



Good Practice Guidance for the Production of Biodynamic Preparations

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Demeter UK – based on work done by Demeter International

1. Introduction

Biodynamic agriculture is developing worldwide and since the biodynamic preparations are at the heart of the method, it's necessary to define their production. Demeter, as the trademark for certified biodynamic production can support clarification of the methods involved, and be active in addressing requests for interpretation on the international level.

This document is designed as a collection of good practice for making biodynamic preparations. The practices, developed over many years of experience are listed here. This document is neither a standard, nor a comprehensive inventory of all Biodynamic practises that exist (see below for a short bibliography).

This document can also support Demeter certifiers, inspectors and advisors, in addition it may be useful for anyone involved in the production of high-quality biodynamic preparations.

2. Principles and scope of application

Biodynamic preparations to be sprayed or added to compost, produced from natural substances and products originating from organic or Biodynamic agriculture, are the natural means used, in the smallest of doses, to stimulate soil life, plant growth and quality, and animal health. They regulate life processes, that is to say, they support the self-regulation of biological systems. They constitute an irreplaceable, fundamental aspect of biodynamic agriculture.

Preparation-makers (companies, groups, farmers) must have no links to agrochemicals or companies employing techniques contrary to the development of ecological and autonomous agriculture.

The methods of producing preparations as described in this document originate in the *Agriculture Course* of Rudolf Steiner in 1924 and from the experience of farmers ever since. Research over the last 100 years has led to other interpretation of these principles, such as vegetarian preparations, wood preparations, and other new techniques. These are not included in this document but are seen as interesting areas of current research.

3. Practical guidelines

The following contains useful guidelines, which although are not obligatory again represent good practice.

More practical information for the production of biodynamic preparations can be found, for instance:

- the *Practical Guide to Biodynamic Agriculture* disseminated by the FiBL and the Association for Biodynamic Agriculture of Switzerland
- The Biodynamic preparations in context: Individual approaches to preparation work by Section for Agriculture of Goetheanum.

It is important that preparation-makers receive regular **training** and actively work to acquire the knowledge necessary for producing preparations.

Preparations inserted in the soil can be **protected** from **predators** using natural materials (pottery and unglazed earthenware lids, stones, slate, wood, etc.). In the case of the 502 Yarrow preparation, it is recommended that the bladders be protected by a wire mesh cage while they are being exposed to air and light (see 5.4). In the case of the Nettle preparation, it is better to place the nettles inside a container before burying them. This container must be made from natural materials (for instance from unglazed earthenware).

Care should be taken to choose **fertile, humus-rich soil** when burying the preparations. Biodynamic preparations must be buried on a biodynamic farm or on place receiving biodynamic preparations regularly.

When **harvesting**, special attention should be paid to ensuring that the plants are in perfect condition: that they show no signs of disease or dead vegetative parts, of rot, etc. For

maximum quality, the drying process must be carried out in the gentlest possible manner, in the most favourable conditions, and tailored to each plant. Optimal conditions of hygiene and cleanliness must be observed throughout the whole process.

Whenever possible, plants should be harvested and preparations produced on **favourable** days regarding cosmic constellations.

4. Prerequisites

Fresh or dried animal sheaths are to be used. If the sheaths used are not fresh, they must be cleaned in water and then dried. They must show no visible signs of deterioration as a result of their conditions of storage (mould, rot, presence of parasites, etc.). The freezing of sheaths or exposed to extreme climatic conditions is not permitted.

In the case of the Oak bark preparation, the skulls must be stripped of all flesh (for example, through microbial maceration in a closed compost silo filled with a mixture of sawdust and compost) before being filled with oak bark.

The locations of sites used in the underground maturation of preparations should be marked carefully and protected from wild and domestic animals. Care must be taken to avoid environmental pollution. The locations should also be recorded on a plan, which is available in the documentation associated with the preparation production.

The various stages in the production of preparations must not be undertaken on unfavourable days regarding cosmic constellations.

All elements in contact with the preparations while they are maturing in the soil must be of natural origin.

Preparations should not be distributed (e.g. dug out) while they are maturing (between the date they are placed in the soil and the date they are removed).

Preparation makers must respect the legislation in force, especially when it comes to the use of animal by-products.

5. Traceability and monitoring

Details of the production process should be kept so that the following information can be produced at any time:

- The origin of the animal sheaths (slaughterhouse, animal's breed and origin, quantity), the plants, the manure, the quartz
- The site where the preparation is matured (its location indicated on a map)
- The dates of each stage in the production of preparations (insertion in and removal from the soil, etc.)

A sample should be kept of each plant used.

6. Advice for the production and storage of biodynamic preparations

Recommended practice represents the aim or ideal.

Minimum qualities indicates a minimal approach.

Not recommended practice could interfere with the effective production of preparations.

	Recommended practice (1)	Minimum qualities (2)	Not recommended (3)
6.1 Horns			
	Horns of cows that have already calved.	Horns of cows that have already calved.	Horns of bulls, oxen and heifers
	Horns from certified regional, biodynamic livestock production.	Horns from livestock originating from certified organic or extensive agriculture (see 4.1.3 of Demeter Production Standards).	
6.2 Horn manure preparation (500)			
Manure	Manure from Demeter farms.	Manure from organic agriculture.	Manure from conventional agriculture.
	Manure from cows with horns which graze on grass.	Manure from cows with horns which graze on grass and/or hay.	Manure from animals fed with silage.
Production	<p>The Horns filled with fresh manure are buried in fertile, aerated and well-drained soil.</p> <p>The top layer of the horn must be covered with at least 20 cm of soil.</p> <p>Insert in the soil around Autumn (adapted to climate zone).</p> <p>Dig out in Spring (adapted to climate zone)</p> <p>Once the manure has been emptied out, the horns are to be stored in a dry place near the stable.</p>	<p>The Horns filled with fresh manure are buried in fertile, aerated and well-drained soil.</p> <p>The top layer of the horn must be covered with at least 20 cm of soil.</p> <p>Insert in the soil around Autumn (adapted to climate zone).</p> <p>Dig out in Spring (adapted to climate zone)</p>	<p>Filled in horns must not be buried in conventional farms or garden or demonstration centres</p> <p>The emptied horns must not be exposed to extreme heat or cold</p>

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
6.3 Horn Silica preparation (501)			
Silica	Silica from translucent rock crystal (quartz) found preferably locally	Silica from rock crystal (quartz) or feldspar	Silica containing impurities (for example iron filings)
	Silica is finely ground (grain size of a few microns) and mixed with water until a colloidal state is obtained.		
Production	The silica is mixed with rainwater or spring water until a thick paste is obtained. The horns, filled with this paste, are buried in a fertile, aerated and well-drained soil. The horns should not touch each other. The top layer of the horn should be covered with at least 20 cm of soil. Insert in the soil in Spring (adapted to climate zone). Dig out in Autumn (adapted to climate zone)	The silica is mixed with rainwater or spring water until a thick paste is obtained. The horns, filled with this paste, are buried in a fertile, aerated and well-drained soil. The top layer of the horn should be covered with at least 20 cm of soil. Insert in the soil in Spring (adapted to climate zone). Dig out in Autumn (adapted to climate zone)	
6.4 Yarrow preparation (502)			
Plant	Yarrow flowers (<i>Achillea millefolium</i>).	Yarrow flowers (<i>Achillea millefolium</i>).	Conventionally grown plants.
	Biodynamically grown plants.	Organically grown or wild harvested (avoid pollution) plants.	
Sheath	Bladder of wild European stag (<i>Cervus elaphus</i>)	Bladder of wild local stag (<i>Cervus elaphus</i>)	
Production	The bladder is filled with yarrow flowers in early Summer (adapted to climate zone), and is exposed to the air and light until it is inserted into the soil. Insert into the soil in Autumn (adapted to climate zone), placing it 20 to 30 cm deep in fertile, aerated and well-drained soil. Dig out in Spring (adapted to climate zone).		

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
6.5 Camomile preparation (503)			
Plant	Camomile flowers (<i>Matricaria chamomilla</i> L. or <i>Chamomilla recutita</i>).	Camomile flowers (<i>Matricaria chamomilla</i> L. or <i>Chamomilla recutita</i>).	
	Biodynamically grown plants.	Organically grown or wild harvested plants, (avoiding polluted areas).	Conventionally grown plants.
Sheath	Bovine female's small intestines (refer to national regulation on by-products for use).		
	Originating from biodynamic farms.	Originating from organic agriculture.	Originating from conventional agricultural methods.
Production	The intestines, filled with flowers, are inserted 10 to 20 cm deep in fertile, aerated and well-drained soil. Insert into the soil in Autumn (adapted to climate zone). Dig out in Spring (adapted to climate zone)		
6.6 Nettle preparation (504)			
Plant	Leaves and uppermost part of the stinging nettle (<i>urtica dioica</i>) at early bloom.	Leaves and uppermost part of the stinging nettle (<i>urtica dioica</i>) at early bloom.	
	Biodynamically grown plants.	Organically grown or wild harvested plants, avoiding polluted areas.	Conventionally grown plants.
Production	Insert in the soil in Autumn for a full year. Bury 20 to 30 cm deep in fertile, aerated and well-drained soil.	Insert in the soil in Autumn for a full year. Bury 20 to 30 cm deep in fertile, aerated and well-drained soil.	

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
6.7 Oak bark preparation (505)			
Plant	The outermost layer (grey colour) of the bark of an oak tree (<i>Quercus robur</i>), finely ground. The term <i>Quercus robur</i> (according to Linné) comprises the subspecies: the English oak, the Downy oak and hybrids of these two species.	Local species similar as <i>Quercus Robur</i> can used if <i>Quercus Robur</i> is not locally available.	
	Wild harvested plants, avoiding polluted areas		
Skull	Skull of an adult domestic animal (refer to national regulation on by-products for use). The skull must be used only once in the production of the preparation.	Skull of a domestic animal (refer to national regulation on by-products for use).	
	A fresh skull originating from a biodynamic farm.	Originating from organic or extensive agriculture (see Demeter Production Standards).	Originating from intensive agriculture.
Production	The skull, filled with oak bark, is buried in a vessel of plant origin, in a place where rainwater and snowmelt water regularly flow. Insert into the soil in Autumn (adapted to climate zone). Dig out in Spring (adapted to climate zone)	The skull, filled with oak bark, is buried in a vessel of plant origin, in a place where best quality water regularly flows. Insert into the soil in Autumn (adapted to climate zone). Dig out in Spring (adapted to climate zone)	

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
6.8 Dandelion preparation (506)			
Plant	Dandelion flowers (<i>Taraxacum officinale</i>).	Dandelion flowers (<i>Taraxacum officinale</i>).	
	Biodynamically grown plants.	Organically grown or wild harvested plants, avoiding polluted areas.	Conventionally grown plants.
Sheath	Peritoneum or mesentery of bovine animals, sheep or goats (refer to national regulation on by-products for use).		
	Originating from a biodynamic farm.	Originating from organic agriculture.	Originating from conventional agriculture.
Production	The flower-filled sheath is buried 20 to 30 cm deep in fertile, aerated and well-drained soil. Insert into the soil in Autumn (adapted to climate zone). Dig out in Spring (adapted to climate zone)		
6.9 Valerian preparation (507)			
Plant	Fresh Valerian flowers (<i>Valeriana officinalis</i>)	Fresh Valerian flowers (<i>Valeriana officinalis</i>) or local wild species.	
	Biodynamically grown plants.	Organically grown or wild harvested plants, avoiding polluted areas.	Conventionally grown plants.
Production	There are two methods to obtain the preparation: <ul style="list-style-type: none"> - By pressing whole flowers. - By maceration of flower petals in rainwater or spring water. 		

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
5.10 Prepared Horn manure (500 P)			
Horn manure as prepared by Alex Podolinsky			
Horn manure	Horn manure (500) and biodynamic preparations intended for compost (502 to 507) produced according to the present standards.		
Production	Three months after being removed from the soil, the horn manure, placed in its storage conditions, is completed with the preparations intended for compost (for 5 to 7 kg of horn manure: 2 g of each preparation 502 to 506 and 5ml of 507). The Valerian preparation (507) is dynamised for 20 minutes. Preparations 502 to 506 as well as half the dynamised 507 are introduced into the horn manure, the other half of the dynamised 507 is sprayed on the whole of the mixture. The preparation can be used after three months.		
The two preparations below, cowpat pit and barrel compost, are examples. Many others exist in the world.			
5.11 Cowpat pit as prepared by Maria Thun			
Manure	Manure from biodynamic farms	Manure from organic agriculture.	Manure from conventional agricultural methods.
	Manure from cows with horns which graze on grass and/or hay.		Manure from animals fed with silage.
Biodynamic preparations	Biodynamic preparations intended for compost (502 to 507) produced according to the present standards.		
Production	In an open-bottomed wooden barrel (buried), in a pit panelled with birch logs (or other white wood), or in a pit lined with clay bricks.		
	Mix 50 kg of cow manure with 100 g of finely ground eggshells (or sea shells) and 500 g to 1 kg of basalt powder. Mix for an hour, and place half the mixture in the barrel or pit. Add 2 g of each solid compost preparation (502 to 506). Spray 5ml of the Valerian preparation (507), dynamised for 20 minutes, on it. After 4 weeks, mix all the ingredients together again for a few minutes and add the biodynamic preparations a second time, following the same procedure as before. The preparation is ready for use when a humus consistency is obtained		

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
5.12 Barrel compost with Nettle preparation	As prepared by Walter GOLDSTEIN		
Manure	Manure from Demeter farms	Manure from organic agriculture.	Manure from conventional agriculture.
	Manure from cows with horns which graze on grass and/or hay.		Manure from animals fed with silage.
Biodynamic preparations	Biodynamic preparations intended for compost (502 to 507) produced according to the present standards.		
Plants	Fresh stinging nettles (<i>urtica dioica</i>) at early bloom.	Fresh stinging nettles (<i>urtica dioica</i>) at early bloom.	
	Biodynamically grown plants.	Organically grown or wild harvested plants.	Conventionally grown plants.
Production	<p>Chop the nettles into pieces smaller than 2 cm. Quantity: 0.5 to 2% of the weight of the manure. The nettles are mixed with cow manure for 10 minutes. This mixture is placed in an open-bottomed wooden barrel (buried), in a pit panelled with birch logs (or other white wood), or in a pit lined with clay bricks. The biodynamic preparations are added to it in the same way as for Maria Thun's manure compost, but using 0.2 g of each solid preparation (502 to 506) per kg of manure. It is possible to add some basalt powder (500 g for 50 kg of manure). The preparation is ready for use when a humus consistency is obtained.</p>		

	Recommended practices (1)	Minimum qualities (2)	Not recommended (3)
5.13 Storage of horn silica (501)			
	The horn silica must be stored in a transparent glass container not hermetically sealed, and placed in the morning sunlight. Keep away from all forms of pollution: proximity to chemical products, electric and electromagnetic fields, WiFi signals, noise pollution, etc.	The horn silica must be stored in a transparent glass container not hermetically sealed, and placed in the morning sunlight. There must be no source of pollution in the room used for storing the preparations.	
5.14 Storage of other preparations			
Concerns manure horn (500), prepared manure horn (500P), Manure compost and compost preparations (502 to 507).	The following materials are recommended for use as storage containers: glass, enamelled steel, porcelain, stoneware, copper	Earthenware like flowerpots	Synthetic materials (plastic, etc.)
	Storage containers are to be protected from heat sources, frost and light, in a container with at least 6 cm of dry peat or coconut fibre for insulation on all sides including top and bottom. The peat must not contaminate the preparations or come into direct contact with them.		
	Keep away from all forms of pollution: proximity to chemical products, electric and electromagnetic fields, WiFi signals, noise pollution, smoke, etc.	There must be no source of pollution in the room used for storing the preparations.	