

## Quality assurance for the production of the biodynamic preparations

### 1. General aspects

The biodynamic compost and spray preparations (=“preparations”) created out of natural and organic substances are used in minute doses to enhance soil life, plant growth and quality and animal health. They act as a kind of “bio regulator”, forcing the self regulation of biological systems, e.g. the farm’s whole biological cycle (1).

They are essential to biodynamic agriculture and their use is a recognised requirement of the Demeter Standards.

The production of preparations takes place on the farm. The method of production involves taking certain plant materials (e.g. chamomile flowers, grated oak bark and dandelion flowers), cow manure or quartz meal, placing them in selected animal organ parts and fermenting them in the soil for certain period of time, usually half a year. After the preparation has been dug out remaining residues of animal organs are disposed of according to the current regulatory requirements.

Application rates for the field sprays are 300g/ha (Horn manure) and 5g/ha (Horn silica) and 1-2 cm<sup>3</sup> each of the compost preparations per 10 m<sup>3</sup> of compost or deep litter manure/slurry.

For full details on the application and use of the biodynamic preparations see (2)(3).

### 2. Basic principles for making the preparations

The biodynamic preparations will be produced under the use of natural processes (e. g. winter soil rest and summer soil life) in the farm on which they are to be applied. All the materials used for making the preparations should originate from this farm as far as possible.

Living biological processes are essential during production. The organs used are chosen for the unique properties they possess as a result of their former function within the animal organism. Their function is to concentrate the constructive and formative living forces into the substances of the preparations.

The animal organs used need to be of food quality standard. Disinfectants are deleterious to the process.

Produced in this special way, the preparations develop a strong yet subtle power whose effect may be compared to that of homeopathic remedies.

### 3. The materials required for the production of preparations

The following materials are used in the production of the biodynamic preparations and the estimated quantities of organ material required per acre.

Preparation	Material	Animal Organ	Quantity/year
<i>Field Sprays</i>			
Horn manure	Cow manure	Cow horn	1 Horn / ha (*1)
Horn silica	Quartz meal	Cow horn	1 Horn / 25 ha
<i>Compost Preparations:</i>			
Chamomile	Flowers	Intestine (2*)	30 cm / 100 ha
Oak Bark	Bark	Skull (3*)	1 skull / 300 ha

Dandelion	Flowers	Peritoneum (4*)	30 x 30 cm / 100 ha
<i>Not affected by Regulation (EC) 1774/2002:</i>			
Yarrow	Flowers	Stag's bladder (5*)	1 bladder / 250 ha
Stinging nettle	whole plant	none	
Valerian	Flower extract	none	

Annotation: (1\*): if 5-time used; (2\*): Bovine intestine, at present imported (because of TSE); (3\*): Skull (only bone) from cows (< 1 year old), pigs or horses; (4\*): Bovine peritoneum; (5\*): Stag's Bladder (not originated from North America)

#### 4. The origin and treatment of the animal organ material

The required animal organ material should be taken from fully certified organic animals originating from the farm wherever possible. The origin of other horns used in the production of Horn Manure is possible too.

Currently bovine intestines can only be used if imported from countries designated as BSE free.

All animal organs (except of stag's bladder and horns) are material of category 3 qualified for food according to Regulation (EC) 1774/2002.

The organs are used either fresh or dried.

The skull is before filling with oak bark placed in a closed container filled with saw dust and left for a period of time during which it is cleaned of any fleshy remains by means of a process of microbial maceration. After the skull is removed waste material is disposed of in accordance with current regulatory requirements.

During the production process, the filled organ material is carefully protected from disturbance by wild animals (through the use of unglazed pots, careful fencing etc.)

After the production of preparations is completed all remaining animal residues are disposed of in the required way.

#### 5. Record keeping

Careful records are kept of the entire production process so that checks can be made of the following:

- The origin of the organ material (abattoir, type and origin of the animal, quantities)
- Site where preparations are being made (sketch of site)
- Date of insertion in the soil and of its extraction
- Confirmation of the disposal of any remains.

#### 6. Control

Records will be checked as part of regular Demeter inspection.

#### 7. Risk assessment

The application of the biodynamic preparations presents no additional risk, because

- the organ material used is of food standard quality (skull, bovine intestine, peritoneum) or permitted fertiliser (horn),
- Remaining material is removed and disposed of when production is complete,

- Biological stabilisation and the neutralisation of pathogens takes place during the half-year fermentation period,
- The amounts of prepared substance applied is extremely low (very few grams per acre),
  
- The compost preparations are applied to the manure and compost and not directly on the plants.

Considering the extremely small quantities used and the natural micro-biological breakdown processes involved, the production and application of these preparations is virtually risk free.

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- (2) Wistinghausen, C.v., W. Scheibe, E.v. Wistinghausen, U.J. König (1998): The biodynamic spray and compost preparations – production methods. Booklet No. 1. Stroud, 1. Edition., Publ. Biodynamic Agricultural Association UK
- (3) Wistinghausen, C.v., W. Scheibe, H. Heilmann, E.v. Wistinghausen, U.J. König (1997): Anleitung zur Anwendung der biologisch-dynamischen Präparate. Arbeitsheft Nr. 2. Stuttgart, 2. Aufl.