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IBI Biochar Certification Program Manual

Requirements and Procedures for IBI Biochar Certification

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Document Scope and Purpose

The International Biochar Initiative (IBI) has prepared this document, the *IBI Biochar Certification Program Manual: Requirements and Procedures for Biochar Certification* (hereinafter referred to as the *Program Manual*), with the intent of providing participants in the *IBI Biochar Certification Program* and associates and stakeholders of the International Biochar Initiative (IBI) a manual detailing the *IBI Biochar Certification Program*.

The *IBI Biochar Certification Program* only certifies biochar(s) that conform to the standards set forth in the *IBI Biochar Standards*. The *IBI Biochar Certification Program* **does not certify any other product, including a product mixed with biochar,** nor does the *IBI Biochar Certification Program* certify biochar systems, processes, technologies, or equipment related to the production of biochar, whether proprietary or otherwise. The *IBI Biochar Standards* were deliberately drafted to be ‘technology neutral’. The *IBI Biochar Certification Program* does not address issues of sustainability, energy or greenhouse gas (GHG) balance, or life cycle analysis.

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1 **1 Introduction**

2 The *IBI Biochar Certification Program* is a voluntary, self-certifying, biochar certification program
3 administered by the International Biochar Initiative (IBI). The purpose of the program is to
4 provide biochar manufacturers (also referred to as biochar producers) the opportunity to certify
5 their biochar(s) as having met the minimum criteria established in the *IBI Biochar Standards*.
6 Biochar(s) certified through the *IBI Biochar Certification Program* are required to pass required
7 tests using the test methods specified by the *IBI Biochar Standards*. Biochar testing is required
8 to be carried out by independent laboratory(ies). IBI will allow biochar that successfully passes
9 the testing criteria and all other applicable conditions of the *IBI Biochar Standards* to carry the
10 *IBI CertifiedTM biochar seal*.

11 Biochar manufacturers whose biochar meets the standards and testing requirements of the *IBI*
12 *Biochar Standards* are eligible to apply for IBI biochar certification.

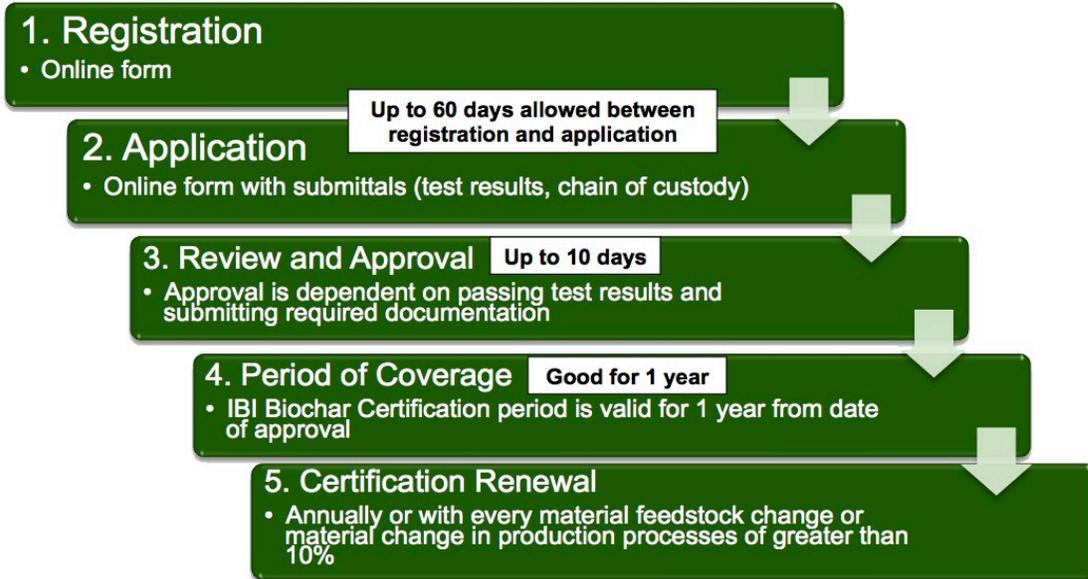
13 **Note:** Phase 1 of the *IBI Biochar Certification Program* is focused only on implementation in the
14 United States and Canada. For the initial phase of implementation and until further notice, IBI
15 will only accept applications from biochar manufacturers producing biochar in the United States
16 and/or Canada. IBI intends to expand the *IBI Biochar Certification Program* scope to more
17 countries in the future as resources permit.

18

1 **1.1 Program Overview**

2 The following diagram provides a high-level overview of the *IBI Biochar Certification Program*
3 phases.

IBI Biochar Certification Program Online, Self-Certification Process



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5 **1.2 The Role of IBI**

6 IBI is the world's foremost authority and source of credible information on biochar, and has
7 established itself as an international leader in helping to make sustainable biochar systems
8 commercially viable in order to combat climate change and enhance soils. IBI relies on its global
9 network of stakeholders, supporters, and members to make continual progress towards building
10 a sustainable, economically viable industry that preserves and enhances natural resources
11 while contributing to agricultural and food security, minimizing environmental degradation, and
12 providing ecosystem and ancillary benefits to society. As part of these goals, IBI seeks to build
13 confidence and certainty in the biochar marketplace, and the *IBI Biochar Standards* and *IBI*
14 *Biochar Certification Program* are cornerstones of this work. As with the *IBI Biochar Standards*,
15 IBI will provide focus, leadership and transparency to the *IBI Biochar Certification Program*, and
16 will monitor program effectiveness and revise the program over time, as science and market or
17 policy circumstances may warrant.

18 **1.3 Program Goals**

19 A primary goal of the *IBI Biochar Certification Program* is to eliminate consumer and
20 marketplace uncertainty and confusion around biochar by creating a standardized, recognized
21 system to certify biochar that meets the *IBI Biochar Standards*. The *IBI Biochar Standards*
22 ensure that biochar materials intended for application to soils meet minimal physicochemical
23 properties and pass tests designed to identify the presence of certain potential toxicants.

1 IBI believes that globally-developed, science-based, transparent standards and certification
2 opportunities for biochar materials will provide market and investor assurances that are
3 necessary to drive commercialization of this important industry.

4 **1.4 Manufacturer and Consumer Benefits**

5 The *IBI Biochar Standards* were developed in a global, transparent, inclusive process adhering
6 to international standard-setting processes. International biochar experts collaborated to define
7 what biochar is, as well as what it is not, and to identify essential physicochemical properties for
8 biochar materials, toxicant screening protocols, and appropriate test methodologies to measure
9 and document these biochar properties. The biochar community recognizes IBI as a credible
10 brand. Buyers are assured that biochar with the *IBI Certified™ biochar seal* meets the *IBI*
11 *Biochar Standards* for material characteristics and passes screening tests for certain potential
12 toxicants. IBI offers biochar manufacturers and consumers product differentiation and quality
13 assurances in a rapidly growing marketplace.

14 **1.5 Terms and Definitions**

15 A complete list of terms and definitions is found, along with a list of acronyms and abbreviations,
16 in Appendix 2 *Glossary*. Defined terms are indicated with a double underline on the first
17 instance of the use of that term in the following sections.

18 **2 IBI Biochar Certification Program Requirements for the Biochar** 19 **Manufacturer**

20 It is highly recommended that biochar manufacturers/IBI biochar certification applicants
21 (hereinafter referred to as applicants) thoroughly read and familiarize themselves with the most
22 current version of the *IBI Biochar Standards* document, available at [http://www.biochar-](http://www.biochar-international.org/characterizationstandard)
23 [international.org/characterizationstandard](http://www.biochar-international.org/characterizationstandard) before proceeding with biochar certification
24 registration and application. Note that for it is a requirement of the *IBI Biochar Certification*
25 *Program* that the manufacturer is the party to submit the biochar for testing and to label the
26 approved biochar product as IBI certified.

27 **2.1 Registration**

28 Applicants seeking IBI biochar certification are required to register each biochar material they
29 wish to certify. Applicants can register online at any time at [http://www.biochar-](http://www.biochar-international.org/certification)
30 [international.org/certification](http://www.biochar-international.org/certification) by using the Registration Form for IBI Biochar Certification.
31 Applicants are not required to be IBI members but are required to develop a profile in IBI's
32 system. Profiles are created when stakeholders enroll as dues-paying members or as non-
33 member contacts to receive IBI's monthly newsletter. The registration form will initiate a profile
34 for applicants who do not have an existing profile in IBI's system at the time of registration.

35 Maintaining an updated system profile will help IBI and applicants to efficiently track and
36 process the IBI biochar certification application, documentation, and renewal.

1 Applicants must register online before they apply for certification. While it is permissible for an
2 applicant to register and apply at the same time, IBI will allow up to (60) days to complete the
3 IBI certification application online, starting from the day the online registration form is completed.
4 If program fees change and/or a new version of this *Program Manual* or the *IBI Biochar*
5 *Standards* are published after registration but prior to application submission, the applicant will
6 be allowed to pay the fee and/or use the version of the *Program Manual* or *IBI Biochar*
7 *Standards* in place at the time of registration. See Section 8.4 *Grace Period for Registration*
8 *under Prior Program Versions* for further information.

9 For application acceptance by IBI, required tests must have been completed no more than (90)
10 days prior to submission of the completed application. Test results that are dated more than (90)
11 days prior to submission of a completed application will not be considered as valid for approval
12 of certification.

13 For applicants who have not yet submitted their completed application within (60) days of their
14 registration date, IBI will provide a reminder that there are (30) days remaining to submit a
15 completed application with accompanying required materials. After (60) days, the current
16 registration will expire and manufactures/applicants will need to re-register their biochar in order
17 to continue with the IBI biochar certification process.

18 **2.1.1 Product Registration Number**

19 For each biochar material that is registered, applicants will receive an email receipt including a
20 system-generated product registration number as part of their electronic confirmation from IBI.
21 This product registration number is unique and is important for tracking and communication
22 purposes. The product registration number is required when submitting a full application, and IBI
23 will use the product registration number to track individual biochar registrations.

24 **2.2 Application**

25 At any time after registration but no longer than 60 calendar days from the date of registration,
26 applicants can submit a completed Application Form for IBI Biochar Certification online at
27 <http://www.biochar-international.org/certification>. Applicants will need to supply the product
28 registration number(s) received during the registration process. In the online Application Form
29 for IBI Biochar Certification, applicants are required to provide the following information:

- 30 1. Contact information
- 31 2. Acknowledgement of Terms and Conditions for IBI biochar certification
- 32 3. Biochar identification information (as described in the *IBI Biochar Standards*)
 - 33 a. Biochar name/description (or Trademark, if applicable)
 - 34 b. Feedstock composition information
 - 35 i. Type of feedstock (processed feedstock or unprocessed feedstock) and
36 description
 - 37 ii. Percentage of total composition
 - 38 iii. Country of origin
 - 39 c. Country where biochar was manufactured
 - 40 d. Intended country(ies) where the biochar will be sold for use

- 1 4. Results from biochar testing according to the *IBI Biochar Standards*
- 2 5. Uploaded copies of the following required forms/documents:
 - 3 a. Completed IBI Chain of Custody Form (see Section 2.3.1)
 - 4 b. Completed and signed test results on proprietary forms from each independent
 - 5 laboratory used for testing
 - 6 c. Quality Assurance/Quality Control form(s) from independent laboratory(ies) used
 - 7 for testing
- 8 6. Certification fee payment

9 Applicants will receive an automated email receipt acknowledging the date of their online
10 application submission. IBI's goal is to perform an initial review of all incoming applications
11 within (10) business days of the date of receipt but cannot guarantee that the review will be
12 completed this quickly. See Section 4 *Application Review and Approval Process* for details on
13 the approval process and time required.

14 Adequate documentation and reporting will be required by biochar manufacturers seeking to
15 gain certification. The reporting of biochar feedstock and mandatory and optional test results are
16 all necessary in order to provide assurance of end-product properties. Record keeping will be
17 mandatory in order to establish proof of adequate sampling, testing, and results. Documentation
18 of biochar feedstock and type, production parameters (processing temperature and residence
19 time), and test results should be kept for seven years. Individual biochar producers may wish to
20 consult with a local attorney to determine whether recordkeeping for longer than seven years is
21 appropriate, in light of state, regional, or provincial laws regarding product liability claims.

22 **2.2.1 IBI Feedstock Chain of Custody**

23 Applicants must identify all feedstock source(s) that are used to produce biochar. Information on
24 feedstocks is used to provide necessary assurances that feedstocks were harvested legally. For
25 IBI Biochar Certification approval, applicants must provide feedstock information for multiple
26 categories, listed in the following sections.

27 **2.2.1.1 Feedstock Type and Description**

28 The applicant must provide information on the feedstock type (whether it is processed or
29 unprocessed) as well as a physical description of the feedstock. For example, pine wood chips,
30 corn stover, or cow manure.

31 **2.2.1.2 Feedstock Conversion Rate**

32 The applicant must provide information on the quantity of feedstock converted to biochar over a
33 given time period i.e., the throughput of the thermochemical conversion process. For example, if
34 20 metric tons of feedstock are converted at a rate of 2 tons/day, the applicant should indicate
35 that those 20 metric tons of feedstock cover a time period of 10 days of thermochemical
36 conversion.

37 **2.2.1.3 Feedstock Harvest Location**

38 Biochar feedstocks can be made from diverse biomass sources. In theory, biochar feedstocks
39 could be harvested from high conservation value ecosystems (e.g., primary forests) and/or
40 protected areas where harvesting of biomass is prohibited. IBI requires that applicants ensure

1 the legal harvesting of their feedstock(s) by providing information on the harvest location of
2 those feedstock(s).

3 Required information includes a written description of the harvest location, the country and
4 state/province/region of harvest, and the latitude and longitude (lat/long) coordinates specifying
5 a point and/or polygon where harvest occurred.

6 In cases where lat/long coordinates are not obtainable, IBI requires all three of the following:

- 7 1) the location (address and/or lat/long coordinates) of the collection facility (e.g., lumber
8 mill) and approximate radius of harvest from the collection facility;
- 9 2) proof of purchase (e.g., invoices, bills of lading, shipping receipts, etc.) showing, at a
10 minimum, the date and quantity of feedstock purchased; and
- 11 3) a signed attestation from the applicant stating that the feedstock has not been harvested
12 illegally.

13 **2.2.1.4 Third-party sustainability certification of feedstock**

14 Applicants may bypass the requirements listed in Section 2.2.1.3 above if all feedstock(s) used
15 to make biochar has/have been independently certified by a third-party sustainability certification
16 program listed in Table 1 below:

17 **Table 1. IBI approved third-party sustainability certification programs for biochar**
18 **feedstocks.**

Certifying Body	Acronym	Feedstock
Forest Stewardship Council	FSC	woody
Sustainable Forestry Initiative	SFI	woody
American Tree Farm System	ATFS	woody
Canadian Standards Association – Sustainable Forest Management	CSA	woody
Roundtable on Sustainable Biomaterials	RSB	biomass

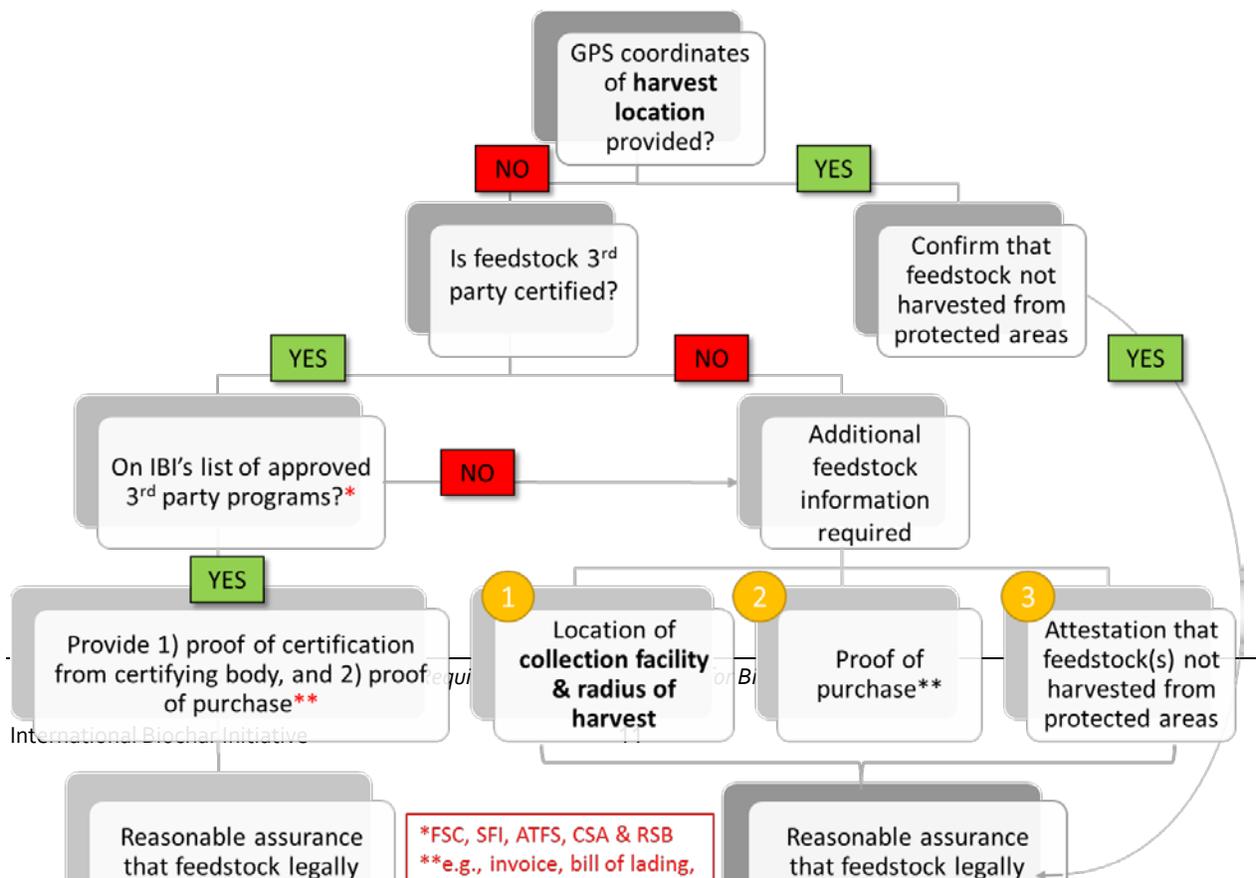
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20 In cases where the applicant is using feedstock(s) certified by any of the programs listed in
21 Table 1 to meet the IBI requirements for legality of feedstock harvest, the applicant must provide
22 1) proof of certification from the certifying body (i.e., the certificate); and 2) proof of purchase
23 (e.g., invoices, bills of lading, shipping receipts, etc.) showing, at a minimum, the date and
24 quantity of feedstock purchased. Figure 1 below depicts a flow chart showing the required
25 information and documentation for all sources of biochar feedstock(s).

26 **2.2.1.5 Confidentiality of Feedstock Information**

27 Some of the chain of custody information is placed only on the Non-Public Chain of Custody
28 Form in order to protect personal privacy. This information will not be disclosed by IBI except as
29 described in Section 6.10. However, information included on the Public Chain of Custody Form
30 may be disclosed to members of the public at any time upon request.

Figure 1. Flow chart showing feedstock information required for IBI biochar certification.



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2.2.2 Required Laboratory Tests

Applicants are required to have their biochar tested by an independent laboratory according to the *IBI Biochar Standards*. A summary of the three categories of testing in the *IBI Biochar Standards* follows:

Test Category A – Basic Utility Properties: **Required for all biochars**. This set of tests measures the most basic properties required to assess the utility of a biochar material for use in soil.

Test Category B – Toxicant Assessment: **Required for all biochars**. Biochars made from processed feedstocks must be re-tested more frequently than biochars made from unprocessed feedstocks.

Test Category C – Advanced Analysis and Soil Enhancement Properties: **Optional for all biochars**. Biochar may be tested for advanced analysis and enhancement properties in addition to meeting test requirements for Test Categories A and B. All tests in Test Category C are optional. Producers may report on none, one, some, or all of the properties in this category.

Further information on each of the testing categories, the parameters to be tested, and the required test methods are provided in Section 4 and Appendices 1, 2, 3 and 5 of the *IBI Biochar Standards* Version 2.0.

Test results submitted with the IBI biochar certification application must have been completed no more than 90 days prior to submission of the completed application. Test results should be attached to the application submission in PDF file format and be of clear and legible quality.

2.2.2.1 Laboratory Standards

Laboratory analysis of biochar must be conducted by trained and licensed laboratory professionals following the appropriate procedures outlined for each test. Please refer to Appendices 3 and 4 of the *IBI Biochar Standards* for further guidance on sampling procedures and sample processing and handling prior to analysis. Testing shall follow strict quality assurance and control requirements (QA/QC) according to standardized laboratory procedures. Laboratory professionals are expected to be trained in the relevant field of analytical chemistry and operate in professional laboratories that have received general laboratory accreditation. Such accreditation should be provided by a relevant governing body or an international standards body like the ISO. Adherence to protocols overseen by accreditation bodies and set forth in internal QA/QC programs provides assurances that testing laboratories will provide reliable and replicable results and that an appropriate standard of quality is met. Laboratories are expected to provide information describing their internal QA/QC programs (see Section 2.3.3).

2.2.2.2 Testing Laboratories

1 A list of laboratories that IBI knows to be conducting the required tests necessary for
2 certification is available on the *IBI Biochar Certification Program* website. By listing these
3 laboratories, IBI confers no endorsement or quality assurances regarding these laboratories, nor
4 does it make any claims regarding the validity of the laboratory or its test results. The list is
5 offered to allow applicants to more easily identify laboratories available to perform the requisite
6 tests. The list will be updated at least quarterly by IBI. Applicants are **not** required to use
7 laboratories that IBI lists, and are free to select a laboratory of their choice as long as the
8 laboratory(ies) selected are appropriately licensed and professionally accredited and follow IBI-
9 required test methodologies.

10 IBI does not require the use of any particular laboratory, nor does it endorse any particular
11 laboratory. By making use of a laboratory for the required testing, participating applicants agree
12 to defend and hold IBI harmless from and against any and all claims, actions, demands,
13 liabilities, losses, settlements, costs, and fees (including, without limitation, reasonable
14 attorneys' fees and court costs) arising from or allegedly arising from any results of laboratory
15 testing.

16 **2.2.2.3 IBI Laboratory Test Form**

17 It is highly recommended that applicants provide and request that testing laboratories use the
18 IBI Laboratory Test Form in addition to using a proprietary form with test results. The IBI
19 Laboratory Test Form contains expanded information for laboratories regarding required test
20 methods and provides a succinct template for ensuring collection of all required tests and test
21 results for application submission. If this form is used, it must be submitted for *each biochar*
22 *material* to be certified, and it must be signed by the laboratory, certifying that it completed the
23 tests. (Applicants may also use this template to facilitate assembly of their biochar label (see
24 Section 6.4 *Biochar Labeling Requirements*.)

25 **2.2.3 Quality Assurance/Quality Control Form**

26 The Quality Assurance/Quality Control (QA/QC) Form is a document to be provided to
27 applicants by the laboratory that conducts any tests required for IBI Biochar Certification.
28 Applicants must request a copy of this form from each laboratory used to complete requisite
29 tests and must submit the form(s) with their completed application submission. The QA/QC form
30 is a required document for biochar certification. Laboratories are free to use proprietary or self-
31 generated QA/QC forms.

32 **2.2.4 Material Safety Data Sheet**

33 While not required by the IBI as part of the *IBI Biochar Standards* or related *IBI Biochar*
34 *Certification Program* documents, it is recommended that applicants provide a relevant Material
35 Safety Data Sheet (MSDS) for the biochar(s) to be certified. Brief outlines of MSDS document
36 creation are available from numerous online sources, including [MSDS Search](#), the [Canadian](#)
37 [Center for Occupational Health and Safety](#), and the [US Department of Labor Occupational](#)
38 [Safety and Health Administration](#).

39 IBI does not prescribe production and handling expectations for biochar, but instead provides
40 recommendations for safe production processes. It is the responsibility of the biochar

1 manufacturer to produce biochar in a safe manner. IBI recommends that best practices be
2 followed throughout the manufacturing and transportation of biochar.

3 Local requirements and regulations for the operation of biochar production facilities must be
4 followed. Where applicable, biochar production must comply with local and international
5 regulatory requirements and treaties that govern thermal processes, the production of volatile
6 and particulate emissions, and the transport of goods. Relevant to local and international
7 regulatory compliance, applicants should follow the two recommendations listed below:

- 8 1. Biochar should be tested to address the potential for self-heating and flammability during
9 storage and transportation, and if necessary properly treated to prevent these
10 circumstances from arising; and
- 11 2. Documentation of the results of this testing, and any potential treatments used, should
12 be appended to the MSDS.

13 IBI may not require these practices as part of its definition and certification of biochar since they
14 do not relate directly to biochar quality, but they are important considerations in good business
15 practice and responsible biochar production, transport, and commerce. The majority of nations
16 provide detailed guidelines, expectations and regulations governing the manufacturing sector
17 and will have relevant information available to commercial operators.

18 **3 Program Fee**

19 The *IBI Biochar Certification Program* is open to all applicants who wish to certify their biochar
20 according to the *IBI Biochar Standards*. The certification fee is **US\$500.00** per biochar material
21 to be certified and must be paid upon application submission. IBI will accept payment in the
22 form of credit card, PayPal transfer, check, or bank transfer. Refunds cannot be awarded if an
23 application is denied on the basis of incomplete applications or failed test results. IBI will charge
24 a **US\$75.00** processing fee for applications that require further processing based on incomplete
25 information submitted for the initial application (see Section 4.1). The required tests must have
26 been completed no more than 90 days before submission of a completed application.

27 The online application submission constitutes a binding contractual agreement between the
28 applicant and IBI, whereby the applicant agrees to all terms and conditions set forth by IBI. For
29 detailed terms and conditions see Section 6 *Full Terms and Conditions of Use*.

30 Applicants will receive an automated email receipt documenting the date of their online
31 application submission.

32 **4 Application Review and Approval Process**

33 The online application system will allow for successful application submission if an attachment
34 for each of the required documents is uploaded and all required fields in the form are filled out.
35 IBI will review all applications to ensure all applications have been submitted with correct,
36 completed, required documentation and attachments. IBI's goal is to complete the review and

1 respond to incoming applications within (10) business days of the date of receipt, but IBI cannot
2 guarantee that the review will be completed this quickly. In cases where additional
3 documentation is needed, IBI will communicate with the applicant to expediently complete the
4 application.

5 Upon approval of an application, IBI will immediately deliver (by email) a dated notice of
6 application approval, a Certificate of Use, compressed electronic files of the IBI Certified™
7 biochar seal, and the IBI Certified™ Biochar Seal: Guidelines and Usage Requirements. The
8 Certificate of Use for the IBI Certified™ biochar seal becomes effective the date of application
9 approval, when the seal package is sent to the approved applicant by IBI. Applicants can begin
10 using the IBI Certified™ biochar seal immediately upon receipt. **The period of coverage of an**
11 **approved biochar is (12) calendar months from the application approval date** (see Section
12 6.1 for further information).

13 **4.1 Application Re-Submission Form**

14 In the case that an application needs to be re-submitted for lack of completed required
15 documentation, the applicant must use the Application Re-Submission Form for IBI Biochar
16 Certification. A current link to the form will be sent to the applicant by IBI. This form is similar to
17 the original application form. Applicants needing to complete this form will only need to complete
18 sections which were incomplete or missing. Applicants will have (30) days to complete the re-
19 submission application. IBI aims to review re-submissions of previously incomplete applications
20 within (5) business days from the date of receipt of re-submission.

21 **5 IBI Biochar Certification Renewal**

22 Biochar manufacturers seeking to renew their IBI biochar certification must apply for certification
23 renewal at least 45 days prior to the current certification expiration date in order to allow re-
24 application processing time and to permit uninterrupted use of the IBI Certified™ biochar seal on
25 their biochar product(s). Biochar manufacturers should adhere to the following instructions for
26 certification renewal:

- 27 1. Meet all of the requirements of the IBI Biochar Certification Program as outlined in
28 the IBI Biochar Certification Program Manual and the IBI Biochar Standards. Biochar
29 manufacturers must adhere to the guidance of these documents using versions that are
30 up to 90 days old at the time of their IBI biochar certification expiration.
- 31 2. Test biochars at qualified laboratory(s) for the IBI Biochar Standards Category A and B
32 tests required with the initial certification.
 - 33 • Please note, the following exception is made for IBI Certified™ biochars made
34 exclusively from unprocessed feedstocks: Category B tests are only required to
35 be repeated every three years rather than annually, as long as there is no
36 "material change" in the thermochemical production parameters or the feedstock
37 composition. Please review Section 5.4 of the IBI Biochar Standards Version 2.0
38 for further information.

3. Apply and submit required documentation using the online Application Form for Biochar Certification Renewal.

The application fee for IBI biochar certification renewal is **US\$450.00**.

6 Full Terms and Conditions of Use

The online application submission by the applicant constitutes a binding agreement between the applicant and IBI. Upon application approval, IBI will grant the applicant non-exclusive, non-transferable, non-licensable rights to display the *IBI Certified™ biochar seal* in conjunction with the sale or marketing of the *IBI Certified Biochar* and to use the *IBI Certified™ biochar seal* in promotional, advertising, and informational material describing the *IBI Certified™ Biochar*. The applicant agrees to the following legal terms and conditions as outlined in Sections 6.1 through 6.15 below.

6.1 Period of Coverage

Participating applicants are granted use of the *IBI Certified™ biochar seal* for twelve (12) months from the date of application approval. Upon successful certification approval by IBI, IBI will immediately deliver (by email) notice of application approval, the *IBI Certified™ biochar seal* package, the *IBI Certified Biochar Seal: Guidelines and Usage Requirements*, and a *Certificate of Use* noting the dates of certification validity for each specific and unique biochar that is certified. The *Certificate of Use* for the *IBI Certified™ biochar seal* becomes effective the date the *IBI Certified™ biochar seal* package and *IBI Certified™ Biochar Seal: Guidelines and Usage Requirements* is sent by IBI. The applicant can begin using the *IBI Certified™ biochar seal* upon receipt.

Manufacturers are allowed to sell their product with the *IBI Certified™ biochar seal* at any time as long as the biochar was produced during the 1-year IBI biochar certification period of coverage. However, any biochar manufactured after expiration of the period of coverage may not be marked with the *IBI Certified™ biochar seal* or marketed as *IBI Certified™*.

6.2 Geographic Restrictions

Phase 1 of the *IBI Biochar Certification Program* is focused only on implementation in the United States and Canada. For the initial phase of implementation and until further notice, IBI will only accept applications from biochar manufacturers producing biochar in the United States and/or Canada. IBI intends to expand the *IBI Biochar Certification Program* scope to more countries in the future as resources permit.

6.3 Payment of Fees

Applicants participating in the *IBI Biochar Certification Program* shall pay all applicable certification and renewal fees as indicated in this *Program Manual*. IBI reserves the right to change application fees and processing charges at any time. Any changes in fees put into effect after a product is registered will not apply to product applications completed within the requisite

1 60-day timeframe. Up-to-date program fees will be listed on the *IBI Biochar Certification*
2 *Program* website at www.biochar-international.org/certification.

3 **6.4 Biochar Labeling Requirements**

4 It is important that information about specific biochar characteristics, test categories, and
5 feedstock origins be provided in a uniform way in order to communicate useful and meaningful
6 information to biochar consumers, regulators, and other stakeholders. In conjunction with the
7 use of the *IBI Certified™ biochar seal*, approved applicants will be required to share information
8 about the biochar feedstock and final biochar material on the product label in a standardized
9 format as described in Section 6.4.2.

10 **6.4.1 IBI Certified™ Biochar Seal**

11 The *IBI Certified™ biochar seal* is a one-dimensional seal that indicates IBI certification of the
12 biochar content of a given product. The seal can only be affixed on biochar that has been
13 certified by IBI as part of the *IBI Biochar Certification Program*. This includes: (1) the use of the
14 *IBI Certified™ biochar seal* on biochar in individual packaging, containers, wrapping, etc. or on
15 large boxes, crates, etc. used for transportation of products; or (2) the use of the *IBI Certified™*
16 *biochar seal* on documentation associated with the IBI certified biochar (e.g., invoice, packaging
17 list, advertisement, brochure, etc.) where the use of the *IBI Certified™ biochar seal* refers to the
18 IBI certified biochar(s).

19 For further information on requirements for using the *IBI Certified™ biochar seal* pertaining to
20 packaging, graphic display, and blended biochar products, please review the *IBI Certified™*
21 *Biochar Seal: Guidelines and Usage Requirements* available at [http://www.biochar-](http://www.biochar-international.org/certification/using_the_seal)
22 [international.org/certification/using_the_seal](http://www.biochar-international.org/certification/using_the_seal).

23 **6.4.2 Product Information Labeling**

24 Participating applicants must provide consumers with the following information about their
25 biochar product on the product label:

- 26 • results of all required tests in the *IBI Biochar Standards*;
- 27 • country where the biochar was manufactured;
- 28 • country(ies) where the biochar will be sold (or is intended to be sold) for use;
- 29 • feedstock material composition (feedstock ingredients) and type (whether processed
30 or unprocessed), including the identification of any diluents making up 10 percent or
31 more of the total feedstock content;
- 32 • country of origin of the biochar feedstock; and
- 33 • basic product information including:
 - 34 ○ brand name;
 - 35 ○ net weight of the biochar package; and
 - 36 ○ name and address of the biochar manufacturer.

1 This information shall be visible and clear and either (1) placed directly on a label on the biochar
2 product package; or (2) accessible via a web-link on the biochar product package; or (3)
3 otherwise included with all transactional documents, packaging, advertisement, or other
4 commercial documentation associated with the biochar. See Appendix 1 for a sample biochar
5 label.

6 Other labeling requirements may be imposed by international, national, federal, provincial, state,
7 or local laws and regulations. As needed, biochar producers should review applicable laws and
8 regulations, confer with regulators, and consult with a qualified attorney.

9 **6.5 “Material Change” in Feedstock or Thermochemical Production** 10 **Parameters**

11 Any *IBI Certified™* biochar that undergoes a material change in feedstock type or
12 thermochemical production parameters during the period of coverage must complete a new
13 certification application at the time that the material change occurs. Material change is defined
14 as changes in feedstock type or thermochemical production parameters of greater than 10%.
15 Biochar that has undergone a material change cannot carry the *IBI Certified™ biochar seal* and
16 must complete a new registration and application. For further information on how to determine a
17 material change and related re-testing requirements please see Sections 5.3 and 5.4 and
18 Appendix 6 of the *IBI Biochar Standards Version 2.0*.

19 **6.6 Quality Control**

20 IBI reserves the right to conduct randomized sampling of *IBI Certified™* biochar in the
21 marketplace to ensure the validity of test results reported to IBI. IBI may investigate biochar
22 producers that appear to present a high risk of improper testing practices or other inappropriate
23 certification activities. The determination of what biochar producers present a high risk of such
24 conduct is within the sole discretion of IBI and may be based on information reported by the
25 suspect producers, biochar consumers, or any other parties.

26 IBI reserves the right to monitor the appropriate use of the *IBI Certified™ biochar seal* to ensure
27 participating applicants meet the requirements set forth by IBI and agreed to by manufacturers.
28 Participating applicants shall undertake steps that IBI may reasonably request to assist IBI in
29 monitoring the appropriate use of the *IBI Certified™ biochar seal*. IBI has the right to take all
30 action that it deems necessary to ensure participating applicants' activities and uses of the *IBI*
31 *Certified™ biochar seal* are consistent with the terms, conditions, and uses as set forth in this
32 document.

33 **6.7 Ownership**

34 The *IBI Certified™ biochar seal* is a registered trademark owned by the International Biochar
35 Initiative. Participating applicants will maintain no interest in the *IBI Certified™ biochar seal*
36 other than the rights to use as granted by IBI. IBI shall remain the sole and exclusive owner of
37 all right, title, and interest in the *IBI Certified™ biochar seal*. Unauthorized use of the *IBI*
38 *Certified™ biochar seal* is prohibited and may lead to legal action.

6.8 Assistance

Participating applicants shall assist IBI in complying with any formalities to protect the *IBI Certified™ biochar seal* under U.S. or foreign law. Participating applicants shall promptly notify IBI should they learn of use by a third party of any mark that is confusingly similar to the *IBI Certified™ biochar seal*. Participating applicants shall cooperate fully to assist IBI with any legal or equitable action taken by IBI to protect IBI's rights to the *IBI Certified™ biochar seal*.

6.9 Representations, Warranties, and Covenants of IBI

IBI does not make, and hereby specifically disclaims, any representation, warranty, claim, or guarantee regarding biochar tested and characterized according to IBI Biochar Standards, including but not limited to any representation, warranty, claim, or guarantee relating to the safety or fitness of such biochar for a particular purpose. Independent professional judgment must be exercised when producing and using biochar and IBI makes no representation or warranty as to the safety or quality of biochar tested and characterized according to *IBI Biochar Standards*. IBI does not purport to address all of the safety concerns, if any, associated with the use of the *IBI Certified™ biochar seal* or the use or production of biochar tested and characterized according to the *IBI Biochar Standards*. It is the responsibility of the participating biochar manufacturer, and users or consumers of biochar, to establish appropriate safety and health practices and determine the applicability of any national, state, provincial, and local regulatory limitations prior to use.

IBI does not make, and hereby specifically disclaims, any representation, warranty, claim, or guarantee regarding biochar that has not been tested and characterized according to *IBI Biochar Standards*, including but not limited to any representation, warranty, claim, or guarantee relating to the safety or fitness of such biochar for a particular purpose.

IBI is not a seller of biochar and does not make, and hereby specifically disclaims, any and all representations, endorsements, guarantees, and warranties, express or implied, regarding the use of this document or biochar tested and characterized according to the *IBI Biochar Standards*, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose, title and non-infringement of third-party rights. IBI advises consumers of biochar that, from IBI's perspective, all biochar tested and characterized according to this document is purchased as is and with all potential faults from the biochar manufacturer.

IBI expressly disclaims any grant of apparent or actual authority from IBI to manufacturers of biochar tested and characterized according to *IBI Biochar Standards*.

6.10 Confidentiality

During the course of participation in the *IBI Biochar Certification Program*, applicants acknowledge that they may disclose information related to their business, strategy, suppliers, customers, or products, which they may consider confidential or proprietary.

With the exception of the information solely provided on the Non-Public Chain of Custody Form, all information provided to IBI pursuant to requirements of the *IBI Biochar Certification Program* will not be considered confidential information and will not be treated as confidential by IBI.

1 Some information is duplicated between the Non-Public Chain of Custody Form and the public
2 forms; any such duplicated information is considered non-confidential by IBI.

3 When contacted with requests, IBI will first refer such inquiries to the appropriate biochar
4 producer for a response. If the biochar producer does not respond to the request or refuses to
5 provide the information within a time period that IBI considers, in its sole discretion, to be
6 commercially reasonable, IBI will disclose all requested information, except that provided on the
7 Non-Public Chain of Custody Form (which is dealt with below), copying the biochar producer to
8 any such disclosure.

9 Information provided to IBI on the Non-Public Chain of Custody Form will be disclosed to and
10 fully reviewable by IBI employees as part of IBI's certification program. IBI may track, organize,
11 and publish any such information in an aggregate manner and which does not permit
12 identification of participating applicants, their customers, or their products.

13 In addition, information from the Non-Public Chain of Custody Form will be disclosed if a court
14 orders IBI to disclose that information, if a subpoena is issued to IBI for such information, if a
15 state or federal regulatory agency requests such information from IBI for an official purpose, or if
16 the biochar producer consents to such disclosure. IBI will attempt to contact the biochar
17 producer who submitted the non-public information prior to disclosing it, but cannot guarantee
18 that contact will be made before IBI complies with a court order, subpoena, or administrative
19 request.

20 **WARNING:** All information provided on the Public Chain of Custody Form (i.e.,
21 information that is not solely found on the Non-Public Chain of Custody Form) may be publicly
22 disclosed by IBI at any time. If a participating manufacturer does not agree to this disclosure of
23 information, its sole remedy is to cease participation in the *IBI Biochar Certification Program*.

24 **6.11 Termination**

25 IBI may require a biochar manufacturer to terminate use of the *IBI Certified™ biochar seal* if a
26 participating biochar manufacturer fails to meet or perform any requirement of the *IBI Biochar*
27 *Certification Program*. IBI retains the right to terminate the *IBI Biochar Certification Program* at
28 any time.

29 **6.12 Indemnification**

30 By using the *IBI Certified™ biochar seal* and participating in the *IBI Biochar Certification*
31 *Program* applicants hereby agree to defend and hold IBI harmless from and against any and all
32 claims, actions, demands, liabilities, losses, settlements, costs, and fees (including, without
33 limitation, reasonable attorneys' fees and court costs), arising from or allegedly arising from their
34 participation in the *IBI Biochar Certification Program* or use or misuse of the *IBI Certified™*
35 *biochar seal*.

36 IBI does not require the use of any particular laboratory, nor does it endorse any particular
37 laboratory. By making use of a laboratory for the required testing, participating applicants agree
38 to defend and hold IBI harmless from and against any and all claims, actions, demands,

1 liabilities, losses, settlements, costs, and fees (including, without limitation, reasonable
2 attorneys' fees and court costs) arising from or allegedly arising from any results of laboratory
3 testing.

4 **6.13 Limitation on Liability**

5 Under no circumstances will IBI be liable for any loss or damage caused by participating
6 applicants' reliance on the information obtained from using the *IBI Certified™ biochar seal*. It is
7 the participating biochar manufacturer's responsibility to evaluate the accuracy, completeness,
8 and usefulness of the *IBI Biochar Standards* and the use of its corresponding certification mark,
9 the *IBI Certified™ biochar seal*. In no event shall IBI be liable for any direct, indirect, punitive,
10 incidental, special, or consequential damages arising out of or relating to the use of the *IBI*
11 *Certified™ biochar seal*, whether based on warranty, contract, tort, strict liability, or any other
12 legal theory. Because some jurisdictions do not allow the exclusion or limitation of liability for
13 negligence, consequential, incidental, or other damages, in such jurisdictions IBI's liability is
14 limited to the greatest extent permitted by law. If applicants are dissatisfied in the *IBI*
15 *Certification Program* or their use of the *IBI Certified™ biochar seal*, their sole and exclusive
16 remedy is to stop using the *IBI Certified™ biochar seal*.

17 **6.14 Assignment**

18 Participating applicants are not allowed to assign their *IBI Certified™ biochar*
19 *seal* to any other party or product under the *IBI Biochar Certification Program*
20 either in whole or in part without IBI's prior written consent.

21 **6.15 Dispute Resolution**

22 (1) Except as provided in paragraph (3), if a dispute arises out of or relates to this
23 Agreement or the breach thereof, including but not limited to issues related to the
24 interpretation of the *IBI Biochar Standards* or the implementation of the *IBI Biochar*
25 *Certification Program*, and if said dispute cannot be settled through negotiation, the
26 parties agree first to try in good faith to settle the dispute by mediation under the
27 Commercial Mediation Rules of the American Arbitration Association, before
28 resorting to arbitration.

29 (2) Except as provided in paragraph (3), any dispute arising out of or relating to this
30 Agreement or the breach thereof, that cannot be resolved by mediation within 30
31 days shall be finally resolved by arbitration administered by the American Arbitration
32 Association under its Commercial Arbitration Rules, and judgment upon the award
33 rendered by the arbitrators may be entered in any court having jurisdiction. The
34 arbitration will be conducted in the English language, in accordance with the United
35 States Arbitration Act, and in Fairfax County, Virginia or in the any of the following
36 independent cities located in the state of Virginia: Arlington, Alexandria, Fairfax, or
37 Falls Church. Unless the parties mutually agree to submit the dispute to a panel of
38 three arbitrators—consisting of one arbitrator of each party's choosing, and one
39 arbitrator chosen by the party-selected arbitrators—there shall only be one arbitrator,
40 named in accordance with such rules. The arbitrator(s) shall decide the dispute in

1 accordance with the substantive law of the state of Virginia. The award of the
2 arbitrator(s) shall be accompanied by a statement of the reasons upon which the
3 award is based.

4 (3) The following disputes are not subject to the above paragraphs (1) and (2) of this
5 Section 6.15: (a) disputes in which IBI alleges the misuse or unauthorized use of the
6 *IBI Certified™ biochar seal* or the term *IBI CERTIFIED™*; (b) disputes in which IBI
7 seeks to protect the confidentiality of information provided to IBI on the *Non-Public*
8 *Chain of Custody Form*; or (c) disputes in which IBI asserts rights concerning its
9 trademarks, copyrights, or patents. IBI reserves the right to seek any and all legal
10 and equitable remedies to protect the confidentiality of information submitted on the
11 *Non-Public Chain of Custody Form*, enforce the integrity of the *IBI Certified™ biochar*
12 *seal*, ensure compliance with the terms and requirements set forth in the *IBI*
13 *Certified™ Biochar Seal: Guidelines and Usage Requirements*, and protect the full
14 extent of IBI's intellectual property rights.

15 **7 IBI Verification and Auditing Processes**

16 The *IBI Biochar Certification Program* is a rigorous and transparent program. IBI will review
17 incoming applications for a corresponding registration number, correct, completed attachments
18 (including biochar test results) and general completeness.

19 IBI reserves the right to audit all information provided and to reject any incomplete applications.

20 **7.1 Auditing of Applications**

21 IBI will perform the following auditing tasks on IBI biochar certification applications received:

- 22 1. Confirm applicant contact and company information is provided on application;
- 23 2. Confirm the IBI Chain of Custody Form and other required documents are sufficiently
24 completed;
- 25 3. Confirm laboratory test results provided by applicant are complete and meet the levels
26 required in the *IBI Biochar Standards* document; and
- 27 4. Confirm Quality Assurance/Quality Control form from testing laboratories has been
28 submitted.

29 **7.2 Auditing for Inappropriate Use of the *IBI Certified™ Biochar Seal***

30 IBI will conduct investigations for inappropriate use of the *IBI Certified™ biochar seal* by
31 surveying the biochar marketplace. Investigations include review of currently certified and non-
32 certified applicants and markets. Any participating biochar manufacturer found to be in violation
33 of IBI's biochar certification regulations may be subject to enforcement actions as allowable by
34 law, including suspension/revocation of the agreement to use the *IBI Certified™ biochar seal*.
35 IBI will immediately investigate all inquiries related to inappropriate use of the *IBI Certified™*
36 *biochar seal*.

7.3 Public Feedback

1. IBI is committed to program monitoring to improve the effectiveness of the *IBI Biochar Certification Program*. IBI welcomes feedback from applicants, consumers, and the public regarding any aspect of the *IBI Biochar Certification Program*. This input may include, but is not limited to feedback regarding improvements to the *IBI Biochar Certification Program*;
2. questions regarding any aspect of the *IBI Biochar Certification Program*; and/or
3. reporting the inappropriate use of the *IBI Certified™ biochar seal* or other advertising/packaging violations.

Public input will allow IBI to obtain valuable information from program participants and consumers in order to review and assist in improving the *IBI Biochar Certification Program*. Anyone may contact IBI with any inquiry specific to the *IBI Biochar Certification Program* by sending an email to certification@biochar-international.org.

8 Revisions to the IBI Biochar Certification Program

As biochar science continues to improve, the *IBI Biochar Certification Program* and this *Program Manual* will be updated in order to remain current. Periodic revisions to the *IBI Biochar Certification Program* will be made to improve the program and to reflect updates to the underlying *IBI Biochar Standards*. Revisions may be warranted to incorporate technical corrections or in response to public comments, experience with program implementation, and/or technological, scientific, or regulatory developments. There are three types of potential revisions that may be made: program memos, policy revisions, and technical program revisions.

All revisions are effective the date of publication on IBI's website. Participants in the *IBI Biochar Certification Program* must follow the guidance specified in the revisions from that date forward. All program participants will be notified when a revision is released, and the revision will be posted on the *IBI Biochar Certification Program* website at <http://www.biochar-international.org/certification>.

8.1 Program Memos

Between policy and technical program revisions, IBI may release program memos that provide further clarification or additional guidance regarding the *IBI Biochar Certification Program*. The contents of the memos will be incorporated into the next policy or technical program revision. Applications that are either pending (including those registered and not expired) or approved during a process update will have the option of being grandfathered under the previous program requirements. However, all subsequent renewal certifications will need to adhere to current program requirements (see Section 8.4 *Grace Period for Registration under Prior Program Versions*).

8.2 Policy Revisions

Policy revisions are revisions that involve significant (non-technical) changes or adjustments to the original requirements of the *IBI Biochar Certification Program*. Policy revisions may involve revisions that concern participant eligibility in the *IBI Biochar Certification Program*, or revisions to the *IBI Biochar Standards* that warrant changes to the *IBI Biochar Certification Program*. A policy revision will generally be focused on specific elements of the *IBI Biochar Certification Program* or the underlying *IBI Biochar Standards*.

Depending on the extent of policy revisions under consideration, IBI may convene an expert stakeholder group or reach out to expert stakeholders involved in the initial *IBI Biochar Standards* development process. This group may be asked to comment on revised draft elements of the program or be convened to discuss key issues prior to changes being drafted or considered. All policy revisions will undergo a 30-day public comment period prior to adoption. When adopted, a policy revision will create a new version of the program (e.g., Version 1.0 undergoes a policy revision to become Version 2.0).

8.3 Technical Program Revisions

Revisions to the *IBI Biochar Certification Program* that are technical in nature will not require or involve a public comment period. These revisions will not significantly change the policies or eligibility in the *IBI Biochar Certification Program*, but may change or revise the online registration form or the format in which required application documentation is submitted, for example.

If typographical errors are found in this *Program Manual* or clarifications need to be issued, IBI will incorporate corrections in an updated version via a technical program revision. Errata and clarifications are issued to correct typographical errors in text, equations or figures, or, if IBI discovers that certain program requirements are ambiguous or in need of further clarification or guidance. These updates are issued to ensure consistent interpretation and application of the program.

Technical revisions to the *IBI Biochar Certification Program* will create a new sub-version of the existing program (e.g., Version 1.0 undergoes a technical program revision to become Version 1.1).

8.4 Grace Period for Registration under Prior Program Versions

Certification registrations that were entered into IBI's system prior to the effective date of a revision to the *IBI Biochar Certification Program* are not required to meet updated program requirements as long as they meet all established deadlines for submission of a completed application (i.e., as long as the completed application is submitted within (60) days of registration). If these conditions are met, IBI biochar certification applications will be certified according to the previous program version. Participating applicants always have the option, however, of voluntarily choosing to certify against the most current program version. Whether a biochar material is certified according to the most current program requirements or a prior

1 version does not change the certification period of coverage of (12) months. This includes
2 renewal certifications.

3 **8.5 Communication with the Public**

4 The most current versions of the *IBI Biochar Certification Program* and information about
5 program developments will be dated and made publicly available at [http://www.biochar-
7 international.org/certification](http://www.biochar-
6 international.org/certification). Interested members of the public can receive announcements and
8 program updates by joining IBI as a dues-paying member or as a network contact. More
9 information on how to become a paying IBI Member or a Non-Member Contact is available at
10 <http://www.biochar-international.org/join>.

11 **9 References**

12 International Biochar Initiative, *The Standardized Product Definition and Product Testing*
13 *Guidelines for Biochar That Is Used in Soil* (also referred to as the *IBI Biochar*
14 *Standards*). October 2014, Version 2.0.
15
16

1 **Appendix 1 – Sample Biochar Label**

2

GOOD GROW IBI CERTIFIED™ BIOCHAR	
BIOCHAR COUNTRY OF ORIGIN	United States
FEEDSTOCK COUNTRY OF ORIGIN	United States
FEEDSTOCK TYPE	Processed Feedstock
FEEDSTOCK COMPOSITION DECLARATION	poultry manure - 83%, wood chip bedding - 17%
BASIC UTILITY PROPERTIES – CATEGORY A	
Moisture (at time of analysis)	20% - DECLARATION
Organic Carbon (C _{org})	42% - CLASS 2 BIOCHAR
H:C _{org}	0.6 - PASS
Total Ash	40% - DECLARATION
Total N	5.4% - DECLARATION
pH	7.5 - DECLARATION
Electrical Conductivity	7.3 dS/m - DECLARATION
Liming	23% CaCO ₃
Particle Size Distribution	0.3% < 0.5mm;
	9.8% 0.5 – 1 mm;
	80.7% 1 – 2 mm;
	9.2% 2 – 4 mm
TOXICANT ASSESSMENT – CATEGORY B	
Germination Inhibition Assay	PASS
Polycyclic Aromatic Hydrocarbons (PAHs), total (sum of 16 US EPA PAHs)	6 mg /kg - PASS
Polycyclic Aromatic Hydrocarbons (PAHs), B(a)P-TEQ basis	0.2 mg/kg B(a)P-TEQ - PASS
Dioxin/Furan (PCDD/Fs), WHO-TEQ basis	0.02 ng/kg WHO-TEQ - PASS
Polychlorinated Biphenyls (PCBs), total (sum of 7 US EPA PCBs)	0.2 mg/kg - PASS
Arsenic	10 mg/kg - PASS
Cadmium	1.2 mg/kg - PASS
Chromium	60 mg/kg - PASS
Cobalt	14 mg/kg - PASS

Copper	143 mg/kg - PASS
Lead	125 mg/kg - PASS
Mercury	0.5 mg/kg - PASS
Molybdenum	5 mg/kg - PASS
Nickel	25 mg/kg - PASS
Selenium	10 mg/kg - PASS
Zinc	320 mg/kg - PASS
Boron	20 mg/kg- DECLARATION
Chlorine	90 mg/kg- DECLARATION
Sodium	140 mg/kg- DECLARATION
ADVANCED ANALYSIS AND SOIL ENHANCEMENT PROPERTIES – CATEGORY C	
Mineral N (ammonium and nitrate)	21 mg/kg - DECLARATION
Total P&K	3.1% P, 4.4%K - DECLARATION
Available P	16 mg/kg - DECLARATION
Volatile Matter	6.8% - DECLARATION
Total Surface Area	790 m ² /g- DECLARATION
External Surface Area	160 m ² /g- DECLARATION
Net Weight – 25 lbs. (11.33kg)	
Good Grow Biochar Company	
123 County Route 1	
Centerville, Any State, USA	
Please see attached MSDS documentation for appropriate shipping, handling, and storage procedures.	

1

1 **Appendix 2 – Glossary**

2

3 **List of Acronyms and Abbreviations**

4 COC – Chain of Custody

5 GHG – greenhouse gas

6 IBI – International Biochar Initiative

7 ISO – International Organization for Standardization

8 MSDS – Material Safety Data Sheet

9 PDF – Portable Document Format

10 QA/QC – Quality Assurance/Quality Control

11 USD – United States Dollars

12

13 **Definition of Terms**

14 *Note: Terms and definitions have been adapted from the references given. Terms and*
15 *definitions created specifically for this document are referenced as “IBI”.*

16 Applicant: A biochar manufacturer who tests his/her biochar properties according to the *IBI*
17 *Biochar Standards*, and submits all necessary documentation to apply for IBI biochar
18 certification. (IBI, 2013)

19 Application: Process to apply for the *IBI Biochar Certification Program*. The application must be
20 completed within 60 days of registration and requires a product registration number which is
21 created during registration. (IBI, 2013)

22 Application Form for IBI Biochar Certification: An online form available on the *IBI Biochar*
23 *Certification Program* website that a biochar manufacturer must complete in order to apply for
24 IBI biochar certification. This form is completed *after* submission of the online Registration Form
25 for IBI Biochar Certification. (IBI, 2013)

26 Application Re-Submission Form for IBI Biochar Certification: An online form that a biochar
27 manufacturer must complete in instances where the original application for IBI biochar
28 certification is incomplete. This form will be sent to applicants as needed. (IBI, 2013)

29 Biochar: A solid material obtained from thermochemical conversion of biomass in an oxygen-
30 limited environment. (IBI, 2012)

1 Biological Material: Material derived from, or produced by, living or recently living organisms.
2 This material can be "unprocessed" or "processed". Unprocessed biological material is living
3 material, or recently living material from the plant kingdom (or other non-animal taxa such as
4 fungi or algae) that may have been mechanically resized (such as wood chips), but has not
5 been processed in an animal's body or gone through an anthropogenic or chemical
6 modification. Processed biological material is recently living material that has been chemically
7 modified by anthropogenic or biological processes (e.g., paper sludge, manure). All animal
8 products, including bones, offal, food-waste containing animal products, and animal manures
9 are considered to be processed biological material. (IBI, 2012)

10 Biomass: The biodegradable fraction of products, waste and residues of biological origin from
11 agriculture (including vegetal and animal substances), forestry, and related industries including
12 fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal
13 waste (including municipal solid waste). (Adapted from European Commission Agriculture and
14 Rural Development, 2010)

15 Certificate of Use: A certificate provided by IBI to applicants whose biochar material(s) have
16 successfully passed all the requirements of the *IBI Biochar Certification Program* and stating the
17 name of the biochar manufacturer, biochar product name, certificate number and period of
18 coverage. (IBI, 2013)

19 Chain of Custody (COC), Non-Public Form: The non-public COC form includes personal contact
20 information which will not be made public in order to protect personal privacy. (IBI, 2013)

21 Chain of Custody (COC), Public Form: The public COC form does not include personal
22 information and may be made public by IBI at any time. (IBI, 2013)

23 Consumer: The entity that uses or is expected to use biochar. (IBI, 2013)

24 Diluent/Dilutant: Inorganic material that is deliberately mixed or inadvertently comingled with
25 biomass feedstock prior to processing. These materials will not carbonize in an equivalent
26 fashion to the biomass. These materials include soils and common constituents of natural soils,
27 such as clays and gravel that may be gathered with biomass or intermixed through prior use of
28 the feedstock biomass. Diluents/dilutants may be found in a diverse range of feedstocks, such
29 as agricultural residues, manures, and municipal solid wastes. (IBI, 2012)

30 Feedstock: The material undergoing the thermochemical process to create biochar. Feedstock
31 material for biochar consists of biological material, but may also contain diluents. (IBI, 2012)

32 Heat Treatment Temperature: The temperature at which a feedstock material is processed
33 during thermochemical conversion in a given thermochemical process. (IBI, 2013)

34 IBI Certified™ biochar seal: A one-dimensional seal consisting of a green oval encompassing
35 IBI's green tree/yellow sun/black biochar logo, with the words "IBI certified biochar" across the
36 tree/sun graphic. Use of this seal on biochar packaging or consumer invoices indicates IBI
37 certification of biochar content only. (IBI, 2013)

1 IBI Chain of Custody Form: A required form to track the original feedstock(s) source(s) and
2 supplier information from each entity that handles the feedstock through the supply chain until it
3 is made into biochar. (IBI, 2013)

4 IBI Laboratory Test Form: A template for the required laboratory tests to be performed on
5 biochar. This form must be completed and signed by a laboratory official and returned to the
6 manufacturer in order to be considered valid. (IBI, 2013)

7 Manufacturer: The party or parties who thermochemically convert(s) feedstock materials into
8 biochar. For the purposes of the *IBI Biochar Certification Program*, it is required that the
9 manufacturer is the party to submit the biochar for testing and to label the biochar product. (IBI,
10 2013)

11 Material Change: Changes in feedstock type or residence time of greater than 10%, or changes
12 in heat treatment temperature of +/- 50°C (see Section 5.4 and Appendix 6 of the *IBI Biochar*
13 *Standards V2.0* for further information). (IBI, 2014)

14 Material Safety Data Sheet: A non-required, but recommended form for the *IBI Biochar*
15 *Certification Program* and *IBI Biochar Standards*, which details proper safety measures for
16 production and handling of biochar. (IBI, 2013)

17 Period of Coverage: The 1-year time period applicable to unique biochars certified under the *IBI*
18 *Biochar Certification Program*, beginning on the date IBI certification approval is emailed to the
19 manufacturer. (IBI, 2013)

20 Processed Feedstock: Biomass that has gone through chemical processing (for example, paper
21 pulp sludge) or biological processing (for example, digestion, such as manures and sludge from
22 waste effluent treatment) beyond simple mechanical processing to modify physical properties.
23 Because animals may bioaccumulate toxicants in their tissues, all animal parts and products are
24 considered to be Processed Feedstocks for purposes of this program. Any biomass material
25 that may have been grown on soils contaminated with heavy metals or other toxicants will also
26 be considered a Processed Feedstock for purposes of this program. (IBI, 2012)

27 Product Registration Number: A system-generated, unique number that is linked to an
28 individual biochar product and provided during the *IBI Biochar Certification Program* registration
29 process. This number is required on the application form and is important for IBI and
30 manufacturer tracking and communication purposes for each unique biochar. (IBI, 2013)

31 Quality Assurance/Quality Control Form: A laboratory-generated document which details the
32 laboratory's quality control measures. This form is required to be submitted as part of the *IBI*
33 *Biochar Certification Program* application process. (IBI, 2013)

34 Registration: Registration initiates a 60-day time period during with the application process must
35 be completed in order for the application requirements in effect on the date of registration to
36 remain in effect. (IBI, 2013)

1 Registration Form for IBI Biochar Certification: An online form available on the *IBI Biochar*
2 *Certification Program* website that a biochar manufacturer must complete in order to register
3 biochar for IBI biochar certification. (IBI, 2013)

4 Residence Time: The time a feedstock is held within a consistent temperature range in a given
5 thermochemical process. (IBI, 2012)

6 Unprocessed Feedstock: Biomass from the plant kingdom (or other non-animal taxa such as
7 fungi and algae), grown in a clean, uncontaminated environment, that may have undergone
8 mechanical processing to change its physical properties (e.g., particle size), but has not
9 undergone chemical processing or treatment, or biological processing (e.g., digestion). (IBI,
10 2012)

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12 **References**

13 European Commission Agriculture and Rural Development (2010) *Biomass Potential*
14 http://ec.europa.eu/agriculture/bioenergy/potential/index_en.htm (accessed September
15 2011).

16 International Biochar Initiative, *The Standardized Product Definition and Product Testing*
17 *Guidelines for Biochar That Is Used in Soil* (aka the *IBI Biochar Standards*). November
18 2015, Version 2.1.
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