



February 8, 2012

International Biochar Initiative
Via email: BiocharGuidelineIBI@gmail.com

SUBJECT: Stakeholder Comment to Draft Guidelines for Specifications of Biochars for Use in Soils (IBI-STD-0)

We appreciate the opportunity to provide stakeholder comment on the current draft Revision Number 7, "Guidelines for Specifications of Biochars for Use in Soils," developed by the International Biochar Initiative (IBI). We recognize that the Biochar Guidelines are designed to support an international biochar certification program, and for use as a starting point and general reference for national, regional and local product standards development efforts.

The Biochar Guidelines are clearly intended as a "work in progress", to be updated as new information becomes available over time. We see our own submission of comments similarly, as the beginning of our long-term engagement with the IBI for betterment of a collective understanding of biochar science.

Our comments are referenced to section, page and line for ease of correlation.

§1, pg.6, line 10

This initial statement on Biochar will by its prominent placement become the de facto definition. As such, it seems reasonable to here add "... as an effective method of carbon sequestration, ..."

§2, pg.7, line 21

Do full animal carcasses fall within "processed biological material"? This would be contrary to most waste management standards. Clarification or statement of reasons is needed.

It is noteworthy that animal carcasses are not a listed type of potential feedstock, either processed or unprocessed, in Appendix 4, Tables A4.1 and A4.2).

§2, pg.8, line 33

It does not follow that potential bio-accumulative toxins in animal tissues would constitute reason to consider these materials as "processed", any more that the same condition of toxicity accumulation in raw plant-sourced biomass would relegate this to being "processed material."

§3, pg.9, line 22

"MSW", or municipal solid waste, is a categorical description related to source as much as constituent. To exclude "MSW containing hazardous materials or wastes ..." (clarify as "... or hazardous waste...") negates the potential to segregate those contaminants below the 2% maxima. *All* waste may indeed contain hazardous contaminants, and all contaminants may constitute a hazard, at sufficient concentrations. Substitute performance criteria rather than

broad prescriptive constraints; we suggest: "MSW may contain contaminants considered hazardous even below the 2% maxima; statistically valid testing for assurance of non-toxic nature may be necessary to qualify MSW-sourced materials as appropriate biochar feedstock."

Considering the following recommendation that the final biochar product be accompanied by a material safety data sheet (MSDS, pg.10), and further, the requisite Test Category C for supplemental toxin reporting (pg.11) this testing might be considered a broad and basic part of biochar certification, sufficient to encompass MSW-sourced biomass to biochar conversion.

§4, ppg.10-16

This section on Biochar Material Test Categories and Characteristics is particularly well developed, referenced and detailed.

§5, pg.17, lines 15-18

Biochar characteristics vary widely, as do soil conditions that a particular biochar might improve: for example, some soils and planting regimes will require an amendment with a much lower pH than others. Adding a "characteristics" category addressing suggested usage would seem appropriate here.

§6, pg.18, lines 2-10

Statistical characterization is expensive, yet may be necessary where variability of potential contaminant levels and constituents is either to be expected, or has been proven. A corollary is seen in assessment of other thermal conversion ash and residues where sub-toxic amounts of contaminants in feedstock can result in spiking hazardous levels in the product. If periodic testing identifies an incidence of toxicity, all subsequent residual must be assumed to also be hazardous unless statistically proven non-hazardous. Inclusion of a "statistical assessment, where necessary" criteria would simplify future implementation.

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Thank for the opportunity to provide comments to your draft "Guidelines for Specifications of Biochars for Use in Soils." Please contact me at mtheroux@jdm.net or (530) 613-1712 if you have any questions.

Sincerely,

JDMT, Inc



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