Greenhouse Organic System Plan

Account # _____
Name: _____
Date: _____
Year: _____

GENERAL INFORMATION NOS §§205.201, .202, .206(f), .272

In order to provide a complete description of your greenhouse production system, note that both this Organic System Plan (OSP) and the full Farm OSP must be completed. Facilities used for greenhouse (which also includes seed starting and any other indoor production), hydroponic and aquaponic production must be identified on attached maps. List all seeds, seedlings, and planting stock on the Seed Table. List in-ground production on the Crop Summary/Current Year Field Plan. For new in-ground production, complete a 3 Year Field History for sites under your management or submit a Prior Land Use Declaration form completed by the land owner or manager for land not under your management. All land used in container production must be free from prohibited inputs for 36 months prior to organic crop harvest

1. Are products produced for sale, for on-farm use, or both?
- ○ **sale**
- ○ **on-farm use**
- ○ **both**

2. How do you use your greenhouse? *Check all that apply.*
- ☐ **Transplants or seedlings**
- ☐ **Harvested crops**
- ☐ **Microgreens**
- ☐ **Mature plants or harvested crops in containers**
- ☐ **Cloning of annuals**
- ☐ **Grafting planting stock**
- ☐ **Other container production**
- ☐ **Hydroponic**
- ☐ **Aquaponic**
- ☐ **Other**

3. If other, explain:

4. If you use containers, indicate the materials used. *Biodegradable plastic or fabric is prohibited.*
- ☐ **Non-biodegradable plastic**
- ☐ **Non-biodegradable fabric**
- ☐ **Paper, including cardboard**
- ☐ **Other**

5. If other, explain:

6. Could containers or their sealant pose a threat to organic integrity (such as through contamination from prior nonorganic use or leaching of prohibited substances)?
○ **Yes** ○ **No**

7. If "yes," how do you ensure that organic integrity is maintained?

8. Describe all organic production facilities in the table below.

*In the "Identification" column, list the facility name or number on your **map(s)**. Describe in-ground production in the box. Use the "Description" column to describe whether plants are grown on table tops, or otherwise separated from the land. Describe containers used. If sprouts are grown, complete the Sprout Organic System Plan.*

Organic Greenhouse Facilities

Identification	Facility Type	Size (list as sq. ft. or acreage)	Description	In Ground

Additional Comments:

9. Do you have any nonorganic production? *If "no," skip to the Inputs Section.*

○ **Yes** ○ **No**

10. If "yes," list the types of nonorganic plants.

11. Describe all nonorganic production facilities in the table below. *Facilities listed below must be identified on attached **map(s)**.*

Non-Organic Facilities

Identification	Facility Type	Size (list as sq. ft. or acreage)	Description	Also used for Organic?

Additional Comments:

12. If you have nonorganic production, how do you prevent commingling and contamination of your greenhouse production?

- ☐ **separate facilities are used**
- ☐ **separate equipment is used**
- ☐ **organic production is labeled**
- ☐ **equipment is cleaned before use**
- ☐ **other**

13. If "other," explain.

14. **INPUTS:** The National Organic Standards require that all soil and crop inputs must be used in compliance with all restrictions and annotations. Inputs, including potting media, must not have been processed with or contain any prohibited ingredients. The use of on-farm manure or compost production should be described in the **Farm Organic System Plan**. If inputs are used, list all inputs such as potting media, fertility/growth, weed, disease or pest control inputs on the **Input Inventory**, and provide product labels and ingredient information for inputs not OMRI listed or previously approved by MOSA.

Are greenhouse inputs used? *List inputs on the **Input Inventory** and submit product labels and ingredient information for inputs not OMRI listed or previously approved by MOSA.*

○ **Yes** ○ **No**

15. **CROP ROTATION:** The National Organic Standards require a crop rotation plan that maintains or improves soil organic matter content, provides for pest management, manages nutrients, and provides erosion control.

Describe your crop rotation in areas used for in-ground plant production or when harvest occurs from container production. *Note N/A if not applicable.*

NATURAL RESOURCES §§205.2, 205.200, and 205.203

The National Organic Standards define organic production as a system managed to respond to conditions unique to your operation by integrating practices that foster cycling of resources, promote ecological balance, and conserve biological diversity. Whether production takes place in the field or in a greenhouse, practices must maintain or improve the natural resources of the operation, including soil and water quality. Appropriate conservation measures are to be maintained. Complete the following questions regarding natural resources, from the perspective of your indoor production system.

16. How does your greenhouse system foster cycling of resources, promote ecological balance, and maintain or improve biodiversity and the natural resources of your operation?

17. How does your greenhouse system foster soil fertility on your organic operation?

18. Describe container, media and any other waste products produced by your operation and your efforts to minimize and beneficially utilize the waste including any recycling or reuse programs in place.

19. Describe your water conservation practices.

20. What is the light source for your greenhouse production?

- ☐ **natural light**
- ☐ **artificial light**
- ☐ **other**

21. If "other" or "artificial light" is used, please describe.

22. Describe production aids or techniques adapted for greenhouse production, such as nonsynthetic CO2 enhancement, pollination techniques, and climate control.

MAINTENANCE OF ORGANIC INTEGRITY NOS §§205.103, .201, .202, .206, .272

The National Organic Standards require that prohibited substances do not compromise the integrity of the organic production system. Water used for irrigation of organic crops must not contain any prohibited substances intentionally added by the producer. Irrigation is defined as any type of watering done to greenhouse plants.

23. Is lumber treated with prohibited materials used in any part of your organic production facilities, such as posts, sill plates, benches or tables?
○ **Yes** ○ **No**

24. If "yes," where is the treated lumber located?

25. What is the minimum distance from the treated lumber to any in-ground production? *Note N/A if not applicable.*

26. If you have treated lumber, how do you prevent contamination of the soil and/or plants from the prohibited materials used in the treated lumber? *Not N/A if not applicable.*

27. What is the source of water used for production? *A safe Ecoli/fecal coliform test result is required for non-municipal water sources used for washing crops. Submit **test** results to MOSA.*

28. What equipment do you use for irrigation?

29. Is irrigation equipment dedicated organic?
○ **Yes** ○ **No**

30. Do you add inputs to your irrigation system?
*List inputs on the **Input Inventory** and submit product labels and ingredient information for inputs not OMRI listed or previously approved by MOSA.*
○ **Yes** ○ **No**

31. Do you use inputs to clean irrigation lines/nozzles?
*List inputs on the **Input Inventory** and submit product labels and ingredient information for inputs not OMRI listed or previously approved by MOSA.*
○ **Yes** ○ **No**

32. Describe equipment cleaning procedures. *List inputs on the **Input Inventory** and submit product labels and ingredient information for inputs not OMRI listed or previously approved by MOSA.*

33. How do you ensure inputs/cleaners/sanitizers do not contaminate organic products? *Note N/A if not applicable.*

HYDROPONICS AND AQUAPONICS NOS §§205.2, .200, .105, .201, .272

The National Organic Standards define organic production as a production system that is managed in accordance with all applicable standards to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling or resources, promote ecological balance, and conserve biodiversity. Hydroponic production and handling must meet the production and handling requirements of the National Organic Standards. Practices in place to support biodiversity and conserve natural resources must be described in the Natural Resources section of this OSP. There must be biological activity within the growing media, substrate, or planting mix. Production practices must foster soil fertility of the organic operation.

Hydroponic production is prohibited by Canadian Organic Regulations (COR) and the European Organic Regulations and crops produced hydroponically cannot be sold as organic in Canada or Europe. The COR definition of hydroponic is: Cultivation of plants in aqueous nutrient solutions without the aid of soil. The soil is replaced by an inert culture medium (e.g. coarse sand, expanded clay, rockwool). Plants are cultivated by using a nutritive solution that is brought to each plant by taking into account the requirements of the species.

Aquaponic production is the production of plants using water that has been used to cultivate aquatic organisms (such as fish). Fish cannot be certified to the National Organic Standards at this time. MOSA does not certify fish, but plants grown aquaponically can be certified organic if their production is in compliance with the National Organic Standards.

34. Do you grow plants using hydroponic or aquaponic production? *If "no," skip to the last question to Complete.*
○ **Yes** ○ **No**

35. What system type(s) are used for your production? *Check all that apply.*
- ☐ **wick**
- ☐ **noncirculating water culture**
- ☐ **flood and drain**
- ☐ **drip**
- ☐ **nutrient film technique**
- ☐ **aeroponic**
- ☐ **aquaponic**
- ☐ **bioponic**
- ☐ **other**

36. If "other," explain.

37. What are containers made of?

38. Is a medium used in your system?
○ **Yes** ○ **No**

39. If "yes," indicate medium type. Check all that apply. *List all inputs on the **Input Inventory** and submit labels and product ingredient lists for inputs that are not OMRI listed or previously approved by MOSA.*
- ☐ **perlite**
- ☐ **gravel**
- ☐ **vermiculite**
- ☐ **clay pellets**
- ☐ **coconut fiber (coir)**
- ☐ **soil**
- ☐ **potting soil**
- ☐ **peat moss**
- ☐ **sand**
- ☐ **rockwool (prohibited in organic production)**
- ☐ **composted bark**
- ☐ **other**

40. If "other," explain.

41. **NUTRIENTS:**
Do you use a nutrient solution? *List all inputs on the **Input Inventory** and submit labels and product ingredient lists for inputs that are not OMRI listed or previously approved by MOSA.*
○ **Yes** ○ **No**

42. How often does the nutrient solution contact plant roots?

43. Explain your nutrient solution refreshing procedures.

44. How do you ensure that the disposal of waste does not contribute to environmental contamination?

45. Do edible plant parts have contact with the nutrient solution?
○ **Yes** ○ **No**

46. If "yes," describe in detail.

47. What is the nutrient solution temperature range and how is this controlled?

48. How do you monitor and balance nutrient levels?

49. Are water additives used to balance pH or otherwise adjust your water supply? *List all inputs on the **Input Inventory** form and submit labels and product ingredient lists for inputs that are not OMRI listed or previously approved by MOSA.*
○ **Yes** ○ **No**

50. How do you monitor and adjust the pH of your nutrient solution?

51. For aquaponic production: Describe the location of fish and plants and how nutrients flow through the system, and submit a facility **map** illustrating your aquaponic system. Be sure all system components are clearly labeled and described (rearing tanks, settling basins, filters, pumps, etc.).

52. For aquaponic production: Describe how you prevent fish manure solids from contacting the edible portion of organic plants grown?

53. For aquaponic production: How was the bacterial community in your aquaponic system established?

54. **COMPLETE:** Is your Organic System Plan complete?
○ **Yes** ○ **No**