



Biodynamic System Plan

This will address the requirements of Demeter® certification.

Section 1: General Information		
Farm Name:	Owner/Contact:	Date:
Physical Address:		
Mailing Address:		
Phone:	Fax:	Email:
Year first certified by Demeter:	Year last completed application for Demeter certification was submitted:	Do you have a copy of current Demeter standards? <input type="checkbox"/> Yes <input type="checkbox"/> No
List specifically all crops or products requested for certification		
List all non-compliances from last year's ECD. State how the non-compliances have been addressed. <input type="checkbox"/> N/A		
<i>Inspector 1:</i>		
<i>Evaluator 1:</i>		
Section 2: Elements of the Farm Organism		
Section 2.1 General		
2.1 Split operations and parallel production is not permitted. Is the entire farm organism certifiable or in the process of transitioning? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Is the entire farm's commercial production under Biodynamic management or engaged in a plan for full conversion of the entire farm? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If no, explain acreage that is not certifiable or in-transition, including location, crops grown, and reason for not being included in Demeter certification:		



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Complete the Crop Plan to identify all acreage and field IDs.

2.2 If you are a new Demeter applicant, or adding new acreage that was not covered under the previous certificate, submit documentation showing 36 months of land history/no prohibited material applications, and 12 months of full Biodynamic management.

- 36-month materials and land use report attached 12-month Biodynamic management history attached.
- Current NOP organic certification along with most recent certification decision letter attached

2.3 List all off-farm inputs used in your production system for the following:

2.3a Fertilizers (please refer to section 4.2a below):

2.3b Pest control materials:

2.3c Seed and plant materials:

2.3d Water:

2.3e Biodynamic Preparations:

2.3f Other:

2.3g Are all the materials listed above permitted by NOP Organic regulations at a minimum?

2.3h Are any of these materials toxic and/or contrary to the health of the ecology of the farming system (even if allowed under NOP organic)?

*Note that some materials allowed by NOP regulations, such as Chilean Nitrate, Concentrated Plant Hormones (e.g. Gibberilic acid), copper, manures and other organic matter, and botanical insecticides are either not allowed or further regulated under Demeter certification.

2.3i What measures are taken to reduce the farm's dependence on the imported materials listed above?

2.3j Is there a threat of contamination of the farm from unwanted materials in used by neighbors? If yes, describe the activity along each border, referencing the farm map:



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If there is a potential for contamination, what measures are in place to prevent or otherwise avoid contamination?

2.4 Biological and Genetic Diversity

2.4a Describe your farm's interaction with its local ecosystem.

2.4b Does the farm have 10% of the overall land base as set aside biodiversity reserve (see 2.4 c and d below)?

2.4c Are native wild areas left intact on the farm? Approximately how many acres in relation to the total acreage under management? *

2.4d If there are no wild areas, is attention paid to establishing botanical diversity on the farm other than only harvested crops? Approximately how many acres in relation to the total acreage under management? *

*Note that for Demeter certification a minimum of 10% of the total land base under the control of the farmer needs to be set aside as botanical set aside (either planted or wild) that is allowed to develop through flowering.

2.5 Diversity in crop rotation and perennial planting schemes

Is monoculture avoided?

Are crop rotation strategies in place that avoid the mining of nutrients and the build-up of insect weed and disease species?



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2.6 Vegetative cover

How often and at what points in the calendar year are fields left without any kind of vegetative cover or protective crop residue?

Is attention paid to maintaining a vegetative cover (such as crop canopy, cover crops, non-synthetic mulches) protecting the soil during time the soil is vulnerable to degradation?

- Living Mulches
- Harvested/applied mulches
- Perennial/biannual crop systems
- Crop Residue
- Cover Crops
- Other

Inspector 2:

Evaluator 2:

Section 3: Seeds and Planting Stock

3.1 Seeds

3.1a Is attention paid to producing seed on the farm vs. importing seed from the outside?

3.1b List all seed that is produced on-farm:

3.1c If seed is imported, is there a focus on Biodynamic and organic open-pollinated varieties?

* Note that for Demeter certification – if hybrids are used – there is a need to avoid using varieties that are the result of protoplasm and cytoplasm fusion (particularly for brassicas) and also other genetic engineering techniques (see section 4 below). Please see the CMS List PDF for listing of varieties to avoid. **Note: Using and developing open pollinated crop varieties, as encouraged by the Demeter Farm Standard is a good way to avoid the use of such seed.**



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3.2 Seedlings and Planting Stock

3.2a Is attention paid to producing seedlings and perennial nursery stock on the farm vs. importing from the outside?

3.2b List all seedlings and planting stock produced on-farm:

3.2c If plant material is imported, is there a focus on Biodynamic/organic stock?

3.2d For on-farm production of seedlings and/or perennial stock, list all materials used in planting medium:

Planting medium is required to have a minimum of 25% Biodynamic compost. Does your planting medium have 25% BD compost at a minimum?

Inspector 3:

Evaluator 3:



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Section 4: Soil Fertility Management

4.1 Soil Fertility Management

The foundation of the fertility system needs to be based on strategies that emphasize generating fertility form within the life of the farm. It needs to be demonstrated that the following fertility management techniques are utilized to their maximum potential, when applicable, to a given site *before* a farm can import allowed fertility materials. There are also limitations on the amount of fertility that can be imported as discussed below.

4.1a Is fertility management based on living strategies with origins in the life of the farm itself? How are measures below used?

- Livestock integration:

- Green Manure:

- Legumes/nutrient catch crop rotation: Biodynamic preparations:

- Crop rotation:

4.2 Calculation of Applied and Imported Fertility

4.2a Total Nitrogen and Phosphorus applied:

The Demeter Farm Standard allows a maximum application of 100 lbs. of Nitrogen/ acre and 87 lbs. of Phosphorous (P₂O₅) / acre, annually averaged over the farm's total crop rotation acreage.

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.

Enter into the chart below all fertility inputs applied to the farm over the total acreage of the crop rotation. Please see Fertility Calculation Worksheet at the end of this application for example calculations.

Material	Imported or produced on-farm	N-P-K Analysis	Number of Applications	Number of Acres applied to	Rate in lbs/acre



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4.2b Portion of total applied Nitrogen and Phosphorus that is imported

The Demeter Farm Standard allows for a maximum of 36 lbs. N/acre and 31 lbs. P/acre of cultivated area to be imported annually.

An exception to this rule is for perennial crops (such as orchards, vineyards, etc.) which allows for 86 lbs. N/acre and 75 lbs. P/acre of cultivated area to be imported annually.

If a cropping system is one for which it can be documented that a minimum of 100 lbs. N/acre is exported in the form of the crop leaving the farming system as harvested commodity, a farm may import a maximum of 150 lbs. N/acre and 125 lbs. P/acre. Since this amount is equal to the maximum applied lbs./acre there is no need to do a separate calculation for the imported amounts.

Based on the information entered in the chart above, the imported pounds of N and P will be calculated.

4.3 Composting

4.3a Is on-farm composting part of your farming system?

4.3b What are the ingredients in your compost?

4.3c What portion of the compost ingredients are generated on the farm vs. imported?

4.3d Do compost piles have adequate C/N ratios, moisture, and aeration?

4.3e Are the compost preparations 502-507 used in making compost piles? How are they used?

4.3f Do imported compost or compost ingredients come from further than a 250-mile radius?



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4.4 Integration of Livestock

4.4a Do you incorporate livestock into your farming system? Yes, No

If **yes**, list the type and number of livestock:

If **no**, what are your reasons for not having livestock?

4.4b What is done to maximize the efficiency of manure collection and the return of fertility back to the farm (i.e. winter housing, strip grazing, sheet composting, centralized summer shade, watering areas, etc.)?

4.4c If you utilize intensive grazing, what is done to ensure maximum assimilation of the manure deposited by grazing animals towards quality soil humus?

4.4d In situations such as intensive grazing, how is the manure assimilation guided by the compost preparations #502- 507 (i.e. barrel compost, Pfeiffer field sprays, compost teas, etc.)?

4.4 e If you do not incorporate livestock, what measures are taken to generate fertility and rotation diversity in lieu of the presence of livestock?

4.4e If you do not incorporate livestock, what measures are being taken to integrate livestock in the future?

Is there a formal agreement with another neighboring farm concerning the exchange of manures? (note that it is possible to work with a nearby organic livestock operation given there is a formal relationship and the manure source is approved)

* Note for a Demeter Farm to not have livestock a formal exemption needs to be granted.

*Note that Demeter certification allows an exemption for livestock production as a crop not certified- the livestock on the farm do not have to meet the Demeter Livestock Standard (the land the animals live on has to be managed "organic" at a minimum" – it is considered more important for folks new to livestock to learn how they fit into the farm, how to steward them etc. – and thus incorporate them – first.



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Inspector 4:

Evaluator 4:

Section 5: Crop Management

5.1 Weed Management

The foundation of weed control needs to be based on strategies which emphasize prevention within the life of the farm itself. It needs to be demonstrated that the following weed control techniques, when applicable, are utilized to their maximum potential before allowed weed control materials can be imported

Is weed control based on living strategies with origins in the life of the farm itself?

How are the following methods utilized that succeed in reducing the need for importation of off farm weed control materials?

Timing of planting:

Understanding of the life cycle of weed species:

Adjusting fertility conditions that promote certain weed species: Shade/crop canopy:

Mulching:

Crop rotation:

Identifying and avoiding the spread of noxious weeds:

Irrigation strategies:

Grazing strategies:

Other:



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Inspector 5.1:

Evaluator 5.1:

5.2 Pest Management Plan

The foundation of disease and insect control needs to be based on strategies that emphasize prevention located within the life of the farm itself. It needs to be demonstrated that the following pest control techniques, when applicable, are utilized to their maximum potential *before* allowed pest control materials can be imported.

Is disease and insect control based on living strategies with origins in the life of the farm itself?

How are the following methods utilized to reduce the need for off-farm pest and disease control materials?

- Botanical species diversity:

- Predator habitat:

- Understanding of the life cycle of weed species
Balanced crop nutrition:

- Cropping diversity:

- Timing of planting:

- Crop rotation:

- Attention to light penetration and airflow:

- Biodynamic preparations:

- Other:



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Inspector 5.2:

Evaluator 5.2:

Section 6: Water Management and Conservation

6.0 Water Management and Conservation

6.1 How are the measures below utilized to conserve irrigation and/or rainwater?

- 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:

- Other:

6.2 How are the measures below utilized to protect water quality of river, ponds, wetlands, etc. that are on the farm?

- Keeping livestock off of waterways:

- Riparian protection /enhancement:

- Avoidance of nutrient leaching into ground water and water ways:

- Other:

6.3 Does the farm irrigate out of fish bearing water ways and / or have fish bearing waterways on the farm? Yes No

If yes, please answer the following questions:

Water and waterway conservation

Irrigation needs are required to be met based on strategies that emphasize water conservation.

Verify how he is following water conservation measures are demonstrably utilized to their maximum potential:

- Alternative pumping methods, such as solar pumps, nose pumps or wind pumps are considered

- The performance of irrigation system equipment is routinely monitored to verify motors, pumps and delivery systems are performing well and according to specifications



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- Irrigation scheduling takes into consideration crop requirements, daily rainfall amounts, soil types and evapotranspiration rates for the area.
- Soil moisture is monitored to improve irrigation efficiency in order to avoid excessive water application.

Waterways

When irrigating from native fish bearing waterways, verify how the following needs are considered:

- Installing fish screens on diversions in accordance with appropriate state department of fish and wildlife or other similar guidance specific to the farm's geographic location
- Avoiding channel manipulations that could negatively impact native fish populations
- Work on diversions, including installing and servicing pumps and intakes is conducted when sensitive native species are not present.
- If in stream work is done when there is water in the stream in stream sediment control and containment measures to prevent excessive sediment and construction debris from entering the water way.

Irrigation ponds should not have adverse impacts on stream temperature and water quality.

Inspector 6:

Evaluator 6:



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Section 7: Biodynamic Preparations

7.1 Source of BD Preparations

What are the sources of the BD preparations used on the farm (e.g. made on farm, made with local preparation group, JPI, etc.)?

- 500 Horn Manure

- 501 Horn Silica

- 502 Yarrow

- 503 Chamomile

- 504 Nettle

- 505 Oak Bark

- 506 Dandelion

- 507 Valerian

Which BD preparations are used regularly on the farm and how are they used?

- 500 Horn Manure:

- 501 Horn Silica:

- 502 Yarrow:

- 503 Chamomile:

- 504 Nettle:

- 505 Oak Bark:

- 506 Dandelion:

- 507 Valerian:



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7.2 Stirring and Application

How are the field spray preparations (500, 501, Barrel Compost, etc.) stirred?

How and when (time of day and time of year) is the 500, 501, Barrel Compost, or other field sprays applied?

What percentage of total land receives BD 500 annually? Cropped land?

What percentage of total land receives BD 501 annually? Cropped land?

How often does cropped land receive BD compost preparations, i.e. BD compost, Barrel Compost, etc.?

If spray equipment is used is it dedicated to use for the preparations only? Yes No

If not, what other materials are used in spray equipment and how is equipment cleaned prior to use in applying BD preparations?

What type of nozzles are used?

7.2 How are each of the preparations in use stored?

Inspector 7:

Evaluator 7:

Section 8: GMO Avoidance and Protection

8.1 Verify if any of the following crops are being grown: Alfalfa, Brassicas (such as canola or other Brassica Napa or Brassica Rapa crops that might cross with canola), Corn, Cotton, Papaya, Rice, Cucurbita pepo crops (such as zucchini and yellow crook neck squash or other cucurbits that might cross pollinate with these), Beets (such as sugar beets, table beets, chard):



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8.2 If any of these crops are grown, assess whether or not there is significant production of genetically engineered varieties of the crops within the following distances:

Alfalfa- 2 miles Canola - 2 miles
Corn - 3 miles Cotton - 2 miles
Papaya- 2 miles
Rice- 500 feet
Soybean- 500 feet
Beets- 5 miles
Zucchini/ yellow crook neck squash- 2 miles

Comments:

*Please note that this information will be used to assess whether or not testing is necessary based on review of the situation at hand. Some of the crops listed above exist in genetically engineered form but are not grown extensively (such as Zucchini / yellow crook neck squash. Some of them, such as alfalfa, are not currently grown extensively but could be in the near future. Some of them such as canola, corn, cotton and soybean are grown extensively. For farms located in regions where this is there is known extensive production of genetically engineered varieties of crops to be grown on the farm to be certified the potential for contamination needs to be looked at closely.

8.3. Post-harvest handling

Is post-harvest handling- such as seed transportation/cleaning etc.- done with equipment that has not been used to handle GMO crops?

8.4. Seed

If hybrid seed is imported, is an effort made to verify that the varieties used are not genetically engineered varieties?

8.5 Imported inputs

Do any imported inputs come from potential GMO bases – such as seed meals etc. based on common GMO crops like cottonseed, soy, corn gluten etc.?

Inspector 8:

Evaluator 8:



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Section 9: Affirmation

I affirm that all statements made in this application are true and correct. I understand that the operation may be subject to unannounced inspections and/or sampling for residues at any time as deemed appropriate to ensure compliance with Demeter standards. I understand that acceptance of this questionnaire in no way implies granting of certification by Demeter.

Signature of Operator:

Date:

Signature of Operator:

Date:

KEEP A COPY OF THIS FORM FOR YOUR RECORDS

Submit completed form by email to info@demeter-usa.org or mail to address below. Mail payment, Terms of Agreement, and supporting documents, including labels and maps, to:

**Demeter Association, Inc.
PO Box 1390
Philomath, OR 97370
Phone (541) 929-7148
Fax (541) 257-5538
info@demeter-usa.org**



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Fertility Calculation Worksheet for Total and Imported Materials Applied

Applied Nitrogen and Phosphorous

The Demeter Farm Standard allows a maximum application of 100 lbs. of Nitrogen/ acre and 87 lbs. of Phosphorous (P₂O₅) / acre, annually averaged over the farm's crop rotation. Practical implementation of this Standard depends on the type of farming system and the frequency of fertility applications over time.

An exception to this rule is given when the cropping system is one for which it can be documented that a minimum of 100 lbs. N/ Acre is exported in the form of the crop leaving the farming system as harvested commodity. With such documentation a farm may apply a maximum of 150 lbs. N / acre and 125 lbs. P₂O₅ / acre, annually.

If you know the guaranteed analysis of the material applied, commonly expressed as % N-P-K, calculate total N and P as illustrated in the following examples. For compost for which an analysis is not available, either have compost tested or, if manure-based compost, use the rule of thumb: 1-1-1 analysis applied to the actual amount of compost applied. If compost has been tested by a lab **and the analysis received is based on dry matter basis only** the test should also indicate % moisture and this amount of water needs to be taken into account when figuring compost application rates (i.e. the actual pounds of N and P applied / ton of compost is less with the added weight of the water than on a dry matter basis). The rule of thumb of 1-1-1 for compost that has not been tested is based on the compost as is and not on a dry matter basis.

Example Farm with 100 acres of cropped area- Fertilizers applied during growing season:

Material	analysis	Number of applications	Acres applied to	Rate in lbs./ acre	% N as decimal	% P as decimal	Lbs. N/a	Total lb. N	Lbs. P/a	Total lb. P
Compost	1-1-1	1	50	5 T/A	0.01	0.01	100	5,000	100	5,000
Liquid fish	4-2-2	2	100	40lb/A	0.04	0.02	3.2	320	1.6	160
alfalfa meal	4-1-1	1	25	1 T/A	0.04	0.01	80	2,000	20	500
							FARM TOTAL	7,320 LBS N		5,660 LBS P

For a 100 acres of crop production area the Demeter Standard would allow a maximum of 10,000 lbs. N (100lb/a X 100 acres) and 8,700 lbs. P (87 lb./a X 100 acres) total to be applied to this area in a given year. The above material use would be within the maximum allowed lbs. N and allowed lbs. P.

Imported Nitrogen and Phosphorous

The Demeter Farm Standard allows for a maximum of 36 lbs. N/ acre and 31 lbs. P/ acre of cultivated area to be imported annually.

An exception to this rule is for perennial crops (such as orchards, vineyards etc.) which allows for 86 lbs. N/ acre and 75 lbs. P / acre of cultivated area to be imported annually.

If a cropping system is one for which it can be documented that a minimum of 100 lbs. N/ Acre is exported in the form of the crop leaving the farming system as harvested commodity a farm may import a maximum of 150 lbs. N / acre and 125 lbs. P / acre. Since this amount is equal to the maximum applied / acre there is no need to do a separate calculation for the imported amounts.



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For the 100-acre farm above the Demeter Farm Standard would allow 3,600 lbs. N and 3,100 lbs. P total to be imported onto the farm and distributed to the 100 acres of land being cultivated. In the above example all of the alfalfa meal and fish emulsion was imported. The compost was made from 100% farm generated manure. Of the 7,320 lbs. of applied N - 3,320 lbs. were imported and of the 5,660 lbs. of applied P - 660/lbs. was imported (which is within the maximum permitted).