Certified Naturally Grown Mushroom Inspection Forms

Producer: _____ Name of operation: _____

Inspector:_____ Affiliation (eg. farm, university)_____

The inspector is: ☐ mushroom producer – CNG ☐ mushroom producer – Cert Organic

☐ mushroom producer – non-certified ☐ soil-based farmer – CNG or Cert Organic (as approved by CNG in advance)

Date of the inspection: _____ Duration (time spent on inspection): _____

INSTRUCTIONS

The goal of the inspection is two-fold. Firstly, the inspection aims to verify that the CNG standards are being upheld. Just as important, the inspection offers an opportunity for producers to systematically review their practices with the inspector and reflect on how to improve sustainability in their operation.

The Inspector should:	The Producer should:
▪ Use the Worksheets to guide questions to determine compliance with CNG standards. ▪ Record what is discussed on the Worksheets. ▪ Offer feedback and recommendations to improve practices and operations. ▪ Help the producer set sustainability goals. ▪ Complete these sections: Inspection Overview, Summary Inspection Report, and Inspector Contact Information. ▪ Review List of Inputs on page 10.	▪ Before inspection: Complete the List of Inputs on page 10 for the inspector to review on-site. ▪ Gather relevant records including water test results, notes on inquiries to water experts, and spawn and substrate records. ▪ During: walk through operation with inspector, answering questions and sharing openly. ▪ Complete the Sustainability Goals section ▪ Indicate one of your goals on the bottom of the Summary Inspection Report. ▪ After: Return all worksheets to CNG (scanned image or fax is fine) and keep a copy for your records.

PLEASE REMEMBER: It is easy to get side-tracked into specific conversations and discussions. Do that *after* the inspection is complete. Stay on track and perform a thorough inspection of the operation.

INSPECTION WORKSHEETS

I. Substrate, Containers & Other Materials

A. What types of mushrooms are being produced at this operation?

☐ Shiitake (Lentinula)
☐ Oyster mushrooms (Pleurotus)
☐ King stropharia, garden giant, wine cap (Stropharia)
☐ Reishi (Ganoderma)
☐ Enoki, velvet foot (Flammulina)
☐ Maitake, hen of the woods (Grifola)
☐ Butterscotch mushroom (Nameko)
☐ Lion's mane, pom-poms (Hericium)
☐ Chicken of the woods (Laetiporus)
☐ White button, portabella (Agaricus)
☐ Other:

B. Substrate & Supplements

(i) What substrate material(s) does the producer use? Please summarize here, and also indicate below. Be sure to note here any substrate or supplements that are not mentioned below.

(ii) *Allowed:*

- ☐ Logs and wood products from untreated and non-GMO wood
- ☐ Coffee grounds (with or without filters)
- ☐ Straw, agricultural byproducts, grains from non-GMO crops
- ☐ Gypsum

(iii) *Allowed, with restrictions:*

☐ Logs

(a) Were logs obtained in adherence to any state or local quarantines of forest products?

a. ☐ Yes ☐ No **prohibited*

(b) *If logs were harvested specifically for mushroom production*, was it done with consideration for good management practices or forest improvement?

b. ☐ Yes ☐ No **prohibited* ☐ Not Applicable

☐ Manure

(c) Is it from animals that receive feed that's not conventionally grown, and is GMO free?

c. ☐ Yes ☐ No **prohibited*

(d) Is the manure either pasteurized or composted? Which?

d. ☐ Yes ☐ No **prohibited*

(e) *If it's composted manure*, does it have an initial CNG: N ratio of 25:1 to 40:1 and is maintained at a temperature between 131-170°F for either (1) 3 days using an in-vessel or static aerated pile system, or (2) 15 days using a windrow composting system, where the materials are turned at least 5 times?

e. ☐ Yes ☐ No **prohibited*

☐ Agricultural byproduct from cotton, corn, soy or other crops that are typically genetically modified

(f) Have you verified that the substrate is not from a GMO crop?

f. ☐ Yes ☐ No **prohibited*

(iv) *Prohibited: *if any are checked, see (a)-(c).*

- ☐ Cottonseed hulls, soy or corn byproducts not verified to be non-GMO
- ☐ Cardboard (except unprinted, for spawn only)
- ☐ Paper (except coffee filters)
- ☐ Manure from animals that are fed GMO or conventionally grown feed
- ☐ Manure that is not pasteurized or properly composted
- ☐ Clothing and other fabrics
- ☐ Municipal compost
- ☐ Wood or wood products treated with herbicides
- ☐ Wood products that contain synthetic glues or other additives
- ☐ Wood from rare trees, or transported in violation of any quarantine

*If any prohibited substrate materials are used:

(a) Which materials? For what type/s of mushroom?

(b) Is the producer willing and able to discontinue using these immediately? If not immediately, by when can they discontinue use?

(c) Is there anything else you'd like to add that may help us determine the status of this producer's certification?

C. Substrate Sterilization and Pasteurization

(i) If the producer uses substrate that is sterilized or pasteurized, what methods and materials does s/he use?

Please complete the section below, and also note here any materials not addressed there. Are any of these materials cause for concern?

(ii) *Allowed*:

- ☐ Burnt wood ash to make a treatment solution
- ☐ Cold water fermentation
- ☐ Calcium hypochlorite for pasteurization
- ☐ Yucca extract as wetting agent
- ☐ Rubbing alcohol, hydrogen peroxide, or diluted bleach solution (5% sodium hypochlorite) to sanitize cooling surface
- ☐ New drums or other containers
- ☐ Non-potable water

(iii) *Allowed, with restrictions:*

- ☐ Used drums or containers
  - (a) Has the producer verified from the source that the containers never contained toxic materials?
  - a. ☐ Yes ☐ No **prohibited*
- ☐ Hydrogen peroxide to make a treatment solution
  - (b) Is the treatment solution allowed to stabilize before discarding?
  - b. ☐ Yes ☐ No **prohibited*
- ☐ Hydrated lime to make a treatment solution
  - (c) Is the treatment solution balanced back to pH 7 before disposal?
  - c. ☐ Yes ☐ No **prohibited*

(iv) *Prohibited*: **if any are checked, see (a)-(c).*

- ☐ Drums or containers that may leach during pasteurization or sterilization process
- ☐ Used drums or containers that contained toxic materials
- ☐ Used drums or containers with unknown prior uses
- ☐ Synthetic wetting agents

*If any prohibited materials are used:

(a) Which materials?

(b) Is the producer willing and able to discontinue using these immediately? If not immediately, by when can they discontinue use?

(c) Is there anything else you'd like to add that may help us determine the status of this producer's certification?

D. Substrate Disposal

Required: • Used substrate must be composted, either on-site or elsewhere, and returned to the soil, unless the used substrate can be put to other continued productive use. • Composted and composting substrate must be stored in a way that it won't leach nutrients into waterways.

Prohibited: • Discarding spent substrate materials into the solid waste stream (such as curbside pickup in towns, or transfer stations in rural areas). • Allowing composted and composting substrate to leach nutrients into waterways.

(i) How does the producer re-use, recycle, and/or dispose of used substrate?

(ii) What measures does the producer take to ensure composted or composting substrate doesn't leach nutrients into waterways?

(iii) If neighbors are nearby, how does the producer ensure that composting substrate does not become a nuisance? Does the producer take steps to keep the area neat and tidy where it's visible to neighbors? Is there adequate fungus gnat and fly control?

E. Containers, Racks, and Other Materials

(i) Please review which materials are in contact with the producer's substrate, spawn, or fruiting bodies (for example, as racks, beds, containers, or other materials). Please complete the section below, and also note here any materials not addressed there. Are any of these materials cause for concern?

(ii) *Allowed*

- ☐ Racks made of cedar, plastic, or metal
- ☐ Polypropylene
- ☐ Containers made of HDPE, MDPE, LDPE (high, medium, or low density polyethylene)
- ☐ Food grade cheese wax, plant wax, and beeswax for caps on inoculated logs
- ☐ Plastic tarps and shade cloth

(iii) *Allowed, with restrictions*

- ☐ Treated lumber (generally only allowed as frames for racks)
  a. Does treated lumber come into contact with any substrate or fruiting bodies?
  a. ☐ Yes **prohibited*
  ☐ No
- ☐ Re-purposed (used) plastic containers for fruiting
  b. Has the producer verified that the containers have not contained toxic materials?
  b. ☐ Yes
  ☐ No **prohibited*

(iv) *Prohibited: *if any are checked, see (a)-(c).*

- ☐ Containers or totes that previously held toxic materials, chemicals, or have unknown prior use
- ☐ Plastics that contain BPA (Bisphenol A)
- ☐ Paint on inoculated logs
- ☐ Cheese wax made with ethylene-propylene co-polymer, synthetic colors
- ☐ Polystyrene/Styrofoam containers or caps
- ☐ Railroad ties or treated wood for beds
- ☐ Petroleum jelly on logs
- ☐ Wax that is perfumed or dyed.

*If any prohibited materials are used:

(a) Which materials? How are they used?

(b) Is the producer willing and able to discontinue using these immediately? If not immediately, by when can they discontinue use?

(c) Is there anything else you'd like to add that may help us determine the status of this producer's certification?

II. Spawn

Allowed: • Pegs, grain, sawdust, plugs. • Unprinted cardboard for spawn production. • Spawn that is not certified.
Prohibited: • Spawn made with materials prohibited for use as substrate, including GMO grain or feedstock, glue or other adhesives. (For full list see Section B(ii)-(iv) on pages 1-2.)

(i) What source does the producer use for spawn? Is it purchased? Does the producer make their own?

(ii) Does the producer ensure that spawn is not made with GMO feedstock, or other materials prohibited for use as substrate?

III. Water

Required: For ALL water sources, producers must make inquiries to relevant experts regarding which contaminants are known to be present in the area. Producers must keep records of these inquiries, including the date, name and affiliation of the person contacted, and a list of which contaminants the expert(s) noted were common. • Water must be tested at the point of use, and results must fall below levels specified by EPA (see listing in back of these worksheets.)

A. Water Experts and Contaminants of Concern

(i) What water quality experts were consulted by the producer?

(ii) What contaminants of concern were identified by the water quality experts?

(iii) Was the water tested for those contaminants? If not, why not?

(iv) Examine the test results. Are they within acceptable levels? Note any contaminants that show levels that may be of concern, and any observations by the producer on their assessment of the test results.

B. Well Water

Allowed, with restrictions: Well water used to irrigate fruiting bodies must also be tested for E. coli *once per year, and test results must be negative with no* E. coli *detected, in addition to the testing for any contaminants of concern identified by water quality experts.*

(i) Does the producer use well water to irrigate fruiting bodies?

☐ YES ☐ NO [skip to next question]

⇓

a. If so, does the producer test for *E.coli* once per year, and receive results of no *E.coli* detected*?*

☐ YES ☐ NO

⇓

b. Are they willing to start doing this in the future?

☐ YES ☐ NO **prohibited*

⇓

When? _____

C. Surface Water

Allowed, with restrictions: Surface water used to soak logs and irrigate non-fruiting substrate must be tested for E. coli *at the beginning and middle of the season and levels must fall below 235 cfu/100ml. This is in addition to testing for any other contaminants of concern as identified by water quality experts.*

Prohibited: Surface water cannot be used to mist or irrigate fruiting bodies.

(i) Does the producer use surface water to do the following:

☐ soak logs or irrigate non-fruiting substrate ☐ mist or irrigate fruiting bodies **prohibited*

⇓

a. Does the producer test for *E.coli* at the beginning and middle of the season*?*

☐ YES ☐ NO **prohibited*

⇓

b. Do the test results indicate that there is no more than 235 cfu/100ml?

☐ YES ☐ NO **prohibited*

IV. Pest and Disease Management

Required: • Use of monitoring and preventative practices to pro-actively control populations and prevent serious outbreaks.

Recommended: • Producers are encouraged to use physical exclusion, santation, and biosecurity practices to prevent pests and disease.

Allowed: • Light or sticky traps. • Bti treatment of substrate. • Encouraging beneficial predators. • Bleach, lime, hydrogen peroxide, or isopropyl alcohol to treat mold on substrate (not fruiting bodies). • Compressed air or small vacuum to remove thrips. • Diatomaceous earth. • Sluggo.

Prohibited: • Synthetic pesticides. • Poison. • Blowing on fruiting bodies to eliminate thrips.

A. What are the producer's biggest pest challenges?

B. What practices does the producer use to prevent or manage these pests?

C. Does the producer use inputs for insect control? If so, indicate here what they are, and whether they appear to be allowed. (See list on page 10)

D. What are the main <u>disease</u> challenges the producer faces?

E. What practices does the producer use to prevent or manage these disease challenges?

F. Does the producer use inputs for disease control? If so, indicate here what they are, and whether they appear to be allowed. (See list on page 10)

V. Sustainability

A. Energy

<u>Recommended:</u> Producers should aim to minimize energy use when making decisions about lighting, air circulation, and indoor temperature regulation. Producers should consider opportunities to use renewable energy to reduce fossil fuel use.

What measures has the producer taken to conserve energy, improve energy efficiency, and/or use renewable sources?

B. What other steps has the producer taken to reduce the environmental impact or increase the sustainability of their operation?

VI. Site Location and Buffers

<u>Required</u>: Producers must maintain an adequate buffer between their operation and potential sources of contamination, such as from another farming operation, to minimize the risk of contamination from drift of pesticides, herbicides, and other prohibited substances. The required size of the buffer varies based on the neighboring activities, what substances are used, how they are applied, prevailing wind patterns, and any physical barriers between potential sources of risk and the mushroom production site.

<u>Prohibited</u>: Substrate may not be directly placed on any surface contaminated with heavy metals or other synthetic pollutants.

For indoor producers:

A. How does the design and placement of the ventilation system prevent contamination from outside sources?

For outdoor producers:

A. What is the land use on the land adjacent to the production area? Is there risk of contamination by spray? If so:
(i) What is sprayed?

(ii) How frequently?

(iii) How is it applied?

B. Are there other factors that increase or decrease risk of contamination:
(i) What is the distance between the production area and potential sources of contamination?

(ii) What are the prevailing wind patterns?

(iii) Is there a windbreak (e.g. trees and shrubs) that helps block drift?

(iv) Is there an agreement with neighbor about spraying times or practices that minimize potential drift?

Did you address these items?

☐ Substrate & fertility materials	☐ Spawn	☐ Plant diseases
☐ Substrate disposal	☐ Water sources & testing	☐ Sustainability
☐ Sterilization & pasteurization	☐ Pest management	☐ Site location & buffers
☐ Other materials	☐ Disease management	

EPA Limits for Constituents in Reclaimed Water for Irrigation – Long Term Use	
	Mg/L
Aluminum	5
Arsenic	0.1
Barium	0.1
Boron	0.75
Cadmium	0.01
Chromium	0.1
Cobalt	0.05
Copper	0.2
Fluoride	1
Iron	5
Lead	5
Lithium	2.5
Manganese	0.2
Molybdenum	0.01
Nickel	0.01
Selenium	0.02
Vanadium	0.1
Zinc	2

INSPECTION OVERVIEW

A. Describe notable or outstanding aspects of the operation. Consider making this a tour site for a gathering of your local network of mushroom producers. ☺
B. The inspector may find minor violations that aren't grounds for removal from the CNG program but that should be addressed in order for the operations certification to be continued. Do you recommend any Corrective Actions be taken to bring the operation into stronger alignment with CNG standards and/or principles? (These should also be noted in the Inspector Contact Information page.) In what timeframe should they be addressed (e.g. immediately, within two months, by next year's inspection, etc)? Corrective Actions: Time Frame:
C. List any Corrective Actions from the last inspection and indicate whether they have been acted upon.

SUSTAINABILITY GOALS: going beyond the core standards

This is to be completed by the farmer with the assistance of the inspector. It should remain onsite for future reference.

Sustainability is an ongoing process and is context specific. We are united by our commitment to caring for the earth and our families with the long-term view in mind. Certified Naturally Grown is largely focused on ecological sustainability; however, to ensure the continued success of any farm it's important to include the economic and social aspects of sustainability as well.

The farmer should take this opportunity to reflect on and set some goals for improving sustainability on his or her farm using the inspector as a sounding board. These may be short-term or long-term goals and could be in any of the following areas or others:

- **Water**: Use efficiency, rain water capture, run-off prevention, protecting wetlands and waterways
- **Inputs**: Use efficiency, reducing use, replacing with local products and/or preventative practices
- **Biodiversity**: Protecting/providing habitat for wildlife, buffering wild areas, supporting beneficial insects
- **Energy:** Energy efficiency, renewable energy
- **Waste**: Reduction, reuse, recycling
- **Economic viability**: Maintain/improve the bottom line; pay yourself and staff fair wages.
- **Engaging the community**: Educate the public, increase food access

For the farmer being inspected: What are 3 goals for improving sustainability of your operation in the short term and long term? Discuss strategies to achieve these goals.

Goal	Time frame	Steps necessary to make it happen
1.		
2.		
3.		

LIST OF INPUTS

List all inputs used for supplemental nutrients, pests, and disease. You may also use a separate page. To expedite the process, this list may be completed beforehand by the producer and then reviewed on site by the inspector. Alternatively, the inspector can fill it in during the inspection. This sheet should remain onsite for next year's inspection. It may be used again, and edited as needed. Feel free to type your list on the computer!

For reference you can see a link to the Guidance on Substrate Materials at cngfarming.org/mushrooms. It is not a comprehensive list, but includes the most common inputs. If you have a question on a specific product, you can do a quick search on the OMRI database (online at www.omri.org) or contact CNG. (Note that not all OMRI-approved products are appropriate for mushroom operations.)

CNG encourages pest and disease management practices that are:

- Preventative, such as cultural practices and sanitation
- Mechanical and physical practices, such as exclusion, hand removal, lures and traps
- Biological, botanical or mineral products

NOTE: Inputs containing synthetic materials, or that are a byproduct of a GMO crop, are not allowed.

Product	Use	Frequency

How does the producer evaluate whether or not a product is approved for use in CNG production?	
Are there any inputs that could be eliminated or reduced through cultural practices? Could any be replaced with a product produced locally?	

---------- ! NOTE ! ----------

The following section (the Summary Inspection Report) is the one that is scanned and made public on the farm's profile.

Certified Naturally Grown

MUSHROOM SUMMARY INSPECTION REPORT

Producer/s: _____ Name of operation: _____

Inspector: _____ Affiliation (e.g. farm name)_____

The inspector is:

☐ mushroom producer – CNG

☐ mushroom producer – Cert Organic

☐ mushroom producer – non-certified

☐ soil-based farmer – CNG or Cert Organic (as approved by CNG in advance)

Date of the inspection: _____ How long did the inspection last?:_____

Based on my observations and interview with the producer(s), I feel confident in making the following declarations about the operation:

The producer relies on preventative measures for pest control, and does not use chemical pesticides.	Agree / Disagree _____ (Your initials)
The producer is careful to make sure that no genetically modified or chemically treated substrates are used.	Agree / Disagree _____ (Your initials)
The water used in this operation has been tested and meets CNG standards for mushroom production.	Agree / Disagree _____ (Your initials)
The operation is surrounded by an adequate buffer to protect from drift contamination from other sources nearby.	Agree / Disagree _____ (Your initials)
The producer is careful to ensure containers used for production never contained toxic materials.	Agree / Disagree _____ (Your initials)
The producer strives to enhance the environmental benefits and minimize any potential negative impacts of mushroom production.	Agree / Disagree _____ (Your initials)

I feel confident in recommending that the above listed producer(s) and their operation

be included **not be included**

in the Certified Naturally Grown program.

_____ _____

Signature of Inspector Date

_____ _____

Signature of Farmer Date

Observed by these Community Stakeholders:

_____	_____	_____
Stakeholder Signature	Stakeholder Name	Title or Role
_____	_____	_____
Stakeholder Signature	Stakeholder Name	Title or Role

INSPECTOR CONTACT INFORMATION

This information will be kept completely confidential but is required for this form to be valid, so we have the option to contact you with any follow-up questions or to confirm that you conducted the inspection and filled in this form.

Operation you inspected:_____

Your Name:_____ Affiliation: _____

Your Phone: _____ Your Email:_____

Your Mailing Address:_____

_____

Do you recommend this operation for CNG certification?

☐ I recommend this operation ☐ I recommend this operation with minor corrective actions ☐ I don't recommend this operation for CNG certification

INSPECTION NOTES

Do you recommend any Corrective Actions be taken to bring the farm into stronger alignment with CNG standards and/or principles? (These must also be noted in the Inspection Overview on p.8.)
What about the farm stood out as interesting or impressive? (Optional) Feel free to jot a note below your signature on the Summary Inspection Report that will be scanned and uploaded to the farm's profile.

If you'd like to recommend this farm for certification, you're almost done! But FIRST:

- □ Did you sign the Summary Inspection Report at the bottom? Did the producer sign too?
- □ Did you initial the agree/disagree statements?
- □ Did you indicate your farm name/affiliation on the summary report?

Please return the Inspection Worksheets, List of Inputs, Overview, Summary Inspection Report and Inspector Contact Information, to CNG using one of these three methods:

Mail to:		**Fax to:**		**Email to:**
Certified Naturally Grown 540 President Street, Third Floor Brooklyn, NY 11215	**OR**	718-596-4697	**OR**	forms@naturallygrown.org

We recommend a copy of these forms (or the original) is left with the producer whose operation was inspected.

Questions? Get in touch! info@naturallygrown.org or 845-687-2058