GO-EARTH

SOIL ENHANCER

KEY FEATURES

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GRAPHENE-BASED CHELATION OF FIXED NUTRIENTS

GO-EARTH'S GRAPHENE OXIDE (GO) STRUCTURE HAS ABUNDANT FUNCTIONAL GROUPS (–COOH, –OH) THAT EFFECTIVELY **CHELATE FIXED PHOSPHORUS, ZINC, IRON, BORON, CHLORINE, COPPER, IRON, MANGANESE, MOLYBDENUM AND NICKEL** FROM INSOLUBLE COMPLEXES (E.G., $FePO_4$, $Ca_3(PO_4)_2$, $Zn(OH)_2$, $ZnCO_3$, $ZnPO_4$, MnO_2), MAKING THEM BIO-AVAILABLE TO CROPS.

SUPPORTS COLONIZATION OF INOCULATED AND NATIVE MICROBES

GO SHEETS IN GO-EARTH ACT AS A **MICROBIAL LANDING PLATFORM**, IMPROVING ADHESION, SURVIVAL, AND BIOFILM FORMATION OF PGPRS (PLANT GROWTH PROMOTING RHIZOBACTERIA) (E.G., *AZOSPIRILLUM*, *BACILLUS*, AND *RHIZOBIUM*) ON PLANT ROOTS, ESPECIALLY UNDER STRESSED SOILS.

REDOX BUFFERING CAPACITY IN THE RHIZOSPHERE

GO-EARTH STABILIZES REDOX POTENTIAL IN THE ROOT ZONE, HELPING PROTECT PLANTS AND MICROBES FROM **OXIDATIVE STRESS** CAUSED BY EXCESS FERTILIZERS, FLOODING, OR PESTICIDE SHOCK. THIS IMPROVES **MICROBIAL LONGEVITY AND ROOT VITALITY.**

ENHANCED NUTRIENT USE EFFICIENCY (NUE)

Field and lab data show upto 8x to10x improvement in **phosphorus and micronutrient uptake efficiency**, allowing for **reduction in conventional DAP use** while maintaining or improving crop yield.

COMPATIBLE WITH NPK, BIOLOGICAL INPUTS AND SOIL HEALTH PRODUCTS

Unlike traditional inputs that often **suppress beneficial microbes**, GO-Earth is fully compatible with NPK and **biofertilizers, compost teas, PSB (Phosphate Solubilizing) and PGPR (Plant Growth Promoting Rhizobacteria)**, and organic nutrition programs, enhancing their effect.

PROMOTES ROOT DEVELOPMENT AND TILLERING

By improving nutrient accessibility and microbial colonization, GO-Earth stimulates **early root proliferation and tiller formation** in cereals like rice and wheat — improving potential panicle count and grain set.

LOW APPLICATION DOSE

GO-EARTH IS EFFECTIVE AT **MICRO-DOSES**, REDUCING STORAGE, TRANSPORT, AND APPLICATION COSTS WHILE MAXIMIZING FIELD-SCALE REACH AND LOGISTICAL EFFICIENCY.

BIOTIC AND ABIOTIC STRESS BUFFER

GO-Earth improves resilience against:
Abiotic: drought, heat, salt, fertilizer toxicity
Biotic: fungal pathogens (via microbial competition and ISR)
This makes it a **stress-mitigation support** for high-risk agro-ecosystems.

SUPPORTS ESG (ENVIRONMENTAL, SOCIAL AND GOVERNMENTAL) AND CLIMATE-SMART AGRICULTURE GOALS

- GO-EARTH REDUCES DEPENDENCY ON SYNTHETIC INPUTS AND HELPS RETAIN SOIL BIOLOGICAL ACTIVITY. IT ALIGNS WITH:
- **INDIA'S PM-PRANAM "PRIME MINISTER PROGRAMME FOR RESTORATION, AWARENESS, NOURISHMENT AND AMELIORATION OF MOTHER EARTH" AND SOIL HEALTH INITIATIVES**
- **GLOBAL PUSH TOWARD CARBON-EFFICIENT, REGENERATIVE AGRICULTURE**

SCALABLE, DISRUPTIVE TECHNOLOGY

- GO-EARTH **FITS EXISTING FARMER PRACTICES** (SPRAY OR DRENCH AT CROP GROWTH STAGES) AND INTEGRATES INTO FERTILIZER DEALER NETWORKS WITHOUT INFRASTRUCTURE OVERHAUL — MAKING IT **TECHNICALLY SCALABLE AND RAPIDLY ADOPTABLE.**