Inhana Rational Farming Technology

An **Innovative Crop Technology** that focuses on PLANT HEALTH MANAGEMENT towards Development of Sustainable Organic and Green Farming Models based on Resource Availability and Socio-economic Framework

Presented by

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We wanted to secure 'OUR FUTURE' with Food Security .....

But Thanks to

Conventional Farming Practice

We are on the verge of collapse

1. Crop Sustainability
2. Food safety
3. Environmental Pollution
4. Loss of Biodiversity

Today's Agriculture : Largest contributor of GHG (5381 M Tonnes of CO_2 -eq. Globally)

Ecologically & Economically Sustainable Agriculture …

MYTH or Reality

Agriculturists are still looking for an **Adoptable** & **Economically Viable** Pathway towards Sustainable Crop Production.

Our 22 Years Study (2001–22) says

with the Intervention of

Inhana Rational Farming Technology……..

Ecologically & Economically

Sustainable agriculture is

POSSIBLE

- Large Scale
- Time Bound Manner
- Irrespective of Crop
- Irrespective of Agri-Ecology

HOW ?

Incorporation of Inhana Rational Farming (IRF) Technology to develop a 'FARMING MODEL' based on Resource Availability & Socio-economic Framework

FARMING MODELS

Inhana Organic Farming

Ecologically & Economically Sustainable Organic Crop Production through Organic Soil Health & Plant Health Management, and utilization of Organic Soil Energizers & Plant Tonics.

Inhana CLEAN FOOD Model

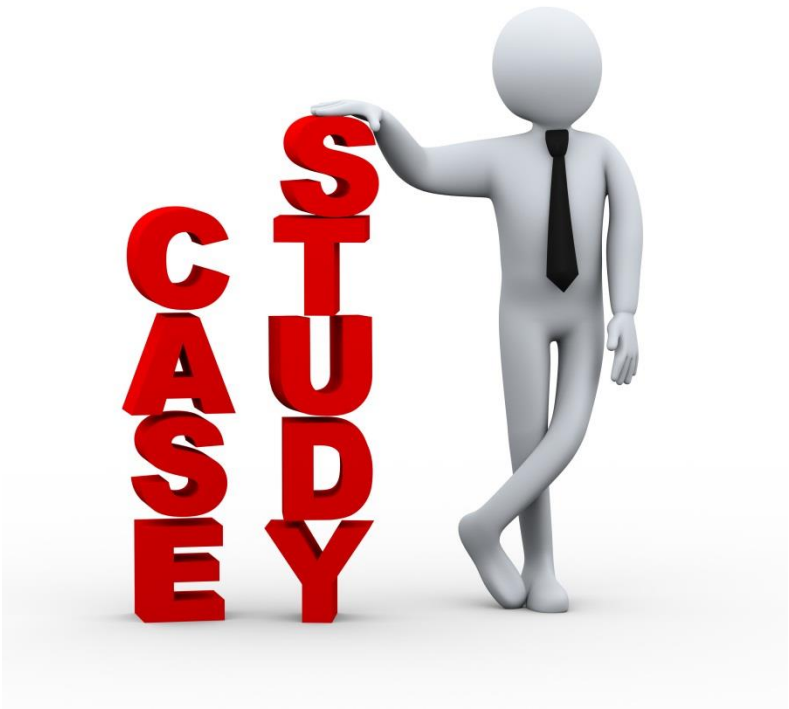
Sustainable Crop Production with Elimination of Pesticides and Gradual Fertilizer reduction (especially N-Fertilizers) through Organic Plant Health Management & Integrated Soil Management.

Farm Resource & Socio-Economic Pre-conditions ……

- Small & Marginal Farmers investing more than 50 % family labour in cultivation.
- Medium/Large Farmers having sufficient on-farm resource & Direct Involvement in cultivation

- All Farmers group having minimum on-farm resources & Direct Involvement in cultivation.
- More suitable for Medium/Large Farmers .

Inhana Organic Farming



Sustainable Crop Management Program under IRF Technology (2001 – 18)

Inhana CLEAN FOOD MODEL

Evaluation of TEA Cultivation under FAO-CFC-TBI Project (2008-13)

Rank	Package of Practice	Yield (kg/ha)	Over Target (1220 kg/ha)	Cost / ha (Rs.)	Cost/kg (Made tea) (Rs.)	Soil Development Index (SDI)
1.	**IRF Technology for Soil and Plant Management (IRF)**	1374	113.3 %	13,796/-	10.04/-	97.9
2.	Vermi Compost & Bio-fertilizer combination for soil management + Bio-pesticide for plant management **(VMI)**	1299	103.5 %	66,257/-	51.01/-	79.7
3.	Vermi Compost for soil management + Bio-pesticide for plant management **(VMIP)**	1235	98.9 %	46,832/-	37.92/-	63.47
4.	Vermi compost for soil management + Conventional organic Pest Management **(VCO)**	1158	92.8 %	40,184/-	34.70/-	72.9
5.	Convention organic soil and plant management (CO)	1109	89.2 %	12,954/-	11.68/-	80.5
6.	Biodynamic Farming soil and plant management **(BD)**	1075	87.4 %	14,914/-	13.87/-	63.12
7.	**Bio-fertilizer and Bio-pesticide for soil & pest management (MI)**	1065	86.2 %	28,657/-	26.91/-	53.39

Comparative study w.r.t. Chemical farming (compiled from diff. Exp. done during 2008 -22) - 1

Field Crops

Experimental Stations

Inhana Organic Farming	Yield (Kgha^{-1})	NUE[1]	EUE[2]	Soil Health Indices		
				FI[3]	MAP[4]	SQI[5]
Experimental Stations (hot moist sub-humid ecological sub region with deep loamy to clayey alluvium-derived soils, medium to high AWC and LGP 210-240 days)						
Paddy (Oryza sativa)# [Var : Gobindobhog]	3194* (2977)	11.8 (24.8**)	2.55* (2.07)	24.1 (23.6)	15.40** (11.20)	0.54* (0.47)
Baby Corn (Zea mays) [Var : HM 4]	1700** (1433)	8.1* (6.7)	1.29* (0.80)	20.2 (20.7)	13.43* (10.12)	0.46* (0.41)
Green Gram (Vigna radiata) [Var : PDM 84-139]	933* (819)	6.95 (8.19*)	2.12* (1.77)	26.5 (26.2)	18.12* (16.24)	0.59 (0.56)
Tomato (Lycopersicon esculentum) [Var : Rituraj]	35000** (31000)	129.6* (110.7)	2.07** (0.98)	25.9 (26.3)	20.13* (17.22)	0.64* (0.58)

Note : Figure in the parenthesis represents data from chemical farming;
T – test (* significant at P<0.05 and ** significant at P<0.01); #Rain fed; ##Irrigated; [1]NUE : Nutrient Use Efficiency (kg/kg produce);
[2]EUE : Energy Use Efficiency; [3]FI : Fertility Index; [4]MAP : Microbial Activity Potential; [5]SQI : Soil Quality Index (Bera et al, 2015)

Comparative study w.r.t. Chemical Farming
(compiled from diff. Exp. done during 2008 -22) - 2

Field Crops

Farmers' Field

Inhana Organic Farming	Yield (Kgha^{-1})	NUE[1]	EUE[2]	Soil Health Indices		
				FI[3]	MAP[4]	SQI[5]
Farmers Field (hot moist sub-humid ecological sub region with deep loamy to clayey alluvium-derived soils, medium to high AWC and LGP 210-240 days)						
Paddy (Oryza sativa)## [Var : IET4786]	6098** (4707)	25.5* (19.6)	3.06** (1.98)	23.2* (21.8)	16.04** (13.21)	0.57 (0.54)
Potato (Solanum tuberosum) [Var : Jyoti]	30000* (27750)	111.1** (79.2)	4.56** (2.07)	28.7 (29.4)	22.04* (19.06)	0.63 (0.59)
Okra (Abelmoschus esculentus) [Var : hybrid Shakti (F1)]	7793* (6860)	36.59* (27.55)	2.02* (1.72)	23.4 (23.9)	14.43* (10.27)	0.51** (0.43)
Green Gram (Vigna radiata) [Var : PDM 84-139]	699* (665)	3.28* (2.67)	2.05* (1.74)	26.5 (25.8)	14.56 (12.34)	0.48 (0.45)

Note : Figure in the parenthesis represents data from chemical farming;
T – test (* significant at P<0.05 and ** significant at P<0.01); #Rain fed; ##Irrigated; [1]NUE : Nutrient Use Efficiency (kg/kg produce);
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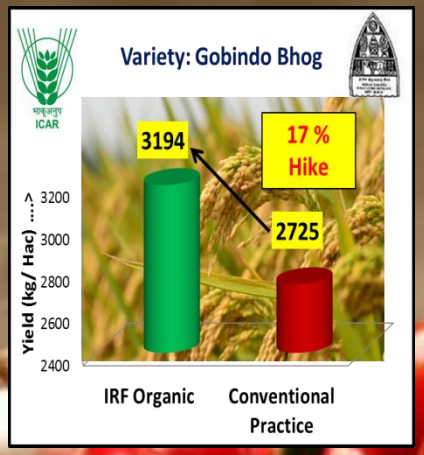
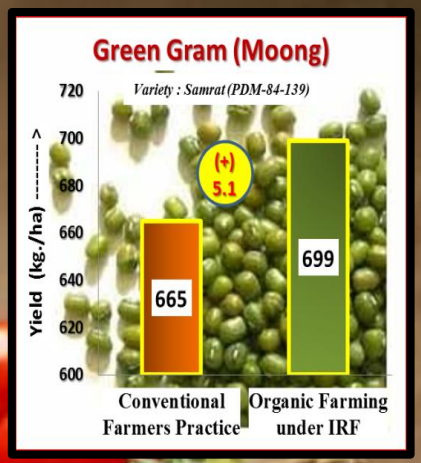
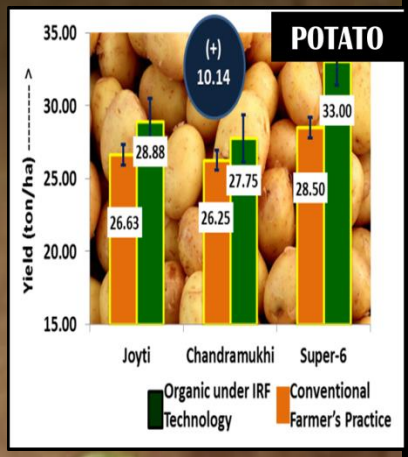
Inhana Organic Farming. . .

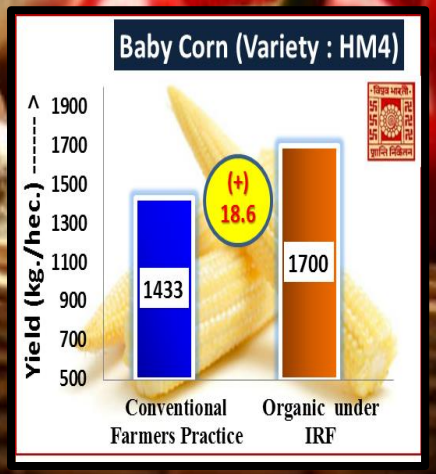
Findings in Brief

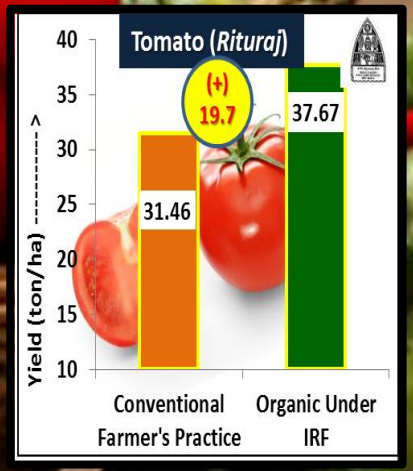
- Significant Yield Increase (up to 20 %) - very 1st year.
- Up to 15% Higher Net Profit.
- Up to 60 % More 'Energy Efficient' than Conventional.
- GHG Mitigation Potential upto 2.0 Kg CO_2 Eqv./kg Crop.

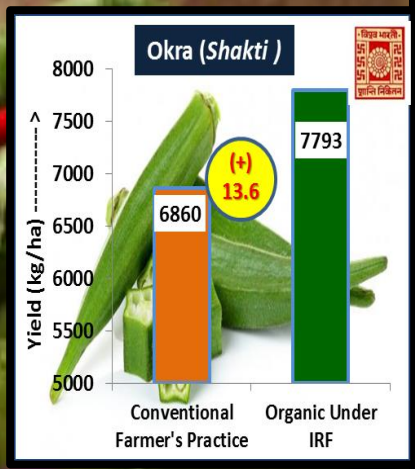








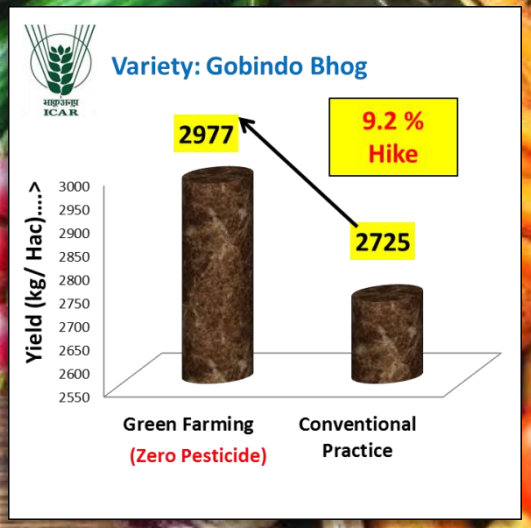


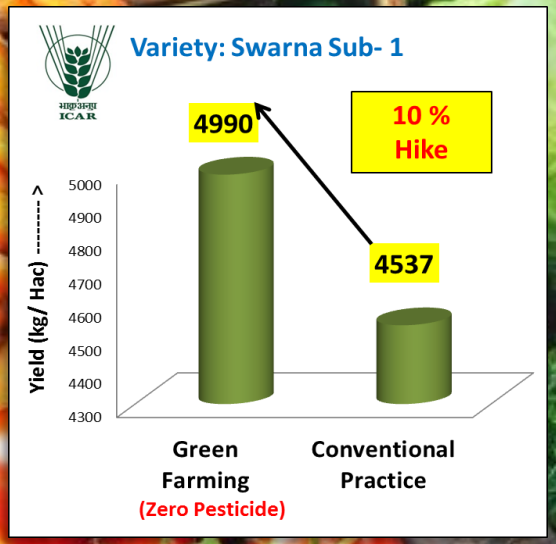


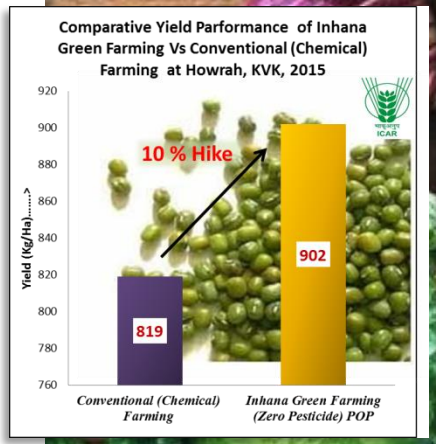
Inhana Green Farming. . .

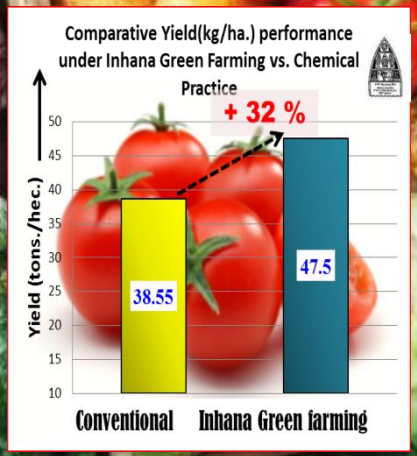
Findings in Brief

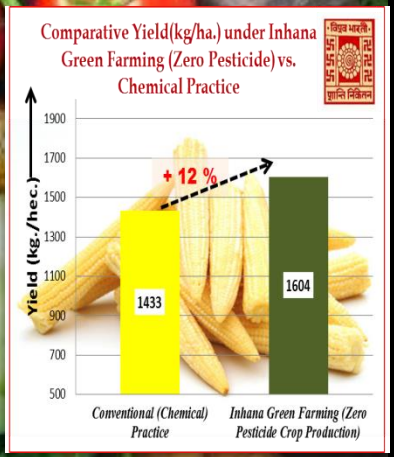
- Significant Yield Increase (upto 32 %) - very 1st year.
- Up to 25% Higher Net Profit.
- Up to 30 % More 'Energy Efficient' than Conventional.
- GHG Emission is upto 70 % lower than Conventional farming.











Clean Food under IBM-IORF Sustainability Program	Productivity (ton/ha)	COP (Rs. in Lakh /ha)	Avg.Farmers price (Rs/kg)
Brinjal	24.2 – 32.4	1.90 -2.30	12 – 36 [20]
Chilli	16.2 - 17.5	1.50 -1.70	25 – 52 [37]
Okra	10.9 – 11.4	0.80 – 0.95	14 – 65 [37]
Tomato	19.6 – 24.2	0.90 – 1.10	9 – 40 [20]
Potato	30.0 – 32.6	2.30 – 2.45	10 – 30 [18]
Cabbage	28.8 – 29.4	1.80 – 2.10	10 – 27 [16]
Cauliflower	29.7 – 30.3	2.10 – 2.25	12 – 30 [18]
French Bean	11.4 – 12.8	0.85 – 1.10	14 – 50 [40]
Bottle gourd	28.4 – 33.5	0.90 – 1.25	7 – 25 [11]
Bitter gourd	19.0– 22.2	0.90 – 1.20	23 – 62 [35]
Pumpkin	28.0 – 32.0	1.00 – 1.30	7 – 22 [12]
Red Amaranth	13.4 – 16.8	0.65 – 0.80	8 – 26 [14]
Spinach	24.4– 27.0	0.60 – 0.80	6 – 30 [14]
Coriander	4.1 – 4.6	0.80 – 0.95	120 – 200[150]

SCIENCE
behind the Success

Echoing Natures' Law through Vedic Philosophy

Inhana Rational Farming (IRF) Technology

based on the 'Element Energy Activation' (E.E.A.) Principle it was developed to ensure Sustainable Agriculture through development of . . .

- RESILIENT PLANTS

&

- DYNAMIC SOIL

Rejuvenation of Soil Dynamics is a TIME TAKING PROCESS

Hence, Apart from Soil Health Mgt. the PRIME FOCUS is Imparted towards

PLANT HEALTH

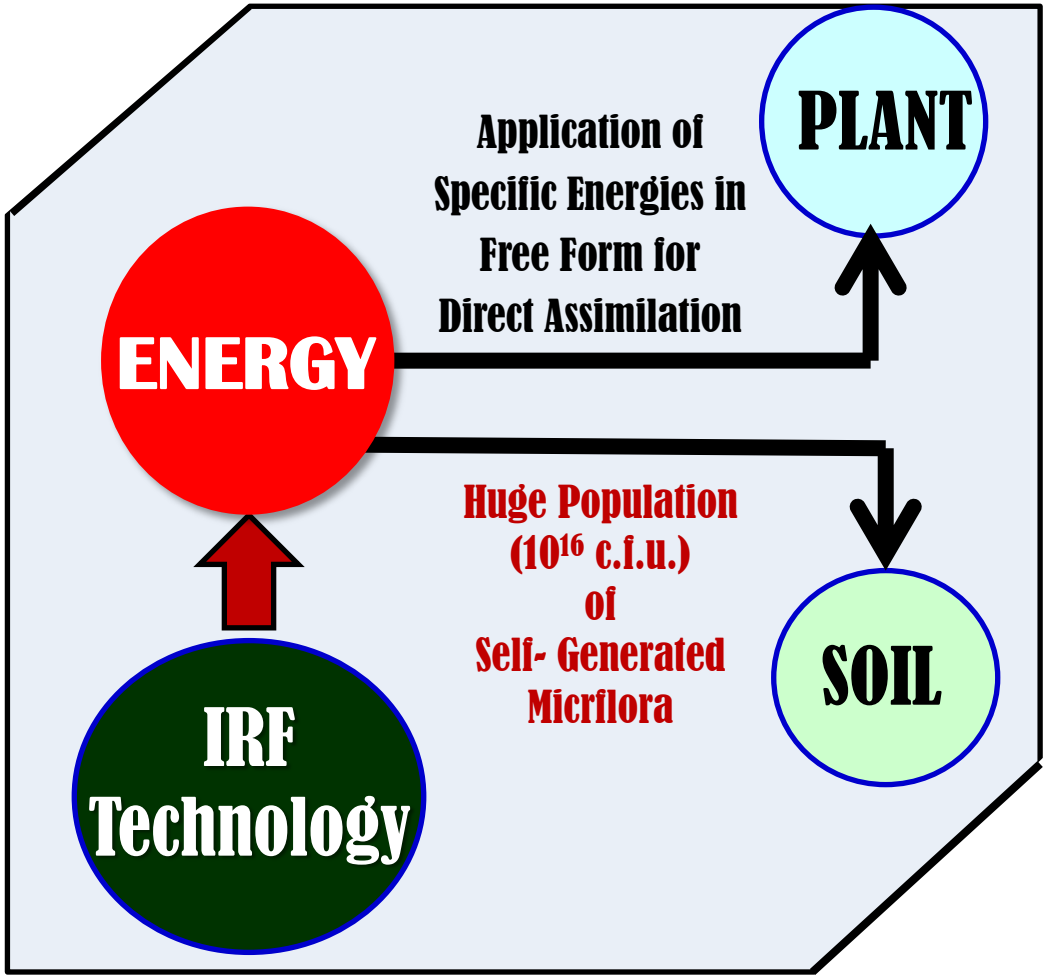
Because, till the time the Soil Dynamics is re- established; Activation of Plant Physiology can Sustain the Food Production Curve, even under the Existing Climatic Aberrations

Inhana Rational Farming (IRF) Technology…

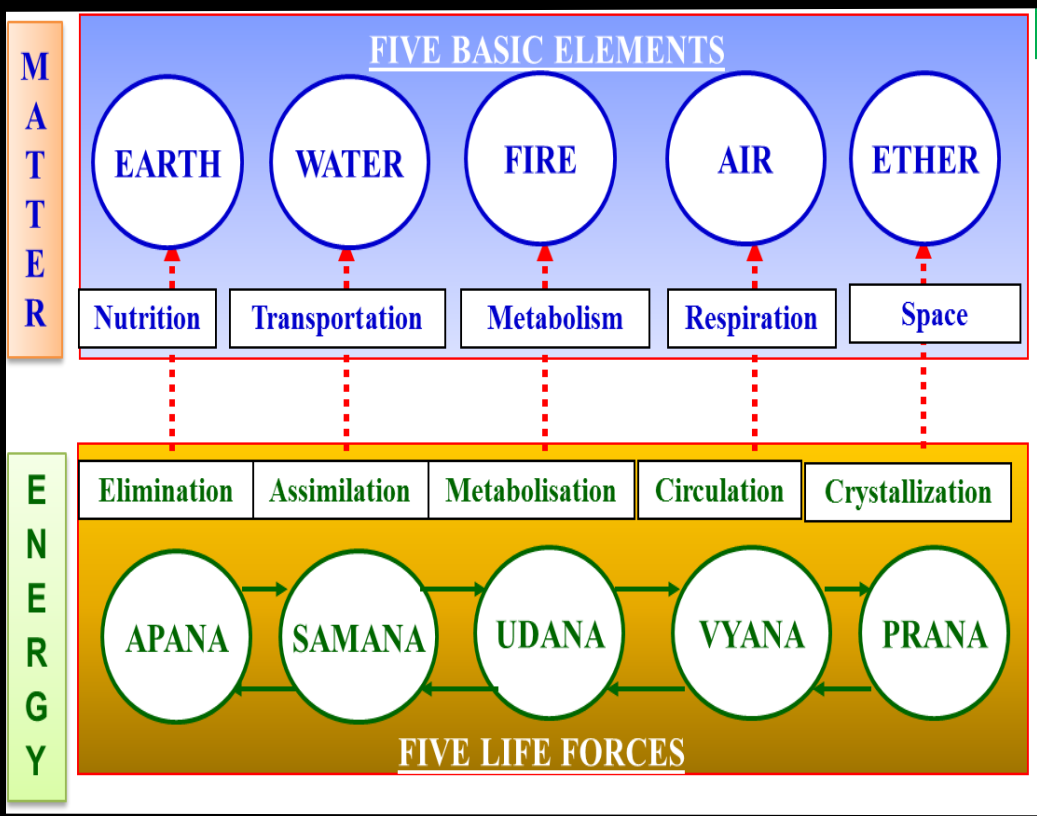
an extension of 'Vedic Philosophy' interpreted in the Modern Scientific Language

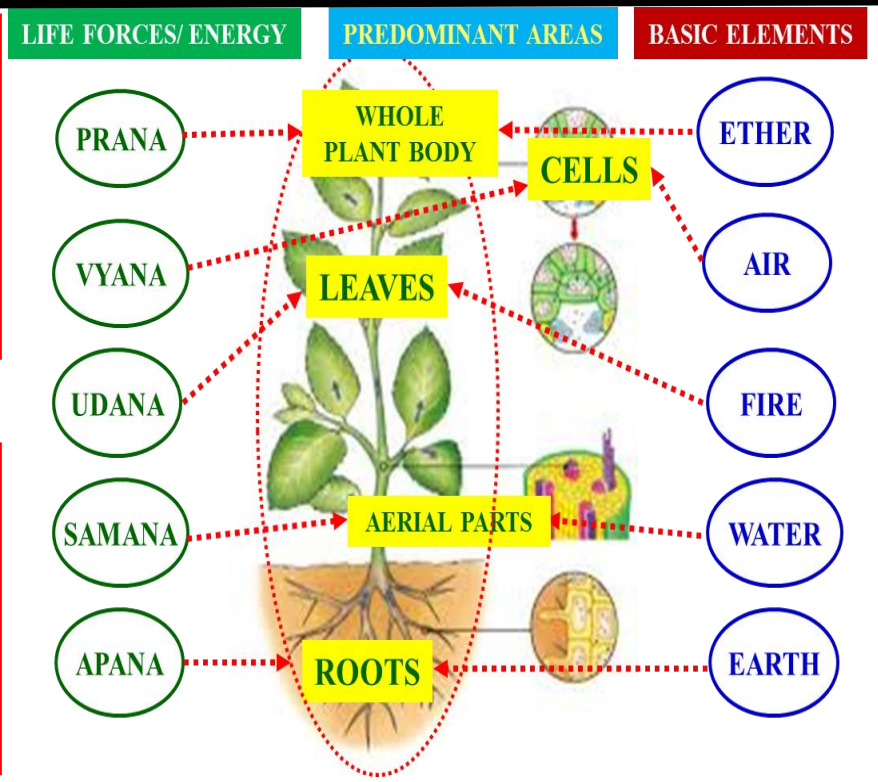
Through the dual approach of **Plant Health** and Soil Health Management…

the Technology works towards reactivation of the Plant Physiology for aiding **Better Nutrient Utilization** as well as **Enhanced Immunity** against pest and disease.



Element Energy Activation (EEA) Principle





Energy specific plants which store the radiant solar energy or the basic life force in differential forms can serve as a potential medium of energy components, which when released at the right time and in the right proportion can make matter (hereby the plant physiological functions) functional at the desired level and to restore/ bring equilibrium.

SOIL HEALTH MANAGEMENT

Creating Environment for Self– generation of Soil Micro-flora

Soil Health Management aims at Energization of the Soil System through Restoration, Proliferation & Reactivation of the LIVING COMPONENTS of SOIL .....

. . . for reinstatement of the Soil- plant Nutrient Dynamics for aiding in HEALTHY PLANT development.

SOIL HEALTH MANAGEMENT

Fastest Soil Regeneration at the lowest Economics

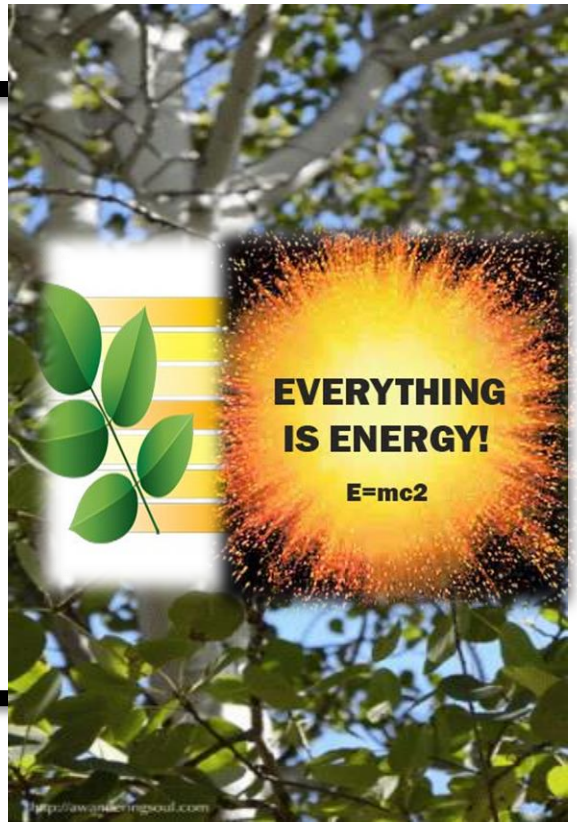
Novcom Composting Method was developed to ensure on- farm production of quality compost, **within 21 days** and **at the lowest Economics**.

- **No** Raw Material Specificity
- **No** Infrastructure Requirement
- **10,000 times higher microbes** than vermi compost.
- **1/3rd cost** of vermi compost.

PLANT HEALTH MANAGEMENT

Utilizing Potentized & Energized Botanical Solutions – Developed under E.E.A. Principle

The Vedic Science reveals that Elements are Not deficient, they are just de- activated under chemical bombardment. Hence, scope remains for Re-activation of Elements; if a process of ENERGY INFUSION is adopted.

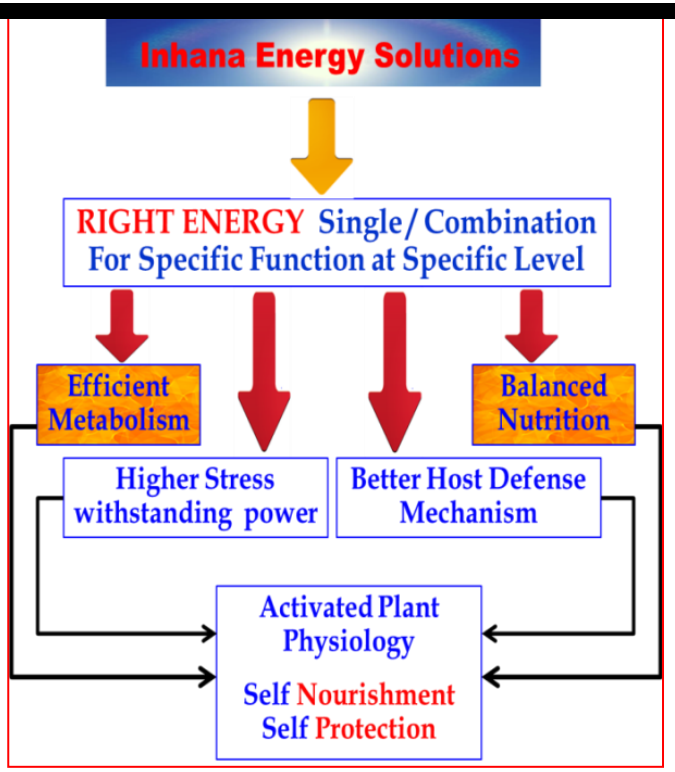


This is Specifically Relevant for PLANTS because they are the ONLY ORGANISMS THAT CAN RECEIVE, TRANSFORM & STORE ENERGY. Hence, can EASILY ASSIMILATE ISOLATED FORMS OF ENERGY

PLANT HEALTH MANAGEMENT

So What's the Process ?

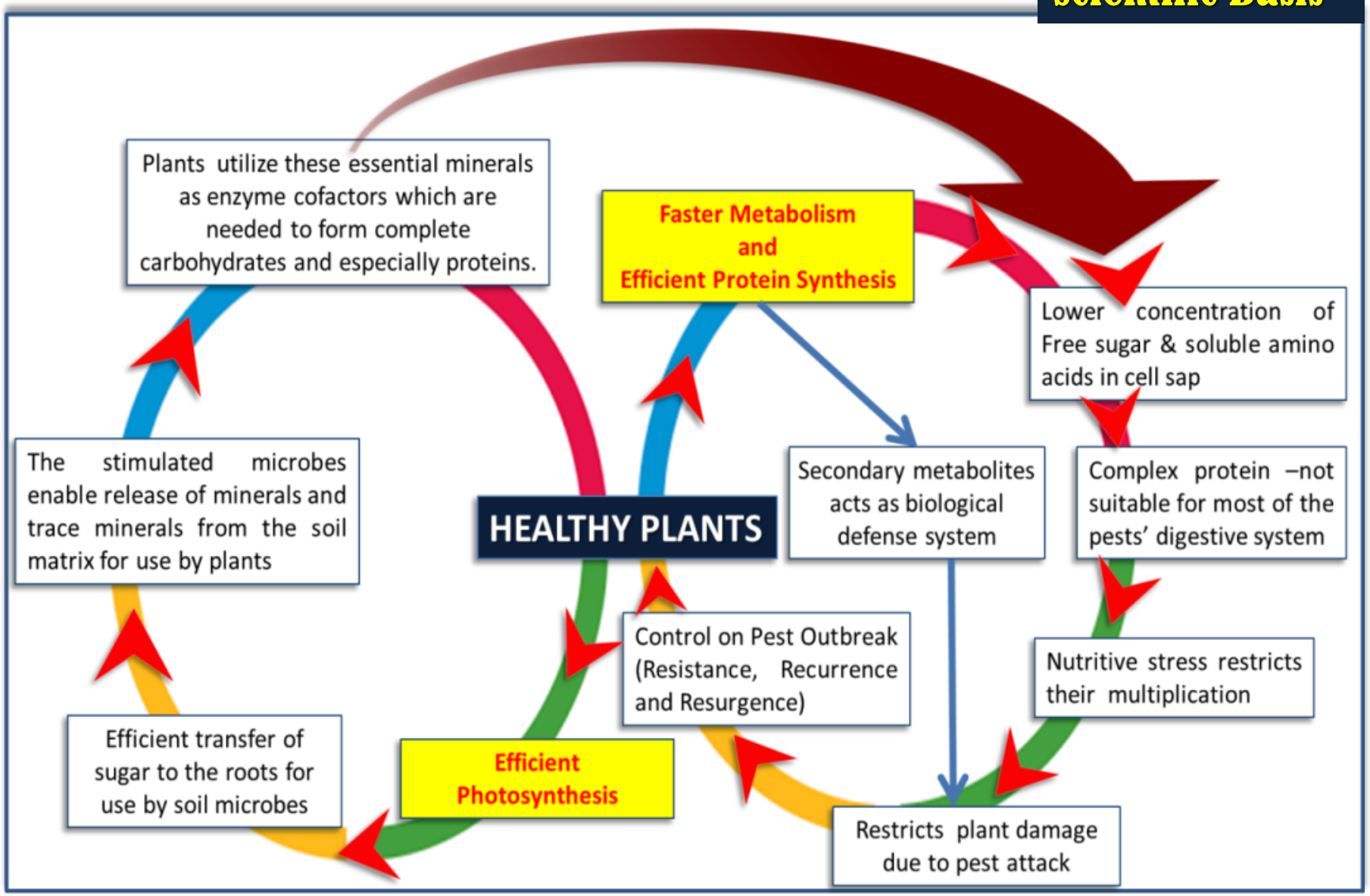
Plant Health Management is a process of providing solely the ENERGY COMPONENTS, which being derived from Plant Sources are easily absorbed and thereafter Activate the Specific Functional Sites that Control Plants' Physiological functions.



Better Nutrient Uptake, Utilization Efficiency & Higher Immunity against Pest Attack & Disease are the Primary Outcomes

PEST MANAGEMENT THROUGH PLANT MANAGEMENT….

Scientific Basis



PEST MANAGEMENT THROUGH PLANT MANAGEMENT….

Scientific Basis

This Approach is based
On the
'Trophobiosis Theory' of
Revolutionary French
Scientist 'F. Chaboussou'
which Says . . .
'Pest Starves on Healthy
Plants'

INHANA
Plant Health Management
works towards
Activation of Plants'
Physiological Functions
towards development of
HEALTHY PLANTS

SUMMARY ....

- Apart from Soil Health Management, **Focus on Plant Health** will **HOLD THE KEY** towards Sustainable Agriculture.

- Departing from the concept of 'Input Addition', we should work towards **Restoration of the Inherent Potentials of the Agriculture Resource Base**, be it the self- generation of native microflora in soil or the restoration of the Self- Nourishment and Self- Immunity mechanism of the Plants.

- Inhana Rational Farming (IRF) Technology can Serve as the **Gizmo for Sustainable Agriculture** in **DIFFERENT CROPS**, in different **AGRO-ECOSYSTEMS**; through utilization of Specific Farming Models.

CONCLUSION

Sustainable Agriculture is POSSIBLE, IN A TIME BOUND MANNER

We Only Need to Select the RIGHT PATHWAY based on the On- farm Available Resources

& Most Importantly

DISENGAGE from the Concept of Input Addition & Impart FOCUS on the Development of Plant Health.

Thank You

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