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**DEMETER ASSOCIATION, INC.**  
**BIODYNAMIC® FARM STANDARD**

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*updated 3/18/10*

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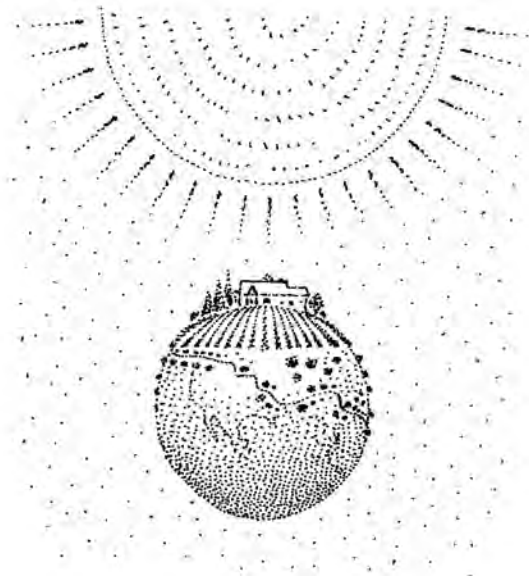
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## INTRODUCTION



***"Now a farm comes closest to its own essence when it can be conceived of as a kind of independent individuality, a self-contained entity. In reality, every farm ought to aspire to this state of being a self-contained individuality."***

Rudolf Steiner

### **Biodynamic Principles**

A foundation of the Biodynamic method of farming is a Goethean observation of nature and its application to a farming system. This encourages a view of nature as an interconnected whole, a totality, an organism endowed with archetypal rhythm.

Biodynamic farming involves managing a farm utilizing the principles of a living organism. A concise model of a living organism ideal would be a wilderness forest. In such a system there is a high degree of self-sufficiency in all realms of biological survival. Fertility and feed arise out of the recycling of the organic material the system generates. Avoidance of pest species is based on biological vigor and its intrinsic biological and genetic diversity. Water is efficiently cycled through the system.

While agriculture takes nature to a state that is one step removed from wilderness, the wisdom of the farmer that guides its course can reflect these ancient principles of sustainability. The view of the farm organism extends beyond the fence line and includes the tangible and intangible forces that work through it. Examples include the climate, inherent wildlife of the earth (above and below the ground), the light and warmth from the sun and the more distant astronomical influences. Biodynamic agriculture attempts to harmonize all of these factors within a holistic, living farm system. The food that results is very pure and true to its essence and provides deeply penetrating nutrition that is essential to an increasingly unhealthy human population.

## History

This special body of knowledge is derived from Dr. Rudolf Steiner's "Agricultural Course", held in 1924, when a group of European farmers approached Steiner (noted scientist, philosopher, and founder of the Waldorf School) after noticing a rapid decline in seed fertility, crop vitality and animal health. In response, Steiner held a series of lectures that presented the farm as a living organism: self-contained and self-sustaining, responsible for creating and maintaining its individual health and vitality. This was in sharp contrast to the view of the farm as factory, boosting production by importing chemical pesticides and synthetic fertilizers, that was largely responsible for the observations of depleted vitality noted by the farmers who sought Steiner's guidance. Steiner was one of the first public figures to question the long-term benefits of this manufacturing view of agriculture and to warn of its environmentally destructive practices.

In 1928, following Steiner's lectures, Demeter was formed in Europe to codify his farming principles in the *Demeter Biodynamic® Farm Standard*, and commenced ensuring that it was uniformly applied and monitored through a strict certification process. The *Farm Standard* is historically significant because it dates back to the beginning of the modern sustainable agriculture movement and captures key agronomic principles not comprehensively addressed within any other agriculture certification system.

## Biodynamic Practices

In day-to-day practice the goal is to create a farm system that is minimally dependant on imported materials, and instead meets its needs from the living dynamics of the farm itself. It is the biodiversity of the farm, organized so that the waste of one part of the farm becomes the energy for another, that results in an increase in the farm's capacity for self-renewal and ultimately makes the farm sustainable.

This requires that, as much as possible, a farm be regenerative rather than degenerative. Consider carefully materials that are imported onto the modern day organic farm. Where do they come from? Often they can be tracked back to a natural resource provided by the earth. Examples include petroleum to move materials around, ancient mineral deposits, by-products of unsustainable agriculture-related industry, and the life of the seas and waterways. An important social value of Biodynamic farming is that it does not depend on the mining of the earth's natural resource base but instead emphasizes contributing to it.

Sections of the *Farm Standard* include necessary elements of the farm organism, soil fertility management, crop protection, greenhouse management, animal welfare, and the use of the preparations. Biological diversity within the farm landscape is emphasized, and requires that a minimum of ten percent of the total farm acreage be set-aside as a biodiversity preserve. That may include but is not limited to forests, wetlands, riparian corridors, and intentionally planted insectaries. Diversity in crop rotation and perennial planting is required: no crop can be planted in the same field for more than two years in succession. Bare tillage year round is prohibited so land needs to maintain adequate green cover.

The *Farm Standard* instructs that the foundation of the fertility system, and strategies for disease, insect, and weed control, must originate from the farm itself. Fertility is generated via the integration of livestock, compost and green manure, nutrient catch crops, and careful crop rotation. Disease and insect control are addressed through botanical species diversity, predator habitat, balanced crop nutrition, and attention to light penetration and airflow. Weed control emphasizes prevention,

including timing of planting, mulching, and identifying and avoiding the spread of invasive weed species.

The use of the preparations is a requirement of the *Farm Standard*. There are nine in all, made from herbs, mineral substances and animal manures, that are utilized in field sprays and compost inoculants applied in minute doses, much like homeopathic remedies are for humans. Timely applications revitalize the soil and stimulate root growth, enhance the development of microorganisms and humus formation, and aid in photosynthetic activity.

Animals are a crucial element of a Biodynamic farm, and in addition to their obvious contribution to a farm's fertility, their care and welfare are given extensive consideration. Housing must allow animals to move freely and protect them from heat, dust, excess humidity, and harmful gasses such as ammonia. Poultry cages are prohibited, every animal must be given a dry, soft and insulated spot where it can lie down and rest, and access to free range forage and the outdoors is required. De-horning, de-beaking, and wing clipping of poultry are prohibited, as is tail cutting of piglets and docking of lambs. Homeopathic remedies in place of vaccines are strongly recommended, and the use of antibiotics is prohibited. If an animal is being raised for the sale of meat, eggs or milk, a minimum of one-half of its feed must come from the farm, and the remainder must be Demeter certified (minimum of 80% of the total ration) or NOP certified organic (no more than 20% of the ration).

### **Relationship to National Organic Program (NOP) Requirements**

Biodynamic farming is free of synthetic pesticides and fertilizers in the same manner as certified organic farming. In order to qualify for Demeter Biodynamic status a farm must first meet the requirements of NOP organic as a base. Demeter also requires a careful examination and eventual reduction of the volume of imported materials necessary to sustain the life of the farm.

### **Environmental Message**

Agricultural land occupies 50 percent of the earth's habitable surface, about 41 percent of U.S. land. In the U.S. food production contributes 18 percent of total greenhouse gas emissions. Concerns of climate change cannot be successfully addressed without addressing agriculture's contribution to it but, conversely, agriculture can be a potent solution.

Because the underlying theme of the Demeter Farm Standard is to generate inputs out of the life of the farm system itself rather than importing them from outside, the heart of a Biodynamic farm's fertility system is the sequestering and recycling of carbon. Crop rotation and integration of animal agriculture also assist in reducing petrochemical inputs compared to conventional agricultural practices. These factors, in addition to Biodynamic farming's focus on improving soil health, water quality and biodiversity, combine to make it one of the highest paradigms of sustainable agriculture. Demeter's vision is to heal the planet through agriculture.

### **Demeter Today**

Demeter International remains the only internationally recognized Biodynamic certifier and consists of a network of individual certification organizations in 45 countries around the world.

Demeter Association, Inc. is the United States' representative of Demeter International. Demeter is a not-for-profit incorporated in 1985 and its mission is to enable people to farm successfully, in accordance with Biodynamic practices and principles. Demeter is the owner of the trademarked terms Demeter®, Biodynamic®, and Demeter-Certified Biodynamic®, and is therefore solely responsible for ensuring that farms and products referred to as “Biodynamic” meet the Demeter Farm and Processing Standards. No agriculturally based product, or farm, may be legally referred to as Biodynamic without having achieved Demeter certification.

For more information about Demeter certification, please refer to Section VI: “Administration”.



## I. AGRONOMIC GUIDELINES



Dark Horse Ranch • Mendocino, CA

### **A. Necessary Elements of the Farm Organism**

#### **1. Biological diversity**

A Demeter certified farm must have a minimum of 10% of its total effective land base- clearly documented in a calculated acreage figure- set aside as a biodiversity reserve. This preserves wildlife diversity, endangered species habitat, and provides an overall reserve of diverse life forms to inoculate and inhabit the farm organism.

Environmentally beneficial grazing [in compliance with Section IE.5] and low impact wild harvest can take place but each situation will be handled on a case-by-case basis. In situations where there is no potential biodiversity reserve occurring naturally, areas will need to be created.

For all botanical species established (natural or planted) at a minimum it needs to be allowed to develop through the flowering stage to be counted towards the 10% . Some examples include insectory plantings, hedgerows, flowering cover crops, perennial plantings along fence lines and roadways, and wildlife corridors.

#### **2. Diversity in crop rotation and perennial planting schemes**

Tillable acreage cannot be planted only to a monoculture. Botanical species diversity needs to be maintained via the crop rotation strategies utilized.

In annual crop rotations a given harvested commodity cannot be planted in the same field for more than 2 years in succession. Close attention needs to be paid to the nutrient export associated with each harvested commodity. The crop should not return to a given field until there has been adequate time to return exported nutrients to the soil in a manner consistent with these standards.

### **3. Vegetative cover**

Bare tillage year round is prohibited. Land base needs to maintain adequate green cover. Soil must be protected from soil erosion and soil structure degradation during periods of the year when it is vulnerable. Adequate crop residue and, at a minimum, volunteer vegetative cover must protect any and all fields of cultivation during these periods (for example winter months, rainy seasons, etc.).

### **4. Generating fertility**

The foundation of the fertility system needs to be based on strategies that emphasize generating fertility from within the life of the farm. When applicable, the following techniques need to be demonstrably utilized to their maximum potential in order for a farm to import allowed fertility materials. There are also limitations on the amount of fertility that can be imported. [See Section I.B]

- Livestock integration
- Green manure
- Legumes/nutrient catch crop rotation
- Biodynamic preparations
- Crop rotation

### **5. Disease and insect control**

The foundation of disease and insect control needs to be based on strategies that emphasize prevention located within the life of the farm itself. When applicable, the following techniques need to be demonstrably utilized to their maximum potential in order for a farm to import pest control materials. [See Section I.D1]

- Botanical species diversity
- Predator habitat
- Biological antagonism
- Balanced crop nutrition
- Attention to light penetration and airflow
- Biodynamic preparations
- Crop rotation

### **6. Weed control**

The foundation of weed control needs to be based on strategies that emphasize prevention located within the life of the farm itself. When applicable, the following techniques need to be demonstrably utilized to their maximum potential in order for a farm to import weed control materials (including petroleum to run tractors). [See Section I.D2]

- Timing of planting
- Understanding of weed species life-cycle
- Adjusting fertility conditions that promote certain weed species
- Shade/crop canopy
- Mulching
- Crop rotation
- Identifying and avoiding the spread of invasive weed species

## 7. Water conservation

Irrigation needs are required to be met based on strategies that emphasize water conservation. The following water conservation measures need to be demonstrably utilized to their maximum potential.

- Development of soil organic matter
- Mulching, in instances where mulching can be practically applied
- Efficient irrigation delivery systems where such systems can be practically applied

## 8. Livestock feed

Demeter certified livestock must be fed with Biodynamic feed grown on the farm. [See Section IV. G]



Frey Vineyards • Mendocino, CA

## B. Soil Fertility Management

### 1. General principles

The aim of Biodynamic fertility management is to generate a farm's fertility from within the farming system itself rather than importing inputs from the outside. This generally involves the recycling of raw organic materials generated on the farm with the goal of developing soil humus and the related biological activity that such a process ignites.

Examples of self-sustaining fertility dynamics include:

- Use of legumes in crop rotation (pulls nitrogen from the air and incorporates it into the farm's fertility cycle; helps to mobilize phosphorous; builds soil humus)
- Sod in crop rotation (builds soil humus)
- Recycling livestock manures via composting and pasture management (concentrates numerous crop nutrients/minerals and recycles them back into the farm; builds soil humus)

- Green manure plow down crops (builds soil humus; supplies concentrated levels of various crop nutrients)
- Care in planning crop rotation (avoids excessive and continual loss of the same crop nutrient in levels that can exceed the farm's ability to replenish)
- Increasing biological activity of soil and catch cropping to help mobilize slow-to-move nutrients such as phosphoric acid
- Use of the Biodynamic compost preparations and horn manure (Preparation 500 – orchestrates and stimulates the living processes described above)
- For more information on fertility materials that are strictly prohibited under the *Farm Standard* see Section IB

## 2. Compost

- **Manures, composts, and raw materials**

Aerobic compost must go through a heating process- ideally from 130-150°F- for long enough to allow the ingredients to turn into an effective form of humus. The heat cycle reduces pathogens and weed seed viability. Housing livestock on deep litter may result in aged manure, not compost, because the decomposing material may not go through a full heat cycle necessary for hygienic aerobic compost. Aged manure will be approached as raw manure.

Demeter approaches raw manure/urine as a restricted material. Excessive applications of raw manures can lead to ground water contamination and an overload of a given soil's biology. Raw manure can also lead to pathological concerns. Raw manure collected in barns, holding pens, etc. should be composted using the Biodynamic compost preparations before they are applied to certified acreage. In situations such as intensive grazing strategies where significant amounts of raw manure and urine are deposited on a land base, effort must be made to help the soil assimilate the manure in a living way before a crop to be certified can be planted or harvested. Some methods to aid such assimilation include light tillage, harrowing, applied compound preparations, applied compost teas, and all of the related amplified soil biology techniques (i.e. earthworms, dung beetles, etc.). Soil temperatures must be warm enough to allow proper assimilation of manure by soil.

Manure is one of the farmer's most valuable fertilizers. Care must be taken not to lose the inherent fertility present in the manure/urine. In some climates a cover might be needed to prevent excessive moisture addition or loss. In such instances the cover used needs to allow the compost pile to breathe and interact with its surrounding environment.

Compost must be built, handled and applied in a manner that does not present a health risk to the consumer of Demeter certified product.

- **Source materials**

Care must be taken to create an ingredient mixture that has the proper carbon to nitrogen ratio and moisture content as well as a texture to allow for the pile to be permeated with oxygen in order to allow for a vigorous aerobic composting process.

The carbon emissions that result from the movement of compost ingredients (such as bulk manures and bulk carbon sources) from their source to the composting site needs to be considered. The

composting of waste can contribute to the overall well-being of the farm's community, so ideally compost ingredients should come from the farm itself or from the immediate region. If imported it should not travel more than 250 miles to the farm.

The use of plant wastes from municipal sources, industrial sources, or synthetic chemically farmed agriculture may be contaminated with environmentally destructive chemicals and/or petroleum products and consequently are prohibited for direct mulching unless it can be clearly demonstrated that they are free of prohibited contaminants. The materials may be used as regulated fertility ingredients if they are aerobically composted (with the addition of the compost preparations 502-507) in a mix containing the proper carbon to nitrogen ratio to allow for an active fermentation. Demeter reserves the right to require that the raw materials and finished compost be tested to ensure that they are free of prohibited materials. [See Section IB6]

- **Compost preparations**

All composting operations need to produce and utilize the compost preparations 502 – 507 as indicated by Rudolf Steiner in the agriculture course. This includes collected and fermented compost ingredients, manures applied to acreage via grazing animals, and imported manures. All imported manures, including premade composts, must be composted or re-composted using the Biodynamic compost preparations. [See Section IC]

- **Compost turning**

As a general rule, excessive turning of the compost pile should be avoided. A properly built compost pile should have the necessary carbon to nitrogen ratio and ingredient texture to allow the pile to ferment properly without excessive turning.

### **3. Applied nitrogen and phosphorous**

The maximum amount of nitrogen and phosphorous that may be applied by way of fertilizers used, averaged over the crop rotation, may not exceed the amount that would be produced by those animals which the farm could support by its own irrigated (if necessary) forage production.

Application of this Demeter International requirement is based on the concept of a "manure unit" (mu). Manure unit calculations as they relate to species/stocking rate and fertility inputs are summarized in Appendix C: "Calculation of Stocking Rate". A maximum of .56-mu/ acre is allowed. This is the equivalent of 100 lbs. N/acre and 87 lbs. of applied P2O5.

For cropping systems with high nutrient export in the form of harvested crops, and systems that are inherently nutrient-deficient from previous management or basic inherent geological and biological realities, a maximum of 150 lbs. N/acre and 125 lbs. P/acre can be applied. The applicant must adequately demonstrate need via a calculated nutrient budget that demonstrates at a minimum 100 lbs N/ acre is exported via harvested crops.

Green manure plow down crops will not be calculated as "applied fertility".

Calculation of N and P applications will be based on the analysis of the material applied. For example a 5-5-3 fertilizer represents 5% total N and 5% available P2O5. If 1,000 lbs. of this material/ acre are applied

then it represents 50 lbs. each of applied N and available P<sub>2</sub>O<sub>5</sub>. Materials will be approached on a dry matter basis.

Total application of other crop macro and micronutrients needs to be monitored and evaluated on a case-by-case basis. Nutrients should not be applied in any manner that result in a disproportionate nutrient balance or a toxic situation. In addition, the application of nutrients for plants should be targeted for maximum efficiency to avoid leeching and run-off in order to protect ground and surface water.

#### **4. Imported fertility**

As discussed in Section IA: “Necessary Elements of the Farm Organism: Generating fertility”, a foundation of a Biodynamic farm lies in its ability to generate its own fertility. Imported fertility needs to be monitored carefully and the need for it must be clearly documented i.e. soil analysis, tissue analysis, visual deficiency in crop, etc.

Allowance for imported fertility will be handled on a case-by-case basis. Imported fertility is only allowed if it can be clearly demonstrated that items listed in Section IA: “Necessary Elements of the Farm Organism: Generating fertility”, are being applied to their maximum efficiency given a farm’s unique set of circumstances. If these factors are not at their full potential efficiency there needs to be evidence that an evolution towards such efficiency is in progress.

Imported nitrogen and phosphorous is permitted to be imported to a maximum of .5 mu/ hectare. This translates to 36 lb N/ acre and 31 lb P<sub>2</sub>O<sub>5</sub> / acre.

In perennial planting situations (such as orchards and vineyards) a maximum equivalent of 1.2-mu/ hectare is permitted to be imported. This translates to 86 lb N/ acre and 75 lb P<sub>2</sub>O<sub>5</sub>/ acre.

For cropping systems with high nutrient export in the form of harvested crops, (such as vegetable market gardens) a maximum of 150 lbs. N/ acre and 125 lbs. P/ acre can be imported. The applicant needs to adequately demonstrate need via a calculated nutrient budget that demonstrates a minimum of 100 lbs N/ acre is exported via harvested crops. This can only be considered if the items discussed in Section IB: “Soil Fertility Management: General Principles” and “Compost” are adequately met.

#### **5. Livestock**

The integration and maintenance of livestock is a valuable tool of Biodynamic farm management. Within the context of the farm individuality and ecology, the grower should strive to have a mixed livestock population to help establish and sustain a self-sufficient system of fertility. In situations where the presence of only a small number of livestock is possible it is recommended that a cow be present in order to provide the manure for making Preparation 500 on the farm.

Wherever possible the Demeter Association supports the principle of integrating livestock back into agronomic systems verses separating livestock from the land in large industrial feed lots. Their contribution to the fertility dynamics, crop rotation etc. of a farm is significant. Certifying a livestock product to the Demeter standard is not something that is easy to do and it takes significant long- term focus to bring a farming system to a place where livestock certification is possible. It is recognized that many folks who sincerely want to integrate livestock into their farming system do not have the land base

and other resources available to meet the Demeter standard for certified Livestock products (see Livestock Standard below). For this reason Demeter will allow exemptions not requiring livestock on Demeter farms to be certified to the Demeter standard. The land base on which the animals reside is NOT exempt from the requirements of the Demeter Farm Standard. When imported animals are introduced to the farm care must be taken to ensure that they have not recently been treated with any prohibited materials to ensure that their manure does not contaminate the farm.

If a farming operation imports manure from off the farm the imported manure ideally is from a local livestock operation and does not require unnecessary consumption of the earth's natural resources to transport the manure from its source to the farm. [See Section 1B2]

## 6. Fertility materials needing special consideration

- **Prohibited materials**

The use of plant wastes such as lawn clippings, leaves, green chop, or compost from municipal sources may be contaminated with lawn chemicals and/or petroleum products and consequently are prohibited for direct mulching unless it can be clearly demonstrated that they are free of prohibited materials. They may be used as fertility ingredients if they are composted as described above. If there is reason to believe that such materials may be contaminated with prohibited materials Demeter reserves the right to have the materials tested.

The use of sewage sludge or biosolids is prohibited. This includes sludge ash.

All forms of synthetic fertilizers, including nitrate and ammonium salts, saltpeter, Chilean nitrate aka nitrate of soda, soluble phosphates, and chloride-containing potassium salts are prohibited.

Off-farm manure sources should come from certified organic livestock production at a minimum. If this is not possible and conventional livestock manure is used, the materials used in the conventional livestock production (i.e. wormers, hormones, GMO feed, antibiotics) must be documented. No manure that is derived from "intensive" confinement operations- animals not having regular, reliable and effective access to the outdoors- will be allowed.

- **Imported fertility inputs**

*Note: The Organic Materials Review Institute (OMRI) List is used as a standard reference for brand name materials, and the National Organic Program (NOP) "National List of Allowed and Prohibited Substances" is the standard reference for generic name materials. Not all materials approved by OMRI and the NOP are allowed in the Farm Standard. Use of off-list products could result in de-certification [See Section 1B: "Soil Fertility Management- Fertility materials needing special consideration", and Appendix C: "Materials Prohibited by Demeter"]*

If meals from potential GMO crops are to be used as production aids verify that the source is non-GMO.

Ash may be used as fertility input only if obtained from acceptable sources such as untreated wood or coffee hulls. The source should be plant-based and free of prohibited substances. Caution is advised in application rates due to unknown mineral content.

The addition of some minerals, particularly trace minerals, can affect mineral balances in the soil. The importation of any minerals should be based on a documented need.



Cowhorn Vineyard & Garden • Applegate Valley, OR

## C. Biodynamic Preparations

### 1. Description

A distinguishing feature of Biodynamic agriculture is the use of nine preparations made from herbs, mineral substances and animal manures that are utilized in field sprays and compost inoculants applied in minute doses, much like homeopathic remedies are for humans. Originally described by Rudolf Steiner in a series of lectures on agriculture, these Biodynamic preparations are numbered 500 – 508. Preparation 500 is made from fermented cow manure and is used as a soil spray to stimulate root growth, humus formation, and microorganism development. Preparation 501 is made from powdered quartz and applied as a foliar spray to encourage photosynthesis. Preparations 502 to 507 are herb based compost inoculants. Preparation 508 is created from dried Equisetum (Horse Tail) and is utilized for disease control.

As required by Demeter International, preparation use is necessary for Biodynamic certification. A farm in transition to Biodynamic is expected to make steady progress in introducing their use.

### 2. Sources

As much as possible the Biodynamic preparations should be made on the farm or within the farm's community, with ingredients from the farm or region.

### 3. Stirring

Hand stirring is preferred and should be done consciously. Flow forms and stirring machines may also be used for but the farmer should still maintain conscious contact with the stirring process.



*Note: If you do not have experience making the preparations it is recommended that you learn how to produce them prior to making them on your own. In the interim, or if you choose not to make the preparations, they are available from the Josephine Porter Institute ([www.jpibiodynamics.org](http://www.jpibiodynamics.org)) or regional preparation making groups. The Biodynamic community has many farmers who have extensive experience making and utilizing the preparation and are eager to share that knowledge. Please contact the Demeter office for a list of resources.*

#### **4. Application**

The compost preparations need to be applied to acreage to be harvested either via applications of Biodynamic compost or via an approved field spray such as the Pfeiffer field spray or barrel compost. At a minimum, either Biodynamic compost or an approved field spray needs to be applied at least once every three years.

Preparations 500 and 501 need to be applied at least annually to all harvested crops. Preparation 500 should be applied in the later part of the day in the form of droplets that come in contact with the earth. Preparation 501 should be applied in the early morning hours as a fine mist that settles down onto crop foliage.

#### **5. Storage**

Proper storage of the Biodynamic preparations is extremely important and will be checked during the evaluation visit. Preparations should be stored in a vessel that allows for the presence of oxygen. If preparations were shipped in plastic, they should be immediately removed and put in glass jars with a slightly loose lid, or in pottery, such as crocks. Earthen crocks without metallic or synthetic lids are ideal. These vessels should be stored in an untreated wooden box surrounded by peat or some other similar insulating material. The peat should be kept moist and the condition of the stored preps should be checked periodically. They need to be kept moist- not wet- and cool. They must not freeze. The box should be placed in a location free of electromagnetic fields.



Benziger Family Winery • Sonoma, CA

## D. Crop Protection

### 1. Disease and insect control

The foundation of disease and insect control needs to be based on strategies that emphasize prevention located within the life of the farm. When applicable, the following techniques need to be demonstrably utilized to their maximum potential in order for a farm to import allowed pest control materials.

- Botanical species diversity
- Predator habitat
- Biological antagonism
- Balanced crop nutrition
- Attention to light penetration and airflow
- Conscious use of the Biodynamic preparations
- Crop rotation

The use of synthetic chemicals to control pests, to prevent or control fungal, viral or other diseases, to control weeds, or the use of hormones to regulate or manipulate the growth of crops, is not allowed. Soaps, diatomaceous earth, homemade Bordeaux mixes, and other substances legally allowed for organic use may be permitted for use on the Biodynamic farm in consultation with Demeter. Only such measures of control can be taken as are generally allowed within the *Farm Standard* and existing laws.

Sulfur is widely used to prevent and control fungal diseases. It should be used only as needed, not according to a schedule. Experience suggests that continuous or excessive use (100-150#/ac/yr) contributes to decreased soil biological activity and compromises the health and vitality of soil life. Alternatives exist which can be used separately or in combination with Biodynamic preparations to greatly reduce the amount of sulfur.

Copper products are limited to a maximum of 3# Cu/ac/year and, if possible, 1#/application.

*Note: Pay close attention to the brands of pest control materials used concerning all ingredients and inert ingredients in their formulations. Brands used must not contain any materials prohibited for use by these Standards.*

## **2. Weed control**

The foundation of weed control needs to be based on strategies that emphasize prevention located within the life of the farm. When applicable, the following techniques need to be demonstrably utilized to their maximum potential in order for allowed weed control materials (including petroleum to run tractors) to be imported.

- Timing of planting
- Understanding of weed species life cycle
- Adjusting fertility conditions that promote certain weed species
- Shade/ crop canopy
- Mulching
- Crop rotation

If mulching is used, it is preferable that the materials be produced on the farm. If this is not possible, mulching materials from off the farm must be chosen with care. Petroleum-based mulching material must be removed before it can decompose and/or become embedded in the soil and materials used should be durable enough to allow for reuse.

## **E. Protection from Environmental Hazards**

### **1. Buffer zones**

Buffer zones must be created and maintained between certified fields and chemically treated acres. Hedgerows are recommended for protection and to enclose the farm organism. It is not possible to quantify here how much of a buffer zone is required, as the need for space will vary depending on the neighboring activity, whether there is a risk for prohibited material contamination and if so what the prohibited materials are. Each situation will be approached on a case-by-case basis. Any necessary buffer areas should either not be planted to a harvested commodity or such commodities will need to be harvested separately, segregated, and sold as non-certified products.

### **2. High voltage power lines**

Because Biodynamic agriculture works with the dynamics of subtle forces the impact on crops grown under high voltage power lines that emit significant EMF levels are a concern. Often these power lines cross production areas in a random manner so it is generally not practical to segregate that portion of the harvest. In order to address these negative impacts the areas should receive extra applications of the full compliment of the Biodynamic preparations.

### **3. Spray drift and run-off**

Products grown on areas contaminated by spray drift or run-off from a neighboring chemically managed field may not be sold as certified. Residue tests may be needed to establish the area of contamination. These areas, if harvested at all, must be kept strictly segregated and documentation must be provided verifying the sale of the crop as non-Demeter certified.

#### **4. Irrigation water**

Irrigation water should be free of chemical contamination and may require periodic testing if there are obvious potential sources of measurable contamination. If the source is chlorinated municipal water, it is recommended that the water be aerated either by creating a basin or pool, or through the use of flow forms or overhead sprinklers.

#### **5. Livestock**

Livestock should not have access to natural bodies of water that are year-round and permanent.

Livestock should not be grazed in sensitive ecosystems unless it benefits such systems, such as removal of noxious weeds. These situations will be approached on a case-by-case basis.

#### **F. Duty to Report**

In case of severe attack by pests or disease in fields or during storage, which cannot be controlled by approved measures and where prohibited measures are unavoidable, a report must be made to a Demeter representative before any prohibited measures are taken.

Use of prohibited measures may lead to a loss of certification of the whole farm for a period of up to three years. This situation compromises the whole farm concept by creating a parallel production issue. Demeter guidelines do not allow parallel production or partial farm certification. Therefore, this situation is viewed very seriously. It is the owner's responsibility to educate field workers regarding acceptable practices and those that would compromise certification.

#### **G. Seeds, Seedlings, and Perennial Planting Stock**

It is preferable that seeds and transplants come from Biodynamic sources. As much of the seeds, seedlings and perennial planting stock as possible should come from the farm organism itself. NOP organic certification requires a demonstrable search for certified organic seed prior to the use of un-certified seed. Demeter certification emphasizes that Biodynamic seed is important because of the quality-oriented approach to seed production that Biodynamic farming mandates. If Biodynamic seed is not available it is recommended that certified organic seed be considered next. It is recognized that certified organic seed may not be available in varieties that fit your farming ecosystem. Since this is an important foundation of pest control and to a degree fertility management, conventional varieties may be used if the same seed variety is not available as certified organic or there is clear evidence that the quality of the certified organic seed available is not adequate.

If imported seed is necessary, preference should be given to open pollinated seed varieties. Hybrid varieties that are the result of protoplasm and cytoplasm fusion techniques are prohibited. Cereal hybrids, with the exception of Corn (Zea Mays), are excluded for the production of feed and food.

Crops grown from seed treated with prohibited fungicides are prohibited, and the use of such seed could de-certify the seeded area for 3 years.

The use of genetically engineered seed, transplants, or rootstock is prohibited.

Transplants of perennial tree and vine crops, if grown from non-certified stock, must be grown according to these Guidelines for 12 months prior to the appearance of flower buds of the crop to be sold as certified.

#### **H. GMO Avoidance and Protection**

Demeter will not permit use of transgenic, spliced, or engineered plant or animal products or any derivative in food, feed, or fiber production. It will be necessary to verify that seed and inoculants used are non-GMO.

If dedicated harvest and transportation equipment is available, whenever possible hire a dedicated organic harvester hauler. If this is not possible, document the cleaning and purge process and the sale or disposition of the purged product.

As a precautionary principle, the implementation of nanotechnology is excluded from all usage in Biodynamic agriculture and from all Demeter certified products. Demeter will monitor developments in this area, including the stance of other organic certifiers and review this policy in the light of new information as it becomes available.



Light of Day Farm • Traverse City, MI

## I. Residue Testing

Pesticide residue testing is viewed as a tool with limited usefulness for certification. Certification is based on methods of production, not safe-food claims. However, consumer concern for safe food is recognized and there are situations in which residue testing may provide data relevant to certain certification decisions. Examples of such situations include known or suspected cases of drift, emergency spray programs, contaminated irrigation water, storm runoff, historical pesticide usage especially where cucurbits are to be grown, historical sludge applications, being located downwind from a power plant, etc.

In some cases, Demeter may require residue testing of soil and/or crop samples as part of the certification process. Demeter shall specify the number and type of samples, subject to the following considerations. In general, residue testing shall be focused toward but not restricted to organochlorines. It is recommended that triplicate field samples be collected, allowing for subsequent testing in the event of positive test results from an initial sample. Demeter will select the testing lab.

A tolerance level equal to 5% of EPA (Environmental Protection Agency) tolerance levels is adopted as the maximum allowable residue level in any tested sample.

## II. GREENHOUSE MANAGEMENT



### **A. General Principle**

A greenhouse can be an important element within a Biodynamic farm, but it must be seen as part of the greater farm organism or be managed as a whole independent system(s) in and of itself. A greenhouse may be used to grow plants in containers or for growing crops directly in the soil. In all situations the requirements of the *Farm Standard* apply in full. For example the requirements concerning imported/applied fertility, pest control, biodiversity, crop rotation, weed control, water conservation etc. are all applicable to any greenhouse management under Demeter certification.

The energy usage for heating crops under glass or plastic should be kept as low as possible, and with exception of seedling production and ornamental plants-which may have a higher heat requirement, must be limited to an appropriate extension of the growing season.

Energy saving techniques, such as the use of special heating systems (e.g. ground or vegetation heating) must be introduced to the enterprise wherever possible.

### **B. Potting Soils and Growing Media**

Definitions:

- Potting soil – The mixture used to start seedlings
- Growing medium – The mixture in which the plants are grown to maturity

Both potting soil and growing media should, if possible, originate from the farm's own compost which has been made with Biodynamic compost preparations. Biodynamic compost must comprise at least 25% of the mix.

Rock wool is not permitted.

Potting soils and growing media may be sterilized with steam. In order to guide microbial re-colonization, the Biodynamic compost preparations, compost tea, Preparation 500, or a compound preparation such as Thun Barrel Compost or Pfeiffer Compost Starter, should be used following sterilization.

### **C. Hydroponics**

Soil-less growing is not permitted except for those cultures of aquatic plants, such as cress and certain ornamentals. In the latter case, Biodynamic preparations may be added to the water.

### **D. Certified Sprouts**

For sprouts to be Demeter Certified, the seed must be from a certified Biodynamic source.

The growth must take place in or on food grade surfaces that have no potential for contamination with prohibited materials.

The room or area in which the sprouts are grown must not pose any contamination threat to the integrity of the product.

Water used must meet processing requirements for chlorine (4ppm) and fluoride (4ppm) and be tested at regular intervals for E. coli and other disease organisms. Consult your local health department for further requirements in your locality.

Demeter processing guidelines apply.



### III. STRUCTURAL COMPONENTS



Light of Day Farm • Traverse City, MI

#### **A. Treated Lumber**

A producer must not use lumber treated with arsenate or other prohibited materials- for new installations or replacement purposes- that comes in direct contact with soil used in certified production or certified livestock.

## IV. LIVESTOCK GUIDELINES



Dark Horse Ranch • Mendocino

### **A. Conversions and Certification**

The section below applies to animals already part of the farm before conversion and certification and therefore presumes the minimum one-year farm land conversion period from organic, three to four years from conventional:

#### **CONDITIONS ALLOWING PRODUCT TO BE MARKETED AS DEMETER CERTIFIED**

Milk from cows born before conversion	Only when Demeter on farm feed is 50% or more of daily feed for 12 months and animal has been managed in compliance with Demeter standards	Balance of feed must be from certified organic sources
Meat from cattle born before conversion	Only when Demeter on farm feed is 50% or more of daily feed for 12 months and animal has been managed in compliance with Demeter standards.	Balance of feed from certified organic sources. If animal has not been raised to at least organic standards from birth certification of meat is not possible.
Pigs, lambs born before conversion	Cannot be certified unless born on a certified farm	
Eggs, poultry	Cannot be certified unless born on-farm or brought in as day old chicks Natural hatching is preferred.	

### OTHER SITUATIONS (animals born after conversion and/or brought in after conversion)

Pigs, lambs born after conversion	Management to Demeter standards from last 1/3 of gestation.	Balance of feed from certified organic source
Meat from livestock born after conversion	Management to Demeter standards from last 1/3 of gestation.	Balance of feed from certified organic sources
Animals brought in from non-certified source	No certification is possible for meat; certification for milk after 12 months of management to these standards	
Animals brought in from certified organic source	May be certified as Demeter meat after 12 months of management to these standards.	Balance of feed must be certified organic
Animals brought in from a Demeter Biodynamic source	May be certified as Demeter meat or milk upon arrival	

When a farm achieves 'In-Conversion' status, the same will apply to milk production assuming other requirements are met. In-Conversion status cannot be applied to non-organic animals purchased after conversion.

#### B. Stocking rates [See Appendix B: "Calculation of Stocking Rates"]

The stocking rate takes into account the maintenance and development of soil fertility.

The maximum stocking rate may not exceed .8 Livestock Units/ acre (.56 manure units/acre ) if feed is brought in.

*Note: This stocking rate might not be possible where climatic conditions do not permit it. In this situation, reducing the maximum allowed stocking rate may be necessary in order to maintain the health of the farm.*

#### C. Breeding stock: Beef and Dairy

Imported mature (service or productive age) breeding stock, including bulls, rams, etc., from outside sources to the farm, is allowed up to a maximum of 10% of the herd per year. In a milking herd, the introduced cows must be from a certified Biodynamic or organic herd.

Non-certified animals cannot be introduced to the milking herd until they have undergone 12 months of management according to this Standard. Certified cows and heifers, or those which have been fed according to organic rules for 12 months, may be introduced into the Biodynamic herd while staying within the 10% per year brought-in stock limitation.

An exemption allowing up to 40% imported animals is permitted in the following situations:

- Rare/ endangered breeds

- When a breed is changed
- When a new livestock specialization is developed
- When there is a documented need for an increase in herd size

These imported animals must comply with the 12 month certified feed requirement before their milk can be certified. Meat cannot be certified unless the animal was born on a Biodynamic or organic farm and under this type of management from the last 1/3 of gestation.

Mature breeding stock from conventional sources cannot be sold as certified.

#### **D. Slaughter stock**

Except as specified otherwise, the animals must be born and raised on a Demeter certified Biodynamic farm as part of an indigenous herd. Feeder stock from certified organic sources can qualify as Demeter Biodynamic after 12 months fed according to the *Farm Standard*. Feeder stock from conventional sources cannot be sold as certified.

#### **E. Reproduction**

Natural insemination is strongly recommended.

Genetically engineered animals are not permitted.

Embryo transfer is not permitted. It is recommended that the farm keep its own bulls, rams, etc.

#### **F. Record Keeping and Animal I.D.**

When practical all animals must be tagged or identified individually in some manner. It is recommended to have a herd book with a page for every reproductive age female. Records must be kept as follows.

- Date and age acquired
- Source of animal
- Source and amount of brought-in feed with certificates
- Health care measures taken
- Date of sale
- For dairy herds, records must be kept of somatic cell count and plate count. A DHIA record is suitable if available

#### **G. Feeding**

Complete self-sufficiency is to be aimed for as a matter of principle. For Demeter Biodynamic certification, a minimum of 50% of the feed ration (on a dry matter basis) must come from on-farm

production. If the remaining 50% of the feed ration is imported a minimum of 30% must be Demeter certified feed and the remaining 20% must be certified organic. In sourcing feed, transition acres within the farm organism will be considered as conventional (or organic if they comply with the NOP). Mineral supplementation is not included in the 50% brought-in limitation. No livestock, ruminant or non-ruminant may be fed any meat products, including bone meal, or manure. The natural behavior of some species, such as poultry and swine, to forage in bedding or compost is acceptable.

For poultry production 50% of the feed ration must be on farm Demeter certified feed. An exemption to allow the balance (50%) of the feed to come from certified organic production may be granted based on a documented search documenting Demeter certified feed is not available.

*Note: If operating a Demeter certified poultry operation take precaution with certified organic feed as DL Menthionine is allowed under the NOP and not under the Demeter Farm Standard.*

Ruminants must derive the roughage portion of feed from pasture during the grazing season. "Pasture" is defined as growing plant material that the animal utilizes for nutrition and medicine. If a livestock operation exists in a region where pasture production is not possible due to climatic conditions it may not be possible to achieve Demeter certification. [See Section IVB: "Livestock Guidelines- Stocking Rates"]

Cooperation among two or more farms to form a biological unit in the production of livestock feed may be possible. Special permission from the Demeter Association is required for these multi-farm units, which still must conform to this Standard and have contracts between the farms for such purpose.

Calves should be raised on the milk of the herd rather than on a milk replacer.

### **Feed supplementation**

Supplementation with synthetic amino acids is not allowed. Good pasture, Biodynamic or organic feed, and outdoor access are the best approach and preclude the need for supplements.

Vitamins approved by FDA may be allowed, but it is necessary at a minimum to use those produced and processed according to organic standards. Ideally, vitamin supplementation would be temporary while an attempt is made to obtain better feedstuffs or improve environmental conditions. Consider as alternatives to synthetic vitamins sprouted grains, dried herbs, chopped root crops, chicory and other herbs seeded in pastures and hay fields, and probiotics.

Silage may not be treated with synthetic preservatives but may be treated with organic molasses or whey.

Antibiotics are not permitted in feed to any class of livestock. This includes the feeding of calves with milk from treated cows.

## **H. Emergency Feed Protocol**

An emergency exists when weather or other circumstances beyond the grower's control affect the outcome of the crop. In such instances it may be possible to utilize certified organic feed beyond the

current 20% of the ration allowed. Demeter must be informed before any action is taken. A decision will be made on a case-by-case basis.

Criteria used will be:

- Least amount of certified organic feed purchased as possible
- Fed for the shortest time possible
- To the livestock least likely to be compromised as to Biodynamic integrity

Failure to secure approval before feeding emergency feed may result in decertification.

## **I. Housing and Outside Access**

The behavioral and species- specific characteristics of farm animals are given respectful consideration when determining their housing and general living conditions. Creating an environment that does not unnecessarily restrict their movements and innate behavior, including housing that allows the animals to move freely, is necessary. These issues need to be especially considered when upgrading, converting, or building new barns.

Totally slatted floors are not permitted. Floors must be stable and permit mobility.

Livestock must have protection from excessive heat, dust, harmful gasses (such as ammonia) and excess humidity.

Access to free range forage and the outdoors is required for all livestock, taking into consideration weather and health.

### **Cattle, sheep, and goats**

These animals should have outside access all year round taking into account inclement weather, soil protection, and animal health. The animals must have access to pasture during the summer months. Every animal needs a dry, soft and insulated spot where it can lie down, rest, and stand up with adequate room to move without causing injury to it or to other animals.

### **Pigs**

The pigs' rest area should include bedding. Sows should be confined for the shortest period of time necessary for farrowing. Open sows, pregnant sows, and gilts should be kept in groups, with access to an outside run.

### **Poultry**

Keeping poultry in cages is prohibited. Flocks should be given free range, adequate scratching room and elevated perches. Birds must be able to run outside at least part of the day. Flocks whose 'free range' is limited to the chicken house will not be certified. Hygienically favorable conditions must be maintained. Poultry houses must have natural light throughout the day; night rest should last at least 8 hours without artificial lighting. For a laying flock, both sexes should be present.

### **Manure handling**

Demeter certification requires that barnyard manure be carefully collected, preserved and composted. Collection storage and containment of manure/ urine must be done in a manner that does not lead to serious contamination of surface and ground water.

## **J. Veterinary Treatment of Animals**

Herbal, homeopathic or Anthroposophical treatments are to be given preference. Routine and preventative treatment with allopathic medication is not allowed except in the case of vaccinations required by law. Legal withholding times are to be doubled in case of required vaccinations. It is strongly recommended to use homeopathic nosodes in place of vaccines whenever applicable. Nosodes are available for every livestock illness that can be vaccinated against: they will build the animal's immune system rather than degrade it.

### **Antibiotics are prohibited**

Any animal treated with antibiotics must be permanently identified and removed from the certified herd. Meat and milk cannot be sold as certified though the animal may be used as breeder stock to produce certifiable progeny if antibiotics were not administered during the last third of pregnancy or during lactation. Prevention is the best approach to health problems with stress reduction playing a major role. Probiotics are acceptable if documented GMO-free and not produced on GMO substrate.

### **Hormonal treatment**

The use of hormonal treatments to control estrus, increase production, or for any other reason is not permitted except that oxytocin can be used in post-parturition therapeutic applications such as retained placenta. Exact records must be kept of all treatments and made available to the certifier.

### **Use of prohibited internal parasiticides**

The use of prohibited internal parasiticides, including Ivermectin, is not permitted in slaughter animals, but is permitted in dairy and breeder animal emergencies. Emergencies are to be minimized through the use of preventative alternatives such as quarantine and fecal exams for all incoming stock, adequate pasture rotation and good pasture management, maintenance of clean facilities, periodic fecal exams, the culling of seriously infested animals, vector and intermediate host control, biological control methods, and maintenance of dust wallows for poultry.

*Note: According to the NOP, milk animals treated with Ivermectin cannot be sold as certified for 90 days following treatment. In breeder stock treatment cannot occur during the last third of gestation or during lactation if the progeny will be sold as certified. Demeter USA follows the NOP standard in this case.*

### **External parasites**

Primary control of external parasites needs to be based on modifying the livestock living situation in a manner that inhibits the parasites' presence and reproduction i.e. sanitation, repelling agents, release of predators, etc. In extreme cases natural pyrethrum may be used in a dilute form in barns and loading areas. It may not be used directly on livestock. Concentrated natural pyrethrum may not be used.

*Note: With the exception of whole flower natural pyrethrum, only those extracted pyrethrum products with approved ingredients may be used.*

**Mutilation**

De-horned animals are not part of Demeter Biodynamic practice. Dehorning of the farm's own stock is not permitted, except in an emergency, and for sales of breeding stock where horned animals are not marketable. Consult Demeter for approval prior to dehorning in all instances. De-beaking and wing clipping of poultry is forbidden; as is tooth cutting and tail cutting of piglets, docking of lambs, etc.



## V. POST HARVEST HANDLING & PROCESSING



### **A. Storage and Processing**

Storage facilities and containers must be clean and adequately protected from insect or pest infestation. Post-harvest treatment with synthetic chemicals is prohibited.

Shipping arrangements must guard against contamination of produce from other farms and from exposure to prohibited materials that could arise while certified product is in transit.

The Demeter *Processing Standard* applies to all on-farm and farm-contracted processing.

### **B. Labeling and Packaging**

Product labeling must be approved. If changes are made to the ingredients, the label and the product profile needs to be re-submitted for approval. Changing ingredients without approval is prohibited. Packaging and accompanying documents must be labeled in such a way that the product can be traced back to the farm.

Demeter may require approval of promotional materials before publication.

Please see the Demeter *Labeling Standard* for more information.

### **C. On-Farm Processing, Off-Farm Grower-Contracted Processing, and Packing**

Processing done on-farm or by a contracted processor must meet the Demeter *Processing Standard*. This includes slaughter of livestock, cleaning and bagging, canning, freezing, drying, roasting, fermenting, culturing, baking, etc.

### **D. Water Quality**

Tailing water (water that drips off of product after rinsing), or water used as an ingredient cannot exceed 4 ppm chlorine and 4 ppm fluoride

Water used needs to meet EPA and state safe drinking water standards.

## VI. ADMINISTRATION



The Demeter *Farm Standard* applies to the certification of farms and ranches for the purpose of allowing their farms and ranches and resulting agricultural products to carry the Demeter certification marks “Biodynamic®”, “Demeter”, and the related logos using these marks. Processed products must meet the Demeter *Processing Standards* to be referenced as such. These are registered certification marks that are vigorously protected from misuse by non-certified operators.

The Demeter Farm and Processing Standards meet the minimum requirements set by Demeter International. These base standards form a common legal foundation and agricultural framework for Biodynamic® practice worldwide. The responsibility for adherence lies with each grower.

### **A. Determining What Can Be Certified**

Since Biodynamic farming principally views the farm as a self-contained organism only an entire farm will be considered for certification. Individual fields or crops cannot be certified. More than one farm may be counted as a single certification unit under certain conditions.

Each farm is considered a unique individuality- with its own beginning point and inherited environmental and social conditions. What is critical is that a farm evolves towards its maximum potential as a self-contained individuality. Some applicants’ farms may enter this program very close to this maximum potential. Others will require an evolution towards it. While Demeter is here to provide assurance that the Standards are met, it is also here to nurture farmers and their farms towards this ideal.

## B. Prerequisites

The land to be certified must meet the National Organic Program (NOP) standard as a base and managed to the *Farm Standard* for one year, either concurrently with the final NOP transition year or an additional year after the NOP standard has been met. No prohibited chemicals may have been applied for a full 36 months. Demeter may request residue tests for prohibited materials.

Example:

June '10	Herbicide applied
June '11	12 months – 1 <sup>st</sup> year transition ends
June '12	24 months – 2 <sup>nd</sup> year transition ends
June '13	36 months – crop harvested on or after this date is certifiable

Any processing and/or packaging facilities on the farm or contracted by the grower must be included in the farm certification process and an additional questionnaire and an inspection of the facilities will be required.

## C. Steps to certification

### 1. Submit completed Certification Pack

A producer planning the conversion of a farm from conventional or organic to Biodynamic should start the process by requesting a Certification Pack from the Demeter office. The Certification Pack includes the initial application, which asks for explanation regarding the past management of the land to be certified, and the proposed plan to move towards Demeter certification. This document is updated annually as a renewal, and is thereafter referred to as the Farm Plan.

It is recommended, but not required, that new applications be submitted prior to April 1 so that the farm inspection can be planned and conducted during the growing season.

### 2. Arrange a farm visit

After Demeter receives the completed Certification Pack and appropriate fees the application is reviewed and assigned to an inspector who will contact the applicant to arrange a farm visit. During the visit, the information entered on the application will be verified and clarified.

### 3. Follow up on Summary Report recommendations

The Inspector's report and findings, along with the grower's application, will be circulated to members of the Evaluation Circle (EC) to recommend or not recommend certification along with requirements and recommendations. The Demeter office will then notify the applicant of the certification decision and forward a list of suggested actions/requirements. The applicant is required to acknowledge this Evaluation Circle Decision and Summary Report and to sign off on acceptance of the requirements. If certification is not granted, an explanation will be provided.

A licensee wishing to amend the scope of an existing certification should write to the Demeter office giving details in support of the request. The Demeter office will decide what additional information is needed, if any. A revisit to the facility may be required.

#### **D. In-conversion timeline**

A farm may be considered "in conversion" under the following circumstances:

- 1) The farm has submitted an application
- 2) A Demeter inspector has been to the property and judged it able to obtain certification within a three year period and an inspection report has been issued qualifying the farm for "in conversion" status
- 3) There is a projected date of certification (month/year)
- 4) If the farm is already NOP certified, the Demeter certification should take place one year from the date of the qualifying inspection, with an allowance of 3 months in addition to the year.
- 5) If the farm is not already NOP certified, then Demeter retains the right to conduct yearly inspections up to the three-year date of certification in order to ascertain that the Farm Standard is being upheld. The final inspection must take place within 3 years and 3 months of the qualifying inspection.

Once a farm has passed its qualifying inspection it is considered an Associate Member of Demeter. The farm may refer to itself as "in conversion" in its marketing materials, website, and other ways that are not product labeling or at the point of sale to the consumer.

In order for fresh produce to be referred to as "in conversion" in product labeling or point of purchase presentation, it must be shown to meet the NOP standard and harvested after the "in conversion" status has been granted. If the produce meets the "in conversion" requirements, the "in conversion" logo may be used on the produce's package and POS.

Processed products created from "in conversion" produce may never refer to itself as an "in conversion" product and no reference to Demeter or Biodynamic may be made on the product packaging or POS.

#### **E. Exemptions to whole-farm certification**

If any crops or land belonging economically to a farm cannot be farmed according to the *Farm Standard* because of serious technical considerations, then exceptions of particular fields, animals or products need the written consent of Demeter. Such not-fully-converted products must be clearly separated from the converted fields, animals, or products, and no interchange should be possible. Such crops, animals and products have to be specifically indicated on the application for certification and specified on the certificate. They must be clearly labeled and easily distinguished in farm sales, whether direct or through distributors. Parallel production is not possible under the same farm identity.

#### **F. Newly Acquired Property**

When a Demeter certified Biodynamic farm leases or purchases land that has been managed conventionally or organically, these acres must also be converted. Existing farm certification is not forfeited, but crops from the transitional areas are to be of a different variety, demonstrably separated in storage, and designated under another name and sold as non-certified.

## **G. Public Disclosure**

Upon legitimate request, Demeter will make available to the public the certification classification and the number of years certified. If a Demeter member wants this information kept confidential, the member must inform the Demeter office. However the NOP requires public disclosure of any organic applicant. Evaluation reports are not made available except to other certifying agencies at the request of the certified party. A certified farm should have available for their customers a copy of their current Certificate.

## **H. Annual Renewal of Certification**

Following the first year's certification, Demeter sends out a Renewal Packet annually. A farm must have its certification renewed every year. Certification is contingent upon the receipt of a fully filled-out Renewal Packet, including an updated Farm Report, and the completion of a satisfactory on-site farm evaluation conducted during the growing season. Farmers must have resolved any issues found to be out-of-compliance at that time.

The Renewal Packet includes a declaration by the farmer, given in good faith and to the best of his/her knowledge, concerning the completeness and correctness of information supplied. Any anticipated changes in agricultural management, or any measures that could have a significant influence on the farm as a whole, must be discussed with Demeter.

*Note: Demeter may conduct random unannounced visits. We acknowledge that this may interfere with planned farm activities and we will do our best to limit the interference. Licensees are requested to cooperate to the fullest extent possible.*

## **I. Revisions to Guidelines and Standards**

Demeter periodically revisits its Guidelines and Standards and makes revisions. Licensees receive notice of all revisions together with the date of implementation. At the date of implementation, the evaluator will verify that each licensee has made the needed adjustments. Licensees are responsible for compliance.

## **J. Recordkeeping**

Adequate records must be kept concerning all aspects of farm operations for five years. All records are to be made available to Demeter upon request.

**Example Records**

Field records	<ul style="list-style-type: none"> <li>➤ All materials applied, date and rate of application, name and source of all inputs, acreage and type of crops to which inputs are applied.</li> <li>➤ GMO status of seeds, inoculants, and plant protection materials.</li> <li>➤ Labels or other documentation showing potting soils and manure sources are blood and bone meal free.</li> </ul>
Harvest records	<ul style="list-style-type: none"> <li>➤ Records of the harvest, segregation, and sale of non-certified buffer crops and of non-certified In-Conversion crops. It is advisable to retain documents to support this.</li> <li>➤ Records of all harvested crops, bin storage location if applicable, sales records.</li> <li>➤ Sales records should have a lot number such as a date or other code and be traceable to the field of origin.</li> <li>➤ Equipment cleaning records if applicable</li> </ul>
Livestock	<ul style="list-style-type: none"> <li>➤ Date purchased, source, weight and age at acquisition.</li> <li>➤ Amount of feed and supplementation purchased including certificates and feed tags</li> <li>➤ Medications: vaccinations, illness/injury treatments including medicament labels</li> <li>➤ Production records</li> <li>➤ Date, ID number and certification status at time of slaughter or sale of animals</li> <li>➤ Feed emergency documentation</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>➤ Manure – type, amount, source, quality</li> <li>➤ Other fertility – type, brand name, amount, source, ingredients</li> <li>➤ Seed – type, amount, source, classification as OG, BD, conventional, treated, untreated, GMO status</li> <li>➤ Plant protection materials, GMO status. Maintain all labels for the annual visit.</li> </ul>
General	<ul style="list-style-type: none"> <li>➤ Complaint log to register any complaints against the certified product or production.</li> <li>➤</li> </ul>

**K. Annual Contract and Use of Certification Marks**

Only the execution of a written contract between Demeter and the applicant, and issuance of a Farm Certificate, confers the license to use the Demeter certification marks “Demeter®” and “Biodynamic®”. Please see the Demeter *Labeling Standard* for more information.

Neither the contract nor the Certificate confers labeling rights upon packagers and processors to whom certified product is sold. If a packager or processor intends to sell a Demeter certified product they must apply independently to Demeter for a license.

## Appendix A: COMPOSITION OF VARIOUS MANURES

*Figures presented as fresh manures. Dried manures can contain up to 5 times the amounts of nitrogen, phosphoric acid and potash. Figures can vary depending on how manure is handled, what the animals are fed and type of bedding used (if any).*

		Excrement %	H2O %	Nitrogen	Phosphoric acid	Potash
Horse	solid	80	75	.55	.3	.4
	urine	20	90	1.35	Trace	1.25
Cow	solid	70	85	.40	.2	.1
	urine	30	92	1.00	Trace	1.35
Sheep	solid	67	60	.75	.5	.45
	urine	33	85	1.35	.05	2.1
Swine	solid	60	80	.55	.5	.4
	urine	40	97	.40	.1	.45
Hens	solid		55	1.00	.8	.4

Source: Buckman/ Brady, The Nature and Properties of Soils (New York; Macmillan Co. 1965) page 509

## Appendix B: PROHIBITED MATERIALS

This is a further clarification for all concerned. Basically we rely on OMRI but with the following notable exceptions:

- **Gelatin** Prohibited for any use
- **Plant hormones** Gibberellic acid is a material that we do not allow, though OMRI and some other certifiers do allow it.
- **Stylect oils** If product used is approved for use in NOP organic production, mineral oil is allowed for perennial tree and vine crops only.
- **Chilean nitrate**, Prohibited.
- **Copper products** Limited to maximum 3# Cu/ac/year, and if possible, 1#/application based on Demeter International Standards.
- **Synthetic amino acids** such as DL Methionine in poultry feed.
- **Manure from intensive livestock operations**

## Appendix C: CALCULATION OF STOCKING RATES

The stocking rate takes into account the development and maintenance of soil fertility. The maximum amount of nitrogen and phosphorus that may be supplied by way of the fertilization used may not exceed the amount that would be produced by those animals which the farm could support from its own fodder production.

Manure Units -measurements of fertility potential - are used to determine stocking rates for the various animal types. One manure unit is equivalent to 176 lbs of N and 154 lbs of P<sub>2</sub>O<sub>5</sub>.

The stocking rate is calculated utilizing Livestock Units (LU), and the corresponding Manure Units (MU), associated with various animals.

The maximum stocking rate may not exceed 0.8 Livestock Units/ Acre (.56 manure units/acre) if feed is imported. This is the equivalent of 100-lbs/ acre of applied N and 87-lb/ acre applied P<sub>2</sub>O<sub>5</sub>.

Note that this stocking rate might not be possible in all climates. The maximum allowed may need to be reduced if conditions require it in order to maintain the health of the farm.

Animal type	Stocking Rate		
	LU/animal	acres/animal	animals/acre
Breeding bulls	1.2	1.50	.66
Cows	1	1.25	.80
Cattle over 2 years old	1	1.25	.80
Cattle 1-2 years old	0.7	.87	1.14
Calves	0.3	.38	2.60
Sheep and goats up to 1 year old	0.02	.03	40.0
Sheep and goats over 1 year old	0.1	.13	8.0
Horses under 3 years old and young horses	0.7	.87	1.14
Horses, 3 years and older ponies and small breeds	1.1	1.42	.7
Pigs for meat production (45-110 lb.)	0.06	.08	13.0
Pigs for meat production over 110 lb.	0.16	.20	5.0
Breeding boars	0.3	.39	2.6
Breeding sows (including piglets to 45 lb.)	0.55	.67	1.5
Breeding sows without piglets	0.3	.38	2.6
Piglets	0.02	.03	40.0
Laying hens (without replacement stock)	0.0071	.009	112.6
Pullets (chickens, Cockerels for meat)	0.0036	.004	222.0
	0.0036	.004	222.0



## Appendix D: RESOURCES



Steiner College • Sacramento, CA

### Agricultural Schools

#### **The Rudolf Steiner College**

[www.steinercollege.edu](http://www.steinercollege.edu)

*Extensive educational offerings including classes, workshops, and conferences*

#### **Michael Fields Agricultural Institute**

[www.michaelfieldsagainst.org](http://www.michaelfieldsagainst.org)

*Sustainable farming instruction for beginning farmers and advanced growers including interactive workshops and on-site field training*

### Biodynamic Organizations

#### **The Demeter Biodynamic Trade Association (DBTA)**

[www.demeterbta.com](http://www.demeterbta.com)

*A membership organization for Demeter certified Biodynamic farms, food processors and distributors*

#### **The Biodynamic Farming and Gardening Association (BDA)**

[www.biodynamics.com](http://www.biodynamics.com)

*A membership organization open to the public and focused on Biodynamic agriculture, horticulture, and forestry. Founded in 1938, the BDA organizes conferences, workshops, and seminars and publishes books and a quarterly membership journal "Biodynamics."*

#### **The Josephine Porter Institute (JPI)**

[www.jpibiodynamics.org](http://www.jpibiodynamics.org)

*A resource for Biodynamic preparations and education and research in Biodynamic agriculture*

#### **Demeter International**

[www.demeter.net](http://www.demeter.net)

*The only ecological association composed of a network of individual certification organizations, representing approximately 4,200 producers in forty-five countries around the world*

### Books

*See the resource sections of JPI and the BDA for a wonderful list of books on Biodynamic farming and gardening.*