

## ***Production of Horn manure (BD 500) & Horn Silica (BD 501)***

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### **Horn Manure (BD500)**

This is the foundation spray in Biodynamic farming, and should be sprayed in all the estate/ farms to initiate the Biodynamic farming practises.

### **Materials Used**

#### **1. Cow's horn**

- Remove the cartilage bone/ core from the horns mechanically or allowing them to decay
- To differentiate *Cow's horn* from *Bull's horn*, identify the cow horns with the “**Calve rings**” seen at the base of the cow horns,
- Another major difference to identify cow's horn from bulls horn is the tip of the cow's horn is thick & solid, whereas hallow till the tip in bull's horn,

#### **2. Cow dung from lactating cow.**

- Collection of cowdung should be from a lactating cow
- It should be fed with equal quantity of dry fodder and green fodder atleast three days prior to collection of cowdung,
- Avoid from unhealthy cows given with antibodies, deworming, vaccines and feed concentrates,

### **Selection of the site**

The site for burying cow horns should be:-

- Free from water logging,
- Free from chemical contamination,
- Away from big trees,
- Having fertile soil,
- Nearer to pathways/ roads,

### **Method of making & Storage:**

The Cow dung from lactating cow was filled into the Cows horn. While filling to remove the air pockets inside the horn cavity, strike the horn against hard material for few times. Cowdung filled cow's horns are then arranged inside the pit by keeping the broader base down and tip facing up

Then it is buried in a pit of 1.5 ft deep. Generally the depth of the pit can be the length of the horn plus nine inches. The width of the pit is dependent on the number of horn that has to be buried. As a precaution the pit should be away from big trees. The horn filled with Cow dung was buried in November & December 2002. In warmer regions after filling the pit with good soil thick mulch can be applied or a shade can be erected to preserve the moisture.

The cow's horns buried can be removed from the pit after 4 – 6 months to recover the **Horn manure – BD 500** in March, April & May 2003. Clean the cow's horn that are taken from the pit with a piece of cloth or gunny sac to remove the fungal growths, soil, paint peelings, etc... Remove the soil from the tip of the horns with the spoon or wooden spatulas. Knock the horns over any hard objects to loosen the material inside the horns. The recovered Horn manure – BD 500 is then stored in food grade plastic barrels surrounded by wet coir dust.

### **Dosage & Usage**

For one acre, take 25 gm, dissolve it in 15 liters of water & **stir it clockwise & anticlockwise** to get deep **vortex** for **an hour** manually **or** can be stirred using **Vibulla flow form** **or** can also be stirred using **tripod** in a big 200 liters barrel. The solution should be stirred in the evening hours from 3 – 6 pm & in the descending period of moon. Sprayed as big droplets using leafy broom or knapsack sprayer under low pressure, three to four times of its application in a year creates a good change in the soil.

### **Benefits**

- ❖ Increases the earthworm activity,
- ❖ Enhances the population of Rhizobium bacteria at the legume root nodules,
- ❖ Converts the dry matters and all the green manuring material applied in to humus, due to humus forming bacteria's activity,
- ❖ Improves the soil structure,
- ❖ Increases the water holding capacity of the soil.
- ❖ Induces the roots to grow deeper, which will inturn help the crop to escape drought conditions

### **Horn Silica ( BD501 )**

## 2.1 Materials used :

1. Cow's horn - with calving rings.
2. Silica stone
  - a. Silica or the quartz crystals should be transparent
  - b. Discard the opaque part of the Silica stone

### *Selection of site:*

1. The site for burying cow horns should be:-
2. Free from water logging,
3. Free from chemical contamination,
4. Away from big trees,
5. Having fertile soil,
6. Nearer to pathways/ roads.

### **Making methods:**

The Silica stones were crushed in a stone mortar using the wooden pestle having iron cup end. While crushing the Silica stones, initially the **coarsely powdered** Silica stones are **sieved** through a **plastic mesh**. Coarsely powdered silica stones are then once again powdered. Then sieved using cotton cloth to get talcum powder sized powder.

The silica powder was mixed with water to a pulp state and poured into a fresh cow horn or Cow horn used for BD501 production. By keeping the broader portion of Horn upward, it is left for 2 hours, for silica powder to settle. The water that comes out is poured out. Then the horns with silica powder are buried in March & April 2003.

For this a 1.5 – 2.0 ft deep pit is made, Then 1.0 inch thick layer of pure sand is added in the pit. The excavated soil is mixed with compost to make it fertile. After arranging every row of horns with silica powder the gaps are filled with soil mixed with compost. After burying the cow horns with Silica powder, the area has to be marked with markers on four corners of the pit. A thick layer of mulch should be applied over the pit. The moisture of the pit should be maintained. The weeds that are growing above the pit should be removed periodically.

The horns will be recovered in September & October. Recovered horns should be cleaned. Then the horns are shaken to remove the Silica powder. Recovered Silica powder that is in wet

condition is dried in shade. Dried Silica powder should be store in a glass jar and kept nearer to a window.

### **Usage & dosage**

This can be applied only after minimum two application of the Horn Manure (BD500). Applied as foliar at the rate of 1.0 g/ac by dissolving it in 15 lt of water. Applied after potentiating 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 crop early in the morning during the ascending period of the month. The sprayers should have NMD or suitable nozzle, under high pressure.

### **Uses**

- a. Mainly it increases the photosynthetic activity of the plants.
- b. This spray will enhance the quality of the produce of a crop,
- c. If sprayed one month before the flowering season of a crop it will enhance the flowering,
- d. If this spray is done on every Moon opposite to Saturn day of a month, it will impart the resistance power against insects and diseases to the crops,