



Project

Farm Revival

A CHEMICAL FERTIGATION FREE BIO-FARMING INITIATIVE



Farmers are looking for chemical free bio-farming alternatives, without any yield loss from first crop cycle itself.

Keeping this objective in mind, Dr. Ajay Ranka, CMD – Zydex Group, initiated project “Farm Revival” – an initiative that demonstrates to the farmers chemical fertigation free bio-farming without yield penalty in the first crop cycle itself.

The project aims at making soils soft, porous to enhance microbial population and its activity, with a focus on higher productivity and improved water percolation in our farms.

Project Farm Revival initiative is committed to provide profitable and sustainable farming ensuring nutritious, safe and plenty of food for all.



Higher yields with chemical fertigation free bio-farming. . . . NOW POSSIBLE

– Dr. Ajay Ranka



Project

Farm Revival

A CHEMICAL FERTIGATION FREE BIO-FARMING INITIATIVE

STEP WISE PROTOCOL TO BE FOLLOWED FOR PROJECT FARM REVIVAL

STEP 1

Fungal bio-digestion of Farm Yard Manure with **Zytonic BioDigester**, to produce biologically active, humus rich and free flowing manure

STEP 2

Land Preparation and Basal Application of **Zytonic** Products for balanced nutrition to crop

STEP 3

Stress protection and growth enhancement of crop by foliar application of **ZycoShield**

STEP 4

Providing nutrition to boost optimum crop growth through top dressing of **Zytonic** Products

STEP 5

Crop protection with preventive use of **ZycoNeem, Zytonic Neem Active**. Need based reduced and effective usage of chemical pesticides with **Zytonic Active & ZycoDrop**.

STEP 6

Round the year farm utilization with adoption of **Zytonic** bio-farming technique - key to improved profitability, by growing cattle fodder / short crops. No need of leaving land fallow.





Biologically active, humus rich, odourless, black and free flowing manure with static composting. . . . NOW POSSIBLE”

– Dr. Ajay Ranka



STEP 1

Fungal Bio-digestion of Farm Yard Manure

In most of the cases, the Farm Yard Manure used in fields is of poor quality due to partial digestion by static composting on land surface. This leads to higher requirement(8-10 MT of manure per re), which results in shortage of quality manure with increased expenses for the farmers.

The unique bio-digestion solution in water from Zydex when sprayed helps to convert animal dung (excreta) along with crop and fodder residues to humus rich, blacker looking, odourless, free flowing manure in 45-60 days.

No further watering or turning needed



Only 2.5 MT/hectare is now required to boost biology in soil during land preparation



Higher income from animal husbandry and sustainable bio-farming

- **Zytonic BioDigester** should be applied on at least two months old stored animal excreta/fodder.
- The Zytonic Technology increases the speed of bio-digestion under static condition and completes it in 45-60 days after covering the pile.

Dosage and Application:

- Dose: 2 kg **Zytonic BioDigester** per MT of farm / animal excreta/residues
- Dissolve 2kg in 150-200 litres of water
- Spray this **Zytonic BioDigester** solution over the pile of residues. Extra water can be used to wet the pile as needed.
- Leave the pile covered for 30-45 days to allow the process of effective bio-digestion. Maintain moisture of pile by adding water if needed.
- The enriched manure is now ready to use



Soft, porous, aerated soils in biological farms. . . . NOW POSSIBLE

- Dr. Ajay Ranka



STEP 2

A: FOR NURSERY PREPARATION

For Nursery, use a mix of 1 kg **Zytonic M** + 0.5 kg **Zytonic NPK** + 0.5 kg **Zytonic Zinc**. Broadcast this mixture in the soil and mix thoroughly. Prior to sowing this will lead to higher germination and plant survival.

- In addition soft and porous soil allow farmers to easily harvest the saplings.
- For best results dip the nursery saplings in a 1:100 solution of **Zytonic M** in water before transplant.

B: Land Preparation and Basal Application

- There is no need to use any chemical fertilizers such as DAP, Urea etc. in the basal dose under this protocol
- During the field preparation for sowing, use 2.5 MT/hectare of bio-digested manure with 50 kg **Zytonic**. Once mixed, the resultant enriched manure can be applied in one hectare of land as a basal application, followed by 6- 8 inches deep ploughing.
- The **Zytonic** technology makes soils soft, porous and aerated along with an improved water holding capacity. It also promotes a larger, profuse root zone development with an extended and dense mycorrhiza hyphae network. This along with the enhanced soil biology delivers sustainable and higher amounts of nutrients throughout the growing season, thereby improving germination, initial plant growth and plant survival. Higher land occupancy by crop plants per hectare also leads to higher production.





Bio-Farming with less water. . . . NOW POSSIBLE

– Dr. Ajay Ranka



STEP 3

Stress Protection and Growth Enhancement of Crop

- The **ZycoShield** has proven to be very useful for plant growth and protection from abiotic stresses.
- **ZycoShield** forms a protective coating over the leaves, branches and stem of the plants, thereby imparting the following benefits:
 - More greenery with growth
 - Increase in drought resistance of the crop



ZycoShield Dosage:

ZycoShield

2 packets (2.2 kg) per hectare

ZycoShield Protocol:

- Mix ZycoShield 2 packets (2.2 kg) powder in 200-300 litre water and keep it for 12 to 24 hours.
- Add more water as needed to cover 1 hectare.
- Spray the crop uniformly by properly drenching the plant canopy

For best results spray before 10 am or two hours before the sunset.

This method will give farmers the complete benefit of growth & stress protection



Sustainable farming, water harvesting and better quality produce. . . .
NOW POSSIBLE

– Dr. Ajay Ranka



STEP 4

Providing Nutrition to Boost Optimum Crop Growth



Short Duration Crops (Wheat, Paddy, Maize, Vegetables etc):

- The **ZycoShield** combo should be sprayed at an interval of 15 days

Long Duration Crops (Sugarcane, Ginger, Turmeric etc) / Nutrition Intensive Crops (Potato, Tuber Crops etc):

- Broadcast or drench (1:100) using 10 kg **Zytonic M** per hectare (30-45 days after sowing). Repeat this application 2 – 3 times as per the crop type and dosage recommendations. For sugarcane, use this application 4 times in the first 7 – 8 months of the crop cycle to get improved tillering and growth.
- **ZycoShield** should be sprayed minimum 4 – 5 times during the crop cycle at an interval of 15 days

Horticulture Crops: (Banana, Papaya, Pomegranate, Apple, Almonds etc):

- Mix 50 kg **Zytonic M** with minimum 1 MT of bio-digested manure and broadcast over 1 hectare followed by thorough mixing or drench with 1:100 solution of the above combinations. Two such applications can be done per year. Once before plantation or after plucking of fruits and second after six months of first application, preferably before the rainy season
- For a denser root zone with an extended Mycorrhiza hyphae network, it is essential to use bio-digested FYM along with **Zytonic M** twice every year. This will enhance soil biology, and improve water holding capacity, and deliver substantially higher nutrients to the crop throughout the growing season, thereby improving quality and yields.
- **ZycoShield** should be sprayed 5-10 times (during environmental stress period) to get effective biological protection from stress conditions and maintain plant growth
- For rapid & healthy growth during the first three years of plantation, application of 5 kg **Zytonic M** (per hectare) is recommended additionally, along with bio-digested manure/ FYM, directly around the roots (band application) or through drenching (1:100 solution), at an interval of every 2 months



Bio Farm Produce with Minimal Chemical Residues. . . NOW POSSIBLE

– Dr. Ajay Ranka



STEP 5

Crop Protection

Reduction in Chemical Inputs / Pesticide Sprays

Protocol for Crop Protection:

- Thoroughly mix 3 ml **ZycoNeem** and 2 ml **Zytonic Neem Active**
- Add water and stir the above mixture well before spraying

Note: For maximum protection against pests and diseases spray this solution at an interval of 30 days.



Use of Chemical Pesticides / Insecticides (only if required):

- Add 1 ml / litre (solution) of **Zytonic Active** with 50-75% of the recommended dosage of chemical pesticides and mix well
- Add required quantity of water and spray. This allows longer lasting and better protection from pests and diseases along with improved efficacy and reduced pesticide residues, thereby allowing farmers to meet crop care chemical residue standards for improved safety.
- To minimise the risk of chemical drifting on non target crops or applicator while spraying, a unique mist/drift control agent **ZycoDrop** is recommended to be used with **Zytonic Active**



- **Dose:** 5-10 ml / 100 liters (high pressure pumps will require higher dose of **ZycoDrop** for effective control on misting)
- Prepare two solutions as follows:
 - ✔ **Solution 1:** Take 15-20 liters of water and add 10-20 ml of **ZycoDrop** & stir well. Wait for 20 mins and diluted with water 200 liter
 - ✔ **Solution 2:** Mix the recommended dose of **Zytonic Active** with the required dose of crop care chemicals separately and wait for 20 mins.
 - ✔ Now mix the above two solutions together and spray.





Round the year farm productivity & profits. . . NOW POSSIBLE

– Dr. Ajay Ranka



STEP 6

Round the Year Farm Utilization

The adoption of **Zytonic** bio-farming technique, makes soils soft, porous and aerated. It also enhances soil aeration and gas exchange thus, promoting exponential growth of the beneficial aerobic microbial population (bacteria, fungi, protozoa, beneficial nematodes etc) and preventing crop damage from anaerobic bacteria. This gives farmers an opportunity for earning an extra income by growing short duration crops during the fallow season especially in tropical climate areas, instead of keeping fields bare and idle.



Dosage and Application:

- Basal: Use 1 MT bio-digested FYM + 5 kg Zytonic M per acre prior to sowing and rotoation
- Foliar: 30 – 45 days after germination, spray 1 kg **ZycoShield** dissolved in 100 litres of water per acre
- Bio-farming with the Project Farm Revival protocol makes farm soils soft, porous, aerated and productive with higher yields
- Additionally green manuring is also possible by rotoating the crop residues and root remnants back into the soil after the fodder has been harvested. This will further boost soil organic content.





Zydex[®]
Innovating for Sustainability

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