INTERNATIONALLY APPROVED INPUT FOR ORGANIC AGRICULTURE





XYMO BIOTONIQ AG / XYMO BIOTONIQ AG



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XYMO BIOFERT / XYMO BIOFERT

BIOGUAR WLT604

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ZYMO BIOGROW / ZYMO GREEN GROW



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Most of the essential plant nutrients are available in P^Hrangeof 6.5 to 7.5. Hence most of the applied essential plant nutrients in the form of chemical fertilizers are not available to plants due to imbalance of P^H and EC in the Rhizosphere.

ROLE OFSOIL MICROBES IN AGRICULTURE:

Soil microbiome-complete set of microbes that can live in soil ecosystem is called Soil microbiome. Soil Microbes are dynamic components of soil. Soil Microbes perform many beneficial functions in the soil. Soil microbes are essential for decomposing organic matter and recycling old plant material. Soil Microbes produce polysaccharides, which is important for soil aggregation process, which improve water holding capacity of soil. Rhizosphere competence is much required because some microbes perform well in laboratory condition but fail to perform when introduced in soil. Soil Microbes helps in buffering soil P^H and converting the hazardous chemicals into safe forms. They also help in increasing nutrient use efficiency of existing plant nutrients in the soil.

debris kills beneficial soil microbes.

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Oil Palm : Leaflet : Size : 8.5 (W) x 11(H) : Front

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OILPALM CULTIVATION IN ZYMO AGRICULTURE SYSTEM

The current agriculture system withindiscriminate use chemical fertilizers is spoiling chemical, physical and biological properties of soil resulting in depletion of soil productivity. Imbalance of soil P^H and Electrical conductivity resulting in following hazardous aspects :

1. Accumulation of Chlorides in the rhizosphere due to indiscriminate use of Muriate of Potash (MOP)

2. Increase in rhizosphere P^H to above 7.5 due to use of Di-Ammonium Phosphate (DAP) and NPK complex fertilizers with P^H above 7.5

SOME FACTS ABOUT CHEMICAL FERTILIZERS IN RELATION WITH P^HAND E.C:

UREA: It has been confirmed that Urea increases the measured P^H of aqueous solutions

DAP: The initial P^{Hof} DAP solution is Basic (7.5 to 8.5). This will influence the microsite reactions of phosphate and soil organic matter (Zhang et al., 2017) MOP: Muriate of Potash (MOP) is suitable for acidic soils but not for alkaline soils. Most of the NPK fertilizers contain MOP as a source of Potassium as it is a cheap source of Potassium compared to Sulphate of Potash (SOP). Chlorides in MOP will increase the Electrical conductivity of soil.



Indiscriminate use of chemical fertilizers and pesticides kills the beneficial soil microbiome. Sometime conventional agricultural practises like burning crop

9001 : 2015 • ISO 22000 : 2018 001 · 2015 • ISO 45001 · 201







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ZYMO AGRICULTURE SYSTEM - OIL PALM PROTOCOL

Crop	Category	Time of Application	Product	Dose / Plant	Method of Application
Oil Palm	Soil Application	June - July	Zymo OPT Supra	60 to 80 g/ Plant	 Make 4 holes on 4 sides of the Plant The Distance from Tree trunk and holes should be to 1.5 Meters and depth should be 3 to 5 Inches Pour Powder in 4 holes and cover with soil
			Biotoniq (Ag) Powder	10 to 20 g / Plant	
	Soil Application	October - November	Zymo OPT Supra	60 to 80 g/ Plant	 Make 4 holes on 4 sides of the Plant The Distance from Tree trunk and holes should be to 1.5 Meters and depth should be 3 to 5 Inches Pour Powder in 4 holes and cover with soil
			Biotoniq (Ag) Powder	10 to 20 g / Plant	



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ECOCERT

atmosphere.

Now the current situation demands a new technology to address the above problem. UAL biotechnologyrecognised the need of the day and come up innovative biotechnology solutions to address the above problems. UAL Biotechnology (Pvt) Limited did extensive research by coordinating with renowned Agricultural Research institutes in India and abroad. After extensive research we evolved with neo-agricultural system called ZYMO AGRICULTURE SYSTEM with an array of products and protocols. These protocols are being implemented in Indonesia, Malesia, Singapore, Philippines, India etc., In India major corporates like Tata Tea and Tata Coffee are implementing these protocols. The ZYMO and XYMO Products are certified by top national and international agencies like ISO9001:2015, ISO22000:2018, ISO14001:2015, ISO45001:2018, HACCP, UPASI, ECOCERT and FSSAI. The ZYMO and XYMO products are certified as 100 % Organic and contains zero residues of hazardous chemicals.

The crop yields in ZYMO AGRICULTURE SYSTEM are more or less same as that of crop management with chemical fertilizers and pesticides.

ADVANTAGES OF ZYMO AGRICULTURE SYSTEM:

- 1. Helps in increasing population of beneficial microorganisms in the soil.
- 2. Helps in buffering of Rhizosphere P^{H} (Range: 6.0 to 7.5)
- 3. Helps in increasing availability of fixed nutrients in soil
- 4. Helps in increasing Nutrient use efficiency form soil and Organic matter
- 5. Helps in increasing Organic Carbon and soil productivity
- 6. Helps in increasing biodiversity of soil microbiome
- 7. Helps in stabilizing C: N ratio of organic matter
- 8. Helps in increasing water holding capacity of soil
- 9. Helps in stabilizing the soil temperature
- 10. Helps in development of immunity in plants against biotic and abiotic stress.
- 11. Reduces the emission of hazardous gases including Co₂

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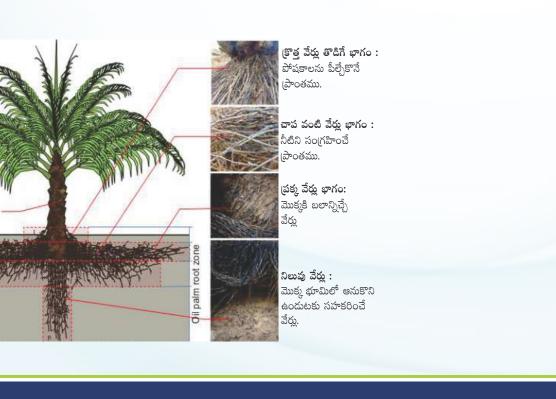
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INTERNATIONALLY APPROVED INPUT FOR ORGANIC AGRICULTURE

Agricultural systems with indiscriminate use of chemical fertilizers and pesticides results in emission of hazardous gases and carbon dioxide (Co₂) into

- 12. End products (Fruits, Spices, Vegetables, Grains etc.,) are suitable for export without any harmful residues.



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