

## ***Bio Dynamic Farming system.***

From our traditional agriculture done by Organic farming methods, we switched over to intensive agriculture to increase the food production. This has resulted in several problems such as deterioration in food quality, reduction in soil fertility, increase in pesticidal residues in the food causing ill-health to man and animals, increase in resurgence of pests, disturbance in the ecosystem, no recycling of nutrients through organic realm, etc. In general farming is presently going through a crisis period due to high cost of production, low price realization and uncertain market. Anticipating the existing prevailing situations, some farmers have started their search for viable alternative agricultural systems that can increase the soil fertility, sustain the yield and fetch better price for their produce. Thus organic farming systems have been adopted by several farms and estates in India.

### **Organic farming methods:**

Organic farming to its credit has a long term effect in the soil fertility development, imparting resistance power to the plants against the insect and disease attack and having a consistent yield, which has been later on realized by several farmers. Meanwhile increase in the quality and taste of the produce and increase in the shelf life are the bonus to the farmers for their efforts.

It helps in utilizing the local resources to increase the soil fertility and pest management. Moreover it establishes a self-sustainable ecosystem. It has several basic principles, which should be adopted based on our soil and climatic conditions. Sometime inspite of all the efforts the rate of development will be slow, which will affect the growth and yield of a crop. In this sort of slow down state of Organic farming, the next best alternative system to speedup the developmental process will be the Bio Dynamic Agricultural methods.

### **Bio Dynamic Agriculture:**

In the early twenties some group of farmers at Germany, who were doing the Organic farming realized and were deeply concerned with the decline in the soil fertility, loss in the food quality and the uneconomical animal husbandry. They approached the philosopher and

scientist Dr Rudolf Steiner to help them to get rid of the above-mentioned problems. As a result of this in 1924 Dr Rudolf Steiner gave the solutions as “Bio Dynamic Agriculture” in the form of eight lectures at Koberwitz. His knowledge and thinking was very much influenced by Indian Vedas. In this farming the farm is considered as a “living organism” in which one activity influences and affects the other.

Bio Dynamic agriculture can otherwise also be called as a “Holistic farming system”. It encourages the mixed farming with animal husbandry as an important component. Meanwhile it insists all Organic principles, mainly on green manuring, crop rotation, compost making and its application and natural way of controlling the insects and pest incidences. Apart from these, it emphasizes very much on the utilization of the cosmic forces and the effect of moon rhythms in farming by proper planning of all garden activities using the planting calendar. This farming system can be practised in any organic farming system only.

In Bio Dynamic farming Dr Rudolf Steiner has given eight recipes as “Bio Dynamic Preparations”. They are as follows:

- 1, Horn Manure - BD 500,
- 2, Horn Silica - BD 501,
- 3, Compost preparations:
  - \* Yarrow - BD 502,
  - \* Chamomile - BD 503,
  - \* Stinging Nettle - BD 504,
  - \* Oak Bark - BD 505,
  - \* Dandelion - BD 506,
  - \* Valerian - BD 507.

### **Principles involved in the application:**

The Bio Dynamic preparations are used in small quantities and dissolved in water, which will be proportionally more to the manure taken based on Homeopathic principles of dilution. Meanwhile prior to the application the small quantities taken should be highly potentised. For this the manures taken should be dissolved in the prescribed quantity of water and stirred in clockwise till a deep vortex is formed. Then the stirring should be reversed to anticlockwise direction immediately to create chaos and continued till a deep vortex is formed. Similarly the above said process should be repeated and continued to the prescribed time. This is a very important step in the application method, which gives the vital forces to the manure. If this is not strictly and perfectly practised, the realization of effect in the crops applied will be

poor. This can be done manually or using some mechanical stirrer based on the area to be applied and the labour availability.

The sprays done based on the moon rhythms using the planting calendar will have a better effect.

### **Dosage and Usage of BD Preparations:**

#### **Horn Manure – BD 500:**

This manure is prepared by using cow horn and the lactating cow's dung. This is a fundamental spray, mainly for the soil that ought to be used in any estate or farm right from the initial period of conversion from conventional farming system. An acre needs 25g, which should be dissolved in 15 lt of water and must be potentised by stirring for an hour prior to its application as mention above. It should be done only in the evening hours of a descending period of a month. Spray as big droplets using leafy brooms or sprayer with big nozzle under low pressure. Three to four times of its application creates a good change in the soil.

The earthworm activity and the population of Rhizobium bacteria at the legume root nodules will be enhanced. The soil structure is improved. Similarly due to the activity of humus forming bacteria's over the dry matters and all the green manuring material applied, it increases the humus content of the soil. The water holding capacity of the soil increases. So the root is also induced to grow deeper, which will inturn help the crop to withstand the drought conditions.

#### **Horn Silica - BD 501:**

Cow horn and the powdered pure Silica stones are the materials needed to process this manure. This can be applied only after minimum two application of the Horn Manure (BD500), as foliar at the rate of 1.0 g/ac by dissolving it in 15 lt of water. This manure should be applied after potentising it by stirring it for an hour in clockwise and anticlockwise directions repeatedly till a deep vortex is formed every time. Spray as fine mist over the canopy of the Crops early in the morning during the ascending period of the month. For this purpose the sprayers should be used by fitting it with NMD or suitable nozzle, in high pressure.

This spray will enhance the quality of the produce of a crop. If this spray is done on every Moon opposite to Saturn day of a month, will impart the resistance power against insects and diseases to the Crops.

**Compost Preparations (BD 502 – BD 507) :**

Using the plant material (flowers or whole plant or bark) of specific plants and some animal parts these preparations are processed. The plants used are considered to have a link with certain planets, which are revealed through their features. So utilizing them can help in getting the influence of those planets for the growth and development of the plants. Moreover the plants used in preparing the preparations are widely used in the ayurvedic medicines. In the same way the animal parts used are linked to the medicinal properties of the plants used and also imparts their functional qualities to the preparations made out of it. Every preparation has a definite role and effect when used, are as follows:

**Yarrow – BD 502:**

- Provides sulphur, potash and micronutrients,
- Linked to the planet Venus,
- The sulphur forces developed in it primarily help in the potash forming process,
- Has high radiant energy,
- Gives the manure the possibility of absorbing vitality, which means it helps to attract the other substances needed and to incorporate them into an organic process.

**Chamomile – BD 503:**

- Provides sulphur, potash, calcium and nitrogen,
- Linked to the planet Mercury,
- Protects from the uptake of toxic compounds,
- Due to the presence of calcium & sulphur combination it serves as antifungal,
- Removes the harmful effect of fructification,
- Stabilizes the nitrogen part of the materials used for composting,
- Has the ability to enliven the soil,

**Stinging Nettle – BD 504:**

- Contains iron and traces of sulphur, which helps in assimilating and incorporating the spiritual forces,
- Linked to the planet Mars.
- Carries the radiation and the current of potash and calcium,
- It will make the manure inwardly sensitive and receptive,
- Doesn't allow decomposition to take place in a wrong way or to let nitrogen escape,

**Oak bark – BD 505:**

- Provides calcium forces,
- Linked to the planet Moon,
- Imparts resistance power to plants against fungal attack,

**Dandelion – BD 506:**

- Contains potash and silica forces,
- Linked to the planet Jupiter,
- Establishes proper relationship between potash and silica,
- Helps the crop to draw their nourishment from their broader environment,

**Valerian BD 507:**

- Activates and brings phosphorus into the organic process,
- Linked to the planet Saturn,
- Provides heat to the compost and helps in regulating it uniformly,
- Increases the earthworm activity,

Meanwhile these preparations have cocktail of beneficial microorganisms. In practice, these preparations can be utilized only in a collective way as “set” (one gram from each of BD 502 to BD 506 and 10 ml of 5% BD 507) in Compost, CPP and Liquid manure productions.

Usage of these preparations results in enhancing the decomposition rate due to the presence of microorganisms, there by reduces the production period. The individual effect of the preparation can be very easily spread by these three methods in an efficient way to the land

and plants. Above all, the plant nutrients will be made into an available form in the final stage of Compost, CPP and Liquid manures.

### **Utilization of Cosmic Forces:**

The Indian farmers have traditionally known the utilization of cosmic forces in Agriculture. Bio Dynamic farming system also recognizes the Cosmic forces and the effect of Moon rhythms. For this purpose a planting calendar has been designed in many countries based on the location of the country. These calendars will help us to plan our farm activities in a better way so as to receive the correct forces that are needed for the development of the crops. Utilization of all the agricultural inputs based on the planting calendar will help in enhancing their effects. By this practice the quality and the yield of the crops can also be improved.

As explained the Bio Dynamic manures can be used in different ways over soil and the crops grown. In general they increases the soil fertility in a very short notice. Similarly they will impart good resistance power to the crops against pest incidences. Hence it is very certain that these practices will increase the yield of the crops. It is hereby emphasized that the proper utilization of all the Bio Dynamic preparations and manures are very much essential in any organic farming system to accelerate the process of development.

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