

Bio Dynamic Preparations and Biodynamic Compost

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Biodynamic agriculture, a form of alternative agriculture, developed by Rudolf Steiner in 1924, was the first of the organic agriculture movement. A distinguishing feature of biodynamic farming is the use of nine biodynamic preparations for the purpose of enhancing soil quality besides stimulating plant life and biodynamic compost to recycle organic wastes as well as enhance soil health. Together, the BD preparations and BD compost may be considered the cornerstone of biodynamics.

Bio dynamic preparations

Method of preparation

Horn manure (BD-500)

Fresh cow dung is whipped to prepare a thick smooth paste. The empty lactating cow horn shells are filled with this paste. The filled horns are placed in the pit in upright position with the pointed closed end of horns facing upwards. After that, the pit is filled with good fertile soil and compost mixture (25 : 1). The soil of the pit is to be kept moist for all the time. October-November is the most ideal period for burying the dung filled horns in pits. The horns are kept buried for approximately six months and are taken out during March-April. Compost should be moist and should have a pleasing smell.

Horn silica (BD-501)

Large pieces of Quartz silica is crushed with large mortar covered with cotton cloth. After grinding, the crushed material is sieved to obtain finer quartz silica material and then it is made into paste with water. Quartz silica flour paste is filled in empty cow-horn shells. Opposed to BD- 500, buried vertically during March-April and taken out during October - November.

Yarrow preparation (BD-502)

Dried yarrow (*Achillea millefolium*) blossom is moistened and packed into the dried bladder of deer stag or hart. The bladder is kept into the sun for 3

months and then buried into good soil at the end of September-October. The deer bladders are taken from the ground at the end of March -April. Soil must be removed very carefully from the preparation. As soon as the soil is removed, the bladder can be opened. Finally, the pit can be filled with fertile soil. If the location was convenient, it can be used for the same purpose in the following year.

Chamomile Preparation (BD-503)

Dried chamomile blossoms (*Matricaria chamomilla*) are moistened and stuffed tightly into the cleaned small intestine of a freshly butchered cow. The intestines are hung in a sunny place for at least three months before being buried in the soil. The intestines are buried at the end of September-October. Since the intestines are usually very dry after several months in the air, they must be dipped into a bucket filled with water before burying so that the chamomile inside the intestine is well moistened. The intestines should be lifted very gently from the ground in April. Soil must be removed very carefully from the preparation. If the preparation is too moist, it can be dried in an airy and shady place for a short time.

Stinging nettle preparation (BD-504)

The wilted stinging nettle (*Urtica dioica*) are squeezed in evenly and firmly in pot/ crate and closed the opening. The containers are buried in soil for one full year, enclosed in a mantle of peat moss. After 12 months the finished preparation can be dug up. The remains of the nettle is now very small. Care must be taken to ensure that it is not mixed with soil or peat. The preparation is of a dark black colour. Before the preparation is filled into a container, the remaining stems can be broken up into smaller pieces.

Oak bark preparation (BD-505)

Scrapings of the outer rind of oak bark (*Quercus robur*) are placed in the skull cavity of a domestic animal (sheep/horse/goat) in September-

October and closed the opening with bone. Before filling, the finely crushed bark should be moistened with some water. The bark can be filled into the brain cavity by hand or with the help of a funnel. The skull is placed in the barrel having a closable drain near the bottom. Skull should be surrounded with half rotten plants and soil. Water should regularly flow into and out of the barrel. The skulls can be taken out from the barrel in March-April. The preparation is of a brownish-reddish colour and has adequate humidity. In most areas, animal skulls are widely available, so new skulls can be obtained every year. If this is not possible, well-cleaned skulls can be stored and re-used next year. However, the skull should not be stored in the sun.

Dandelion preparation (BD-506)

Both the dandelion flowers and the animal sheaths (*omentum/mesentery*) can be used when fresh or dried. The fresh or dried and moistened flowers of Dandelion (*Taraxacum officinale*) are pressed into a ball and wrapped in a piece of the *omentum*. The ball is wrapped with a string and tied. Alternatively, the fresh or dried and moistened flowers of Dandelion are wrapped in dried mesentery (membrane holds intestines) of cow. The dandelion preparation is hung in a sunny place for at least three months. It must be dipped into a bucket filled with water before burying, to moist the dandelion. The preparation is buried in soil at the end of September-October, filled with fertile soil and well-marked. It is taken out from ground in March-April and soil adhered to the preparation has to be removed very carefully.

Valerian preparation (BD-507)

The petals of Valerian (*Valeriana officinalis*) are filled into a bottle to about one third and the bottle is filled with rainwater or clean water. The vessel should not be closed tightly to allow gas to escape and the content is mixed well. The vessel is hung up in a tree in partial shade for 10 – 14 days. The liquid is filtered and filled into bottles.

Horse tail Preparation (BD-508)

100 g of dried horsetail (*Equisetum arvense*) or 500 g fresh horsetail is required for one hectare. The plants are crushed into small pieces after drying. The crushed parts are ground into fine powder. 100 g of dried horsetail is soaked in 4 litres of clean water for one day. The content is boiled on low heat in a covered pot for 60 minutes and the tea has to be cooled.

Storage of preparations

BD 500 and BD 502 – 506

These preparations are stored separately in a dark and cool place. Each preparation surrounded by peat or coconut fibre on all sides must be stored separately. Vessels made of ceramic, earthenware, glazed clay pots or glass are suitable and the vessels are stored in wooden boxes. The vessels in the wooden boxes must be surrounded on all sides, including the top and bottom of the box by a layer of peat or dried coconut fibre of 10 cm thickness.

BD 501

The silica preparation can be put into a clean, transparent glass container and stored in a light and dry place. On a windowsill exposed to the morning sun is a good choice; intense and direct midday sun should be avoided. The preparation can also be kept in the horns until use. Filled horns should be stored in a bright and sunny place. It should never be stored in the dark. As long as the preparation is kept in a dry and bright place, it can be used for many years.

BD 507

The freshly prepared valerian preparation is bottled. The bottles should be stored in a dark and cool place. During the first weeks after bottling, fermentation gases can develop and must be able to escape, so bottles should not be tightly closed at first. When gas formation has stopped, bottles can be closed tightly. Stocks should be checked yearly once. During storage, a yeast layer formed on the liquid can easily be removed. If necessary, the preparation can be refiltered with the help of a fine, clean sieve. If well-produced and stored under good conditions, valerian

extract lasts for a very long time and keep its typical valerian scent for years.

Method of application

BD-500

100 g of BD-500 should be mixed in about 25-50 lit of rain or fresh tube-well water/ha by whirling with hand for one hour. It should be applied on soil surface or as foliar spray twice a year, at the beginning and at the end of the season. The best time of application is close to sunset. Best results can be obtained when apply it close to full moon days.

BD-501

4g of BD 501 has to be mixed in 25-30 lit water/ha by whirling with hand for one hour. It should be carefully filtered immediately after stirring and foliar sprayed as fine mist in early morning hours using knapsack sprayer. First dose at 3-4 leaf stage followed by two more times at 30 days interval.

BD 502 – BD 507 (Biodynamic Compost preparation)

2 g per 502 - 506 preparation and 5 ml valerian extract are required for heap of 5 – 10 m x 1.5 – 2 m x

1.5 m. Holes of 50 cm deep should be made into the compost heap by sharpened wooden stick diagonally at regular intervals of 0.5 to 1 m in small compost piles and 1.5 to 2.5 m in long heaps or windrows. The holes can be made either as staggered on the sides of the compost heap or on the top along the compost pile.

BD 508

Before spraying, the horse tail tea can be filtered and diluted with water at 1:9 ratio and stirred for 20 minutes before spraying. For application knapsack/backpack sprayers are suitable; for larger areas spraying is carried out with tractor mounted sprayers. Spraying on three consecutive days is recommended. Furthermore, as a preventive measure Equisetum tea can be sprayed on vulnerable crops in the early stages of growth.

Uses of biodynamic preparations

BD 500 and BD 501 are applied as a foliar spray to stimulate and regulate the plant growth. The next six preparations, BD 502 to 507, are used in making compost. BD 508 is used as foliar spray to suppress fungal diseases in plants.

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