

## **Biodynamic Farming © 1/4/99**

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The biodynamic movement originated from a group of eight lectures given by Rudolf Steiner in Poland in 1924. Rudolf Steiner was a Christian seer who originated the anthroposophical society. He is the originator of the Waldorf educational system and anthroposophical medicine. Farmers in the anthroposophical society asked him to address agricultural problems of their time. There were problems with the decline of soil fertility and farm viability even at this time, prior to the huge use of chemicals and poor farm management which has ensued since then. They were concerned about degeneration of seed strains in many cultivated plants. Crops could not be grown in the same fields for as many years as they had grown previously. There was an increase in animal disease, with sterility and foot-and-mouth disease amongst other problems. In the lectures, Steiner gave answers which nurtured sustainability of farms through health of the whole farm organism. He requested farmers test his ideas rather than take them as gospel truth. Farmers have been using his methods ever since, getting wonderful results and adding to the biodynamic wealth of information.

Biodynamic farming is more than a body of information, it is a spiritual attitude towards all life. In biodynamic farming the farmer is considered a spiritual caretaker of the land. The farmer's job is to maintain a healthy organism through education, careful planning, spiritual guidance and thoughtful activity. She learns to become an intricate part of a larger organism. The farm becomes a holy place where daily activity takes place with reverence and love. All the beings on the farm depend on each other for their continued existence. An intricate web is formed. The farmer has direct experience of the rhythms of the seasons and intimate communication with the smallest of organisms unseen in the soil to the largest of organisms, such as the farm itself. There is a recognition of the interdependence of all the organisms which make up the farm.

A biodynamic farm strives to be a self reliant organism. Manuring materials are produced on the farm via animal manures and green manuring. Composting is an integral part of the farm. Compost is enlivened with the use of biodynamic preparations from animal and plant substances which have undergone fermentation processes. Other biodynamic preparations are applied by spraying them directly on the soil or the plants themselves. These preparations support the life of the soil or support the plants ability to draw what it needs from the soil or from the sun and the rest of the cosmos. The biodynamic methods support the vitality of the farm organism as a whole. The emphasis is on quality of life and the health of the plants and animals. Whereas the main interest on most farms is on quantity, the main emphasis of a biodynamic farm is on the increased flavor, nutrition and vitality of the food as well as the enhanced life experience for all entities involved.

In biodynamic farming a plant can not be diseased by itself. If there is a problem with a plant, there is something wrong with the environment. The environment of the plant is nourished so that it can sustain a healthy plant.

Biodynamic growth of healthy plants and animals supports the vitality of the human beings who consume these organisms. Intake of these essential life forces and the harmonious biodynamic lifestyle nourishes human beings, allowing them to live a rewarding life of equanimity.

Biodynamic preparations are used to rectify the chronic and symptomatic imbalances of our time. Small potentized amounts are used, similar to homeopathy. Over time the preps in conjunction with respect for nature and good farming practices, bring the environment into harmony creating a healthy farm organism.

In Germany and Sweden experiments have compared vegetables grown with biodynamic methods and other modern day methods. The Biodynamic vegetables tend to have higher vitamin levels, higher levels of true proteins, and longer storage times. In European studies Biodynamic farms show increases in soil fertility over time. There has been a lot of research comparing biodynamics with other farming systems. Unfortunately many of them are not in English. In 1995 The American Journal of Agriculture published a comparative study of Biodynamic farming and other farming practices from English publications. This review was compiled by John Reganold, a crop and soil science researcher of the University of Washington (USA). It is called *Soil Quality and Profitability of Bio-Dynamic and Conventional Farming Systems; In Review.*, Volume 10, number 1, 1995. This research review finds Biodynamic methods to have higher organic matter, microbial activity, enzyme activity, earthworm channels, earthworms and total nitrogen than the topsoil of chemically fertilized plots and control plots. Research has also shown higher nitrogen rates, organic matter, enzyme activity, microbial biomass and total nitrogen in biodynamic plots compared with organic plots. Besides better soil found on biodynamic farms the studies showed that biodynamic farms had lower crop yields, but equal or greater net returns than their conventional counterparts. Lower crop yields were thought to possibly be due to choice of seed strains while increased returns were due to greater market worth of the Demeter (biodynamic certifying agency) certified products. The emphasis in bio-dynamic farming is on quality, not on quantity.

## PREPARATIONS EXPLAINED

Some of the preparations use cow, deer or elk organs as part of their processing. Some people have asked if there are alternatives to using animal organs in these preparations. Perhaps, but I don't know of any. You may find it important to know that the deer and elk bladders in the Oregon Biodynamic group are harvested by a butcher who collects them for our group when someone brings an animal to him to butcher. The cow parts are harvested each year from one of the cows, which are butchered on a biodynamic group member's farm. We are using the parts of the animals no one generally makes use of. Animals are not dying specifically for this one purpose. Our group makes the preparations together. The preps are sufficient in number for our members as well as other people in our area who purchase them. The preparations are used in minute amounts just like homeopathic preparations.

### #500

**Horn manure - #500** is applied in the autumn and spring as well as on transplants. 500 enhances root growth. It promotes root activity. It specifically stimulates soil micro-life and increases beneficial bacterial growth. It regulates calcium and nitrogen content. 500 helps release trace elements and stimulates germination of seeds. It is diluted in water, potentized, sprayed on the ground prior to planting, in seed beds and used as a root dip for transplants. It consists of cow manure packed into cow horns and buried around Michaelmas (September 29). It remains in the ground until spring. It is dug out between Easter and Ascension (Spring Solstice). In Oregon it is dug out as late as possible.

For one acre use one 5 gallon pale of water filled 2/3 full of water, add prep, stir for one hour. (see stirring directions) The 500 can be sprayed by dipping a whisk broom into the prep water and shaking the prep onto the soil. The prep must touch bare ground. 500 is best applied in the late afternoon or early evening. It should be applied on slightly moist ground and not in direct sun. It should not be applied before a heavy rain.

### **#501**

**501** is used for above the ground growth, for the flowering and ripening processes. It enhances light metabolism of the plant. It stimulates photosynthesis and formation of chlorophyll. It influences color, aroma, flavor and keeping-quality of crops. 501 is made from very finely ground quartz. The moistened quartz is packed into a new fairly recently removed cow horn. This is buried in the ground from about mid June until the end of October or the beginning of November. For one acre use one 5 gallon pale of water filled 2/3 full of water, add prep, stir for one hour. (see stirring directions) Put into a spraying apparatus used only for biodynamic preps. Spray in a very fine mist onto foliage or fruit, in the early morning, not immediately before rain. This spray can burn tender new leaves if sprayed late in the morning on a bright day. Don't spray on transplants unless the root system is well developed and the plant is putting out vigorous new growth. This spray can cause lettuce or spinach to bolt immediately if they are close to bolting. Only spray early in their cycle.

### **COMPOST PREPS #502- #507**

#### **#502**

**502** assists plants in attracting trace elements in extremely dilute quantities for their best nutrition. 502 is made from Achillea millefolium (Yarrow blossoms) collected in June before St. John's Day. The flowers are picked prior to pollination or at least while they are fully vibrant, prior to making seeds. They are used fresh or dried and reconstituted later. An empty stag or elk bladder is filled with these flowers. The bladder is hung in the air and sun until Michaelmas when it is buried. It is dug up between Easter and Ascension.  
**(Helps assimilation of minerals as a bio prep and as a medicinal herb ingested by humans.)**

#### **#503**

**503** stabilizes nitrogen within the compost and increases soil life so as to stimulate plant growth. 503 is made from reconstituted Matricaria recutita (German chamomile) flowers which are stuffed inside the intestine of a cow, bull, steer or heifer. The sausages are buried at Michaelmas and dug up between Easter and Ascension.

#### **#504**

**504** or Urtica spp. (Stinging nettles) stimulate soil health, providing plants with the individual nutritional components needed. It enlivens the soil. 504 is made with Nettles. The whole top of the plant is collected in flower in June, before St. John's Day if possible. They are bundled together and placed into a hole lined with peat. Nettles are also used as a fermented tea. This is sprayed on sick or stressed plants as a liquid manure.

#### **#505**

**505** provides healing qualities to combat harmful plant diseases. 505 is made from Quercus spp. (Oak bark) around Michaelmas. The bark is gathered from a living tree. It can't be mossy or flaky. You can't go too deep into the red bark. The bark is ground, moistened and inserted into the brain cavity of a skull from a large domestic animal. Cows are usually used. All the holes are sealed with bones, wooden pegs or dowels. The skull is placed on the side of a small stream, or in a damp, marshy place where water will trickle through. The prep is removed in the spring.

### **#506**

**506** stimulates the relation between silica and potassium so silica can attract cosmic forces to the soil. 506 is made from unpollinated reconstituted Dandelion flowers. The flowers are wrapped in the fresh peritoneum of a bovine animal. It is buried at Michaelmas and dug up between Easter and Ascension.

### **#507**

**507** is used the evening before a frost is expected. 507 stimulates compost so the phosphorus content of the compost can be properly used by the plant.

507 is made from *Valeriana officinalis* (Valerian) flowers which are ground up immediately after harvesting. The pulp is squeezed through cheesecloth and the juice put into amber bottles with corks.

### **#508**

**508** is used to prevent fungal growth. It is helpful on seedlings to prevent damping off. 508 is made with *Equisetum arvense* (Horsetail). The sterile shoots are harvested in May through June prior to the silica losing its organic bond and becoming crystallized. The plant is dried and used as a tea.

## **Bio-Dynamic Compost**

**Making Compost: 502-507 preps** One set of preps 502-507 is sufficient for a pile of 1-10 tons (one cubic yard of material). If you make a smaller compost pile, you still need to use the full set. The compost must sit on the ground. If you make layers, make them thin, about 2". Use coarse stalky material on the bottom layer to trap pockets of air in the pile. Sprinkle small amounts of soil over each layer. The layers should consist of weeds or garden plants, leaves, animal manure and bedding, kitchen food and soil. These are used in alternate layers with soil spread between layers and on top. If limestone is added it should go in with the leaves. If adding rock phosphate, don't add it with the limestone. To inoculate the pile with biodynamic preps, use the following method: Use a broom handle or shovel handle to make 5 holes in the compost pile. They should be as far apart from each other as possible and the hole should reach half way to the ground or 1.5 feet from the top of the pile. Each of the 5 preps get put into their own hole. Add preps 502, 503, 504, 505 and 506 into their separate holes. Cover the opening to the holes with the outer layer of compost and soil. Take preparation 507 and dilute it in water (the water must be spring water, river water, rain water or if necessary tap water which has sat out for 2-3 days to let the chlorine evaporate), Use about 32 -64 oz of water in a quart jar or 1/2 gallon jar. Stir the mixture with a wooden stick or spoon. Stir for 15 minutes (See stirring directions). When the mixture is finished, make a 6th hole in the center of the pile and pour 50% of the mixture into this hole, sprinkle the rest of the mixture over the pile. 507 helps all the rest of the preps work together in a harmonious way. Once the pile is built, covered with earth or straw and inoculated with preps, simply leave it. It will be ready in 3-9 months depending on moisture and heat.

### **Stirring Preps**

Use a stick which makes a good vortex in your pail of water. Also use a stick that is comfortable to hold. You need to use the stick to make a vortex all the way to the bottom of the pail. Tree prunings can be saved to use for these sticks. Get in a comfortable stirring position, start by making a vortex in one direction. As soon as it is well formed, quickly change directions creating

a vortex in the opposite direction. The water will become chaotic, then a new vortex will form in the opposite direction. Once again reverse directions creating a vortex in the other direction. This alternation between a stable vortex and chaos between the two directions is very important.

### **Storage of Preps**

Fill a cardboard or wooden box with peat and bury each prep so it is completely covered and surrounded by peat. The box must have a lid on the top of it. Preps can be put into small glass jars with cork lids or earthenware containers. 500, 502-507 should be stored in the peat container. 501 should be stored in a glass jar with a cork cover or paper rubber banded over the top and left in the sunlight. Avoid storing the preps in metal or near electric wires or active machinery.

### **Timing is Everything**

Biodynamic preps will enliven and enhance the cosmic rhythms which are already at play on any given day. This can be beneficial or detrimental. For this reason it is necessary to use them in conjunction with a guide of cosmic forces such as the Stella Natura. This is a publication created by Kimberton Hills. It is a biodynamic agricultural calendar. Sowing seeds, transplanting, harvesting, thinning, pruning, weeding and other activities are all planned according to weather conditions, the plants needs and planetary forces or cosmic forces. This calendar gives us the play by play movements of the cosmos each day and break it down as to how it effects farming. It is well known by farmers that trees pruned in the full of the moon have more chance of losing large amounts of sap. It is also known the full moon is the best time for germination of seeds. These are some commonly known facts of farming due to the celestial influences of the moon and its effect upon earth's organisms. There are many other relationships between the celestial planets, each other and how their physical movements effect farming on our planet. The more you learn these rhythms and use this knowledge in your farming, the better results you get. If you don't know much about the movement of the planets and their effects you will want to purchase a book such as Astrological Gardening to use in conjunction with the calendar.

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#### **Oregon address for preparations:**

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#### **National address for preparations and cow horns:**

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<http://www.jpibiodynamics.org/>

**Oregon BD Group:** <http://oregonbd.org>

#### **Suggested Reading:**

1. Grasp The Nettle by Peter Proctor

2. BIODYNAMICS: Farming and Gardening in the 21st Century - a journal available from Josephine Porter Institute for Applied Bio-Dynamics
3. Agriculture by Rudolf Steiner
4. Herbal Renaissance by Steven Foster
5. Herbal Emissaries by Steven Foster
6. The Biodynamic Farm by Herbert Koepf
7. Bio-Dynamic Agriculture by Koepf, Pettersson, Schaumann
8. The Potential of Herbs as a Cash Crop by Richard Miller
9. Dirt, the Ecstatic Skin of the Earth by William Logan
10. The Earth manual - How to Work on Wild Land Without Taming It by Malcolm Margolin
11. Astrological Gardening by Louise Riotte
12. Stella Natura by Kimberton Hills – purchase via Biodynamic Farming and Gardening Ass.