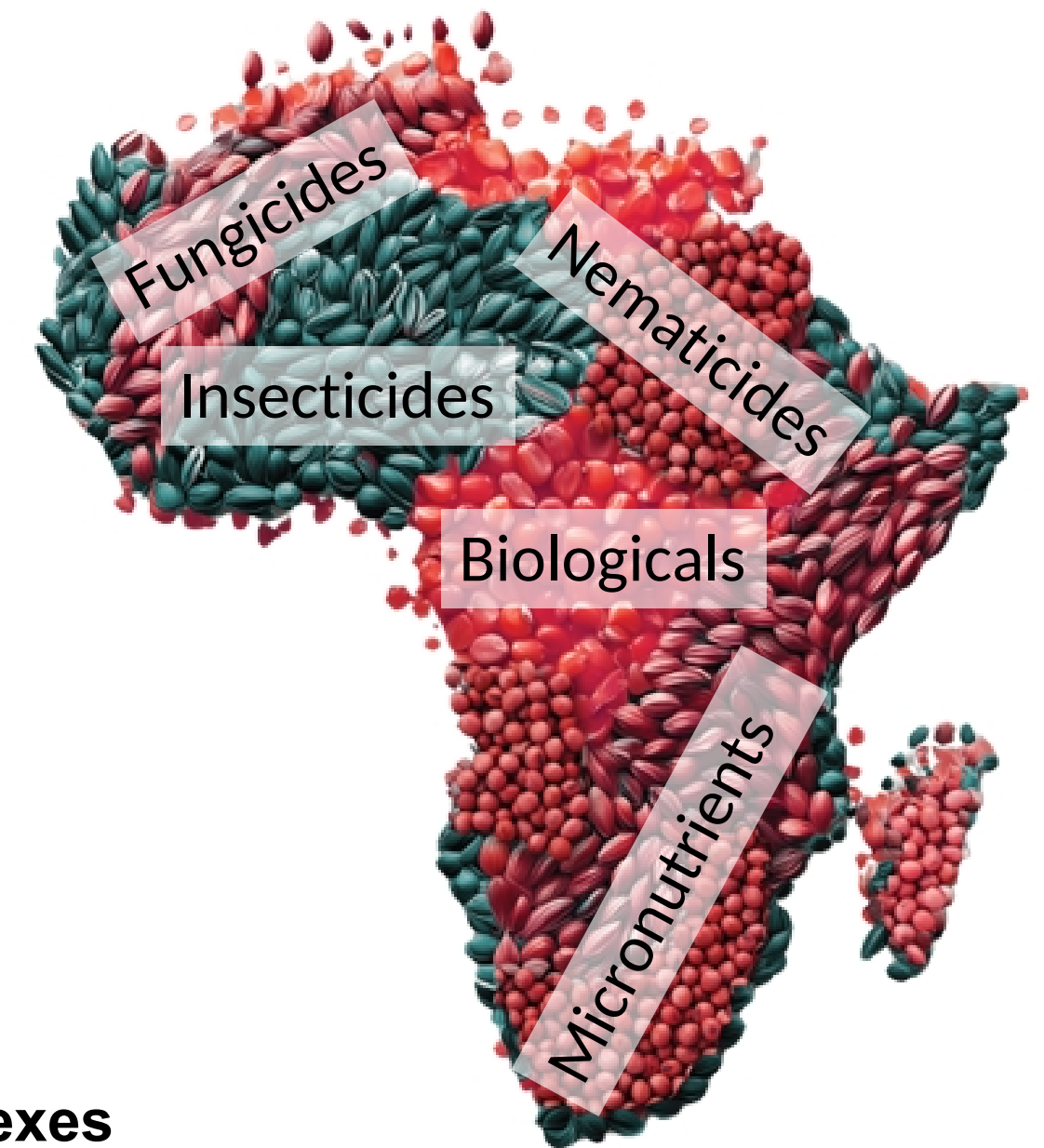
Seed is the **first link in the food chain**

- ✓ African farming systems mostly rely on **untreated farm-saved seed**
- ✓ **"The infant"/young plant stage** = most critical stage
- ✓ Must be **nurtured and protected** giving the crop **the best possible start!**

# A peek into challenges facing African maize crops options

Challenge	Impacting maize	Seed treatment solution
Poor soil health (abiotic & biotic stresses)		
FAW, Stemborers & other insect pests		
Poor germination		
Leaf hoppers – virus transmission		
N, P, K & other deficiencies or non-optimal uptake		

Current seed treatment active ingredients available to protect maize seeds & seedlings:



nplexes

# Next-Gen seed care: the 1<sup>st</sup> essential tool in the crop protection toolbox

- ✓ **Protect & activate seed** from the moment its planted & the vulnerable seedling
- ✓ **Protect yield potential**
- ✓ **Maximize emergence & stand = YIELD**
- ✓ **Deliver a healthy young plant**

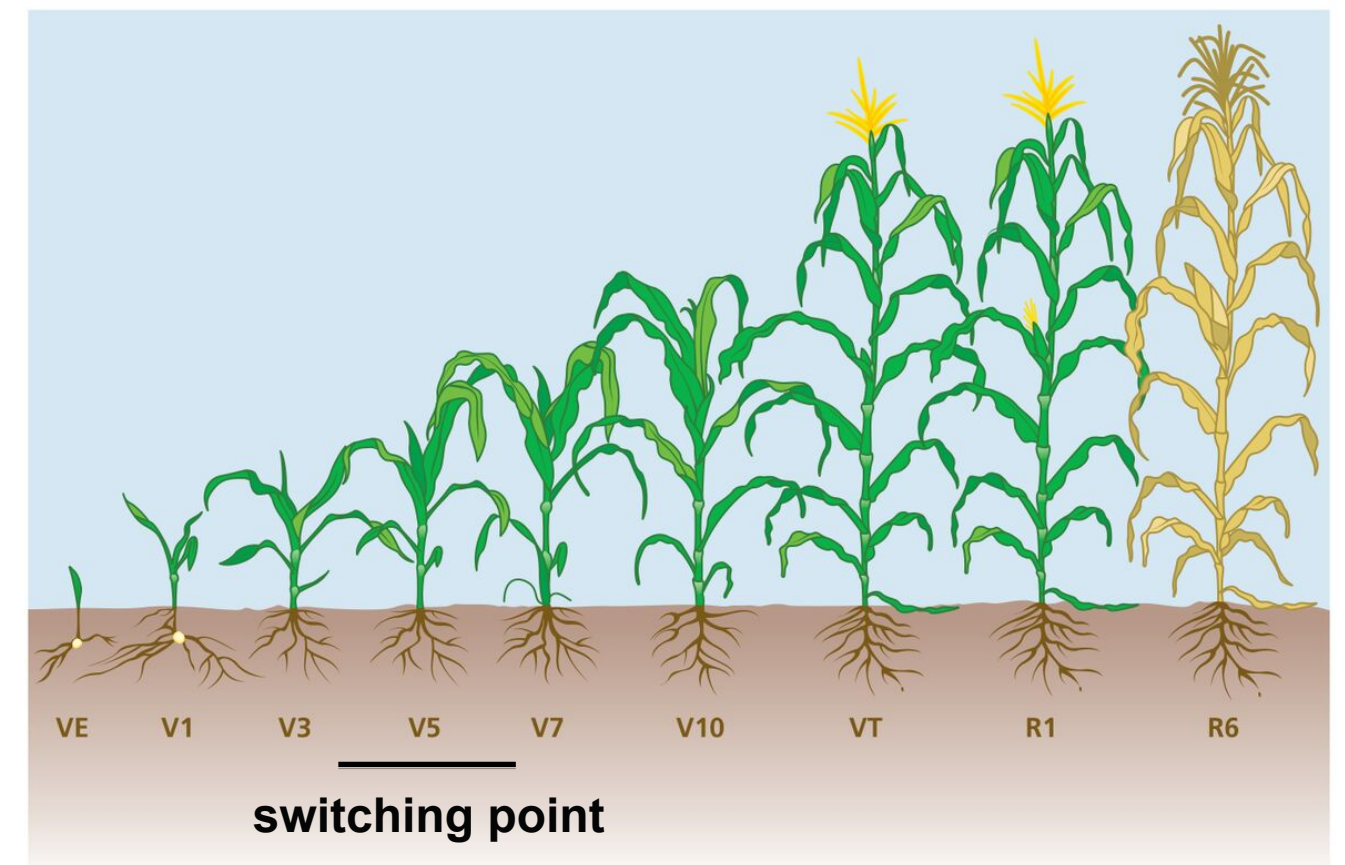


The first 3–5 weeks after planting is the **most important period in maize farming**

- ✓ If the crop suffers at this stage, the **yield is compromised**
- ✓ **Yield potential is determined from V4-V6: EARLY NOT AT HARVEST TIME.**

**Integrated protection & activation** of the seed:

1. Soil- & seedborne diseases
2. Water uptake
3. Nutrients
4. Weeds

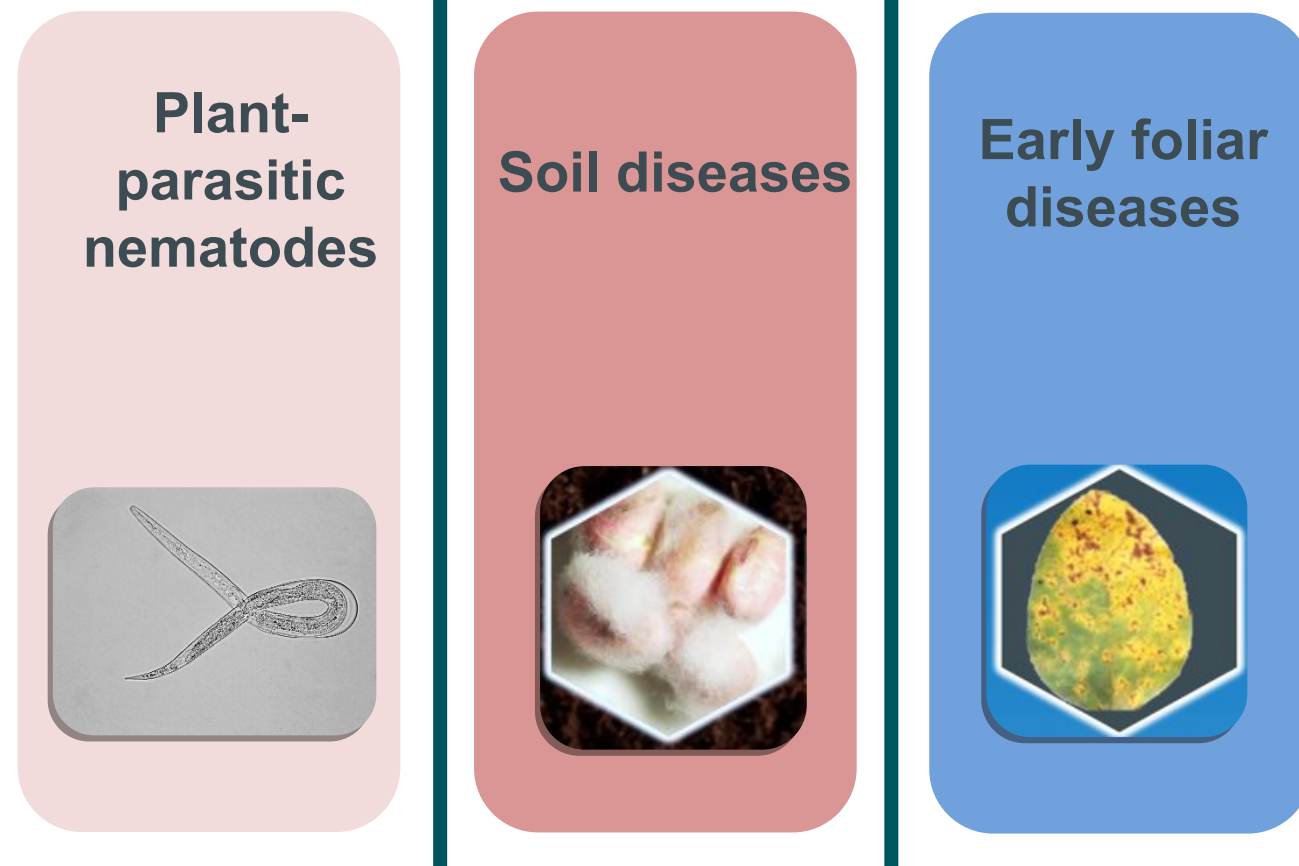


# Plants do not experience stress in silos

Reframing the approach from “seed treatment application” to “yield-potential protection”

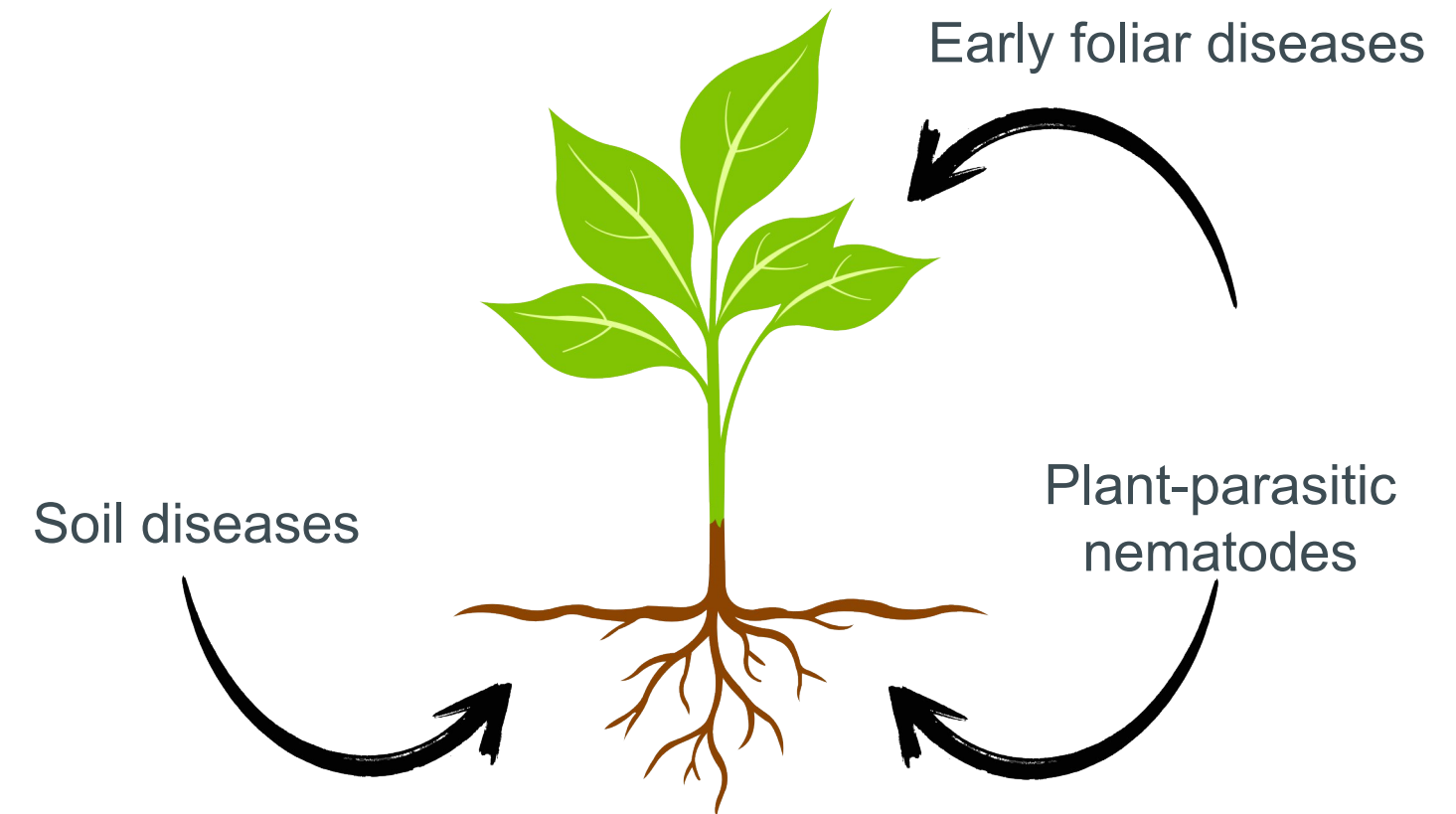
## Market reality (the silos)

Historically, industry separate these pain points into different buckets & commercial segments



## Agronomic reality (the young plant)

Plants experience these stresses simultaneously and early.  
Yield potential is defined here



The Strategic Pivot: "Young Plant Care" addresses how to **protect yield potential from the very beginning**, rather than which product to apply to a specific symptom.

# The focus & value of integrative Next-Gen seed care – soil health & sustainability

## Integrated seed care = integral part of an IPM strategy

Combinations of Next-Gen chemistry & biologicals = “**Best Of Both Worlds**”

- ✓ **Rejuvenate & regain degraded soils** – moving from **exploiting** soil as source to ‘**putting back**”

**Soil-health crisis:** African soils are severely degraded

**65% of agricultural land** in sub-Saharan Africa is degraded:

- ✓ **Intensification/extractive farming** without returning adequate organic matter (<2%) **depleted soil biology**
- ✓ **Severe climate events** (droughts/flooding)
- ✓ Loss of **soil microbial diversity** resulting in reduced nutrient cycling efficiency & failure in crop resilience



**Seed care is crucial in rebuilding Africa’s agricultural soils & ideal for sustainable farming (Cons & Regen)**

# Fundamental transformation for seed care

A shift beyond the coating

Predominantly  
chemistry-based protection

IPM: Next-Gen chemicals &  
biologicals

**1<sup>ST</sup> GEN:  
PRE-2020**

(Pest & disease  
protection)

SAF & SAI

**ADVANCED  
GEN: 2000-2020**

(Enhanced protection  
& early vigor)

SAF, SAI, SAN, SAB  
(stimulants, NUEs) &  
micronutrients

**3<sup>RD</sup> IPM GEN:  
>2020**

(Biological activation  
& soil-plant interaction)

SAF, SAI, SAN, SAB  
(stimulants, NUEs),  
micronutrients, nanotechnology,  
microbiome engineering, RNAi

Activates the seed's own potential while protecting it from biotic & abiotic threats

# Next-Gen seed care is not just another productivity tool

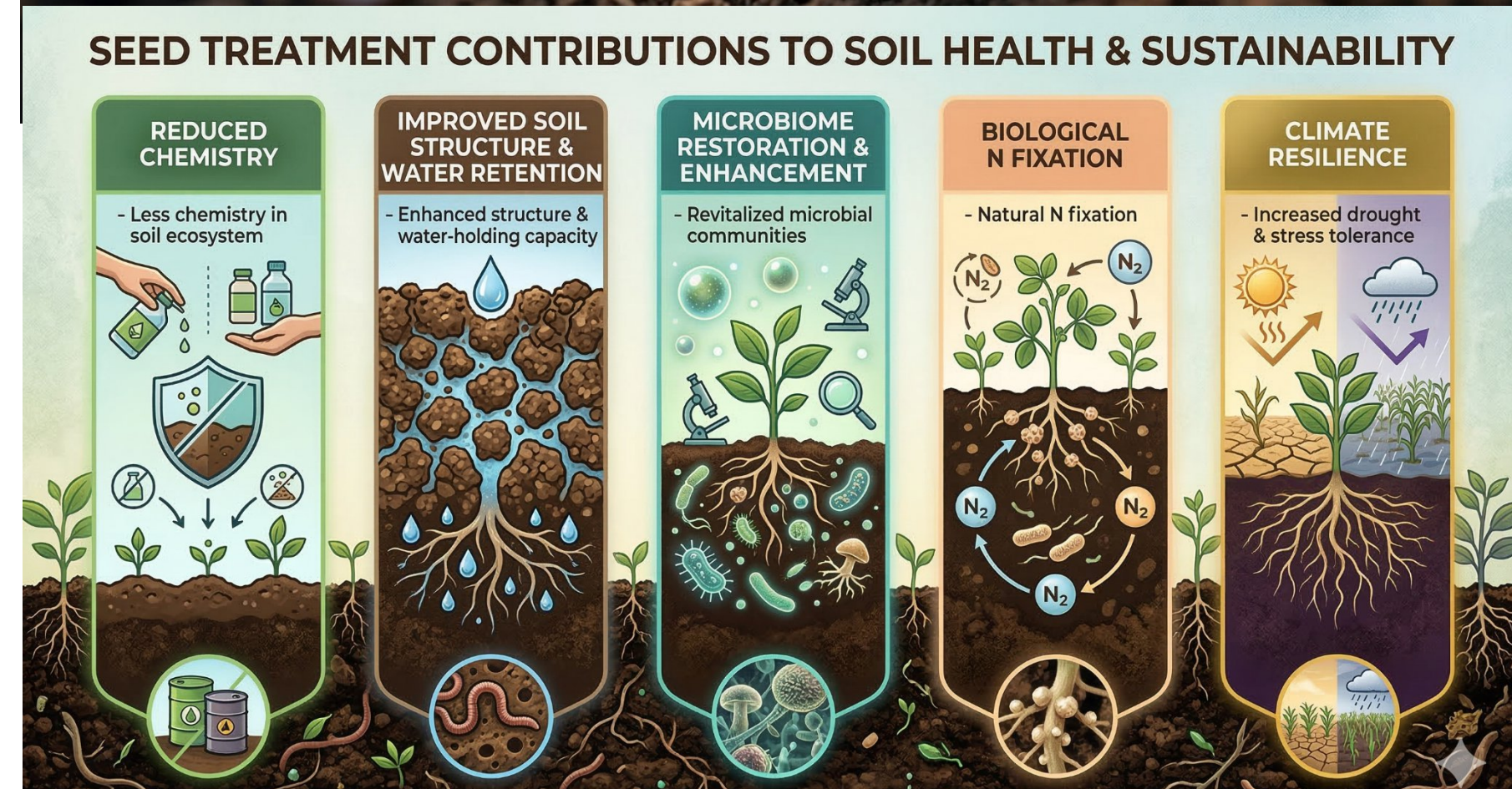
**It is going to be beyond what we anticipate = MAGIC**

It will represent an active shield that simultaneously contribute towards:

- ✓ Soil restoration & sustainability
- ✓ Harmonizing soil life Climate resilience
- ✓ Cost:Benefit ratio can increase from 1:20 to 1:>100 (we do not know)

Next-Gen seed care aligns with trends & drivers shaping future African seed sector to reach 4 billion US\$ by 2050

- ✓ Technology = ENABLER (How & What = DIFFERENT)
- ✓ AI will be a deal breaker (time-efficient, innovation)
- ✓ Climate pressure
- ✓ Population growth & Food security



*“He who causes two stems to grow where there was only one before does more for his people than a commander who wins a battle”.*

*King Fredirick II (The Great)*



A wide-angle photograph of a cornfield. The rows of green corn plants stretch far into the distance, creating a strong sense of perspective. A dirt path runs between the rows, leading towards a tractor visible in the far distance. The sky is a vibrant blue with scattered, light white clouds. The overall scene is bright and clear, suggesting a sunny day.

syngenta