

**Appendix S - Agricultural Waste Air Emissions Advisory Group
Summary of Comments
On
November 12, 2010 DRAFT
Beneficial Management Practices for
the Mitigation of Ammonia and Hydrogen Sulfide Emissions from Animal Agricultural in Wisconsin (Draft Report)**

Name	Date Rec'd & format	Comment Location/Summary	Response
Asche, Loren	11/18/10 email	<ul style="list-style-type: none"> • Does not have any suggested changes. 	
Breitenmoser, Hans	11/25/10 email/pdf	<ul style="list-style-type: none"> • In Section 1 BMP summary table -- Silage Storage also applies to beef so this should be checked • In Section 1 BMP summary table -- Rotational Grazing also applies to beef so this should be checked. Also, in theory this could also apply to pigs and poultry • In Section 1 BMP practices – Pasture as a production method, although likely impractical for large scale hog producers, would realize similar benefits to bovine 	<p>Comment incorporated</p> <p>Added for beef. Practice only addresses rotational grazing for bovine, so did not include for swine and poultry.</p> <p>See response above.</p>
Buelow, Kenn	11/23/10 email	<ul style="list-style-type: none"> • If GHG emissions are discussed in the Draft Report, production methods and practices should be adequately compared. The Draft Report states that grazing operations have lower GHG emissions, yet a UN FAO report [provided] includes statements that grassland based milk production “had the highest GHG per unit of product produced and the table shows Oceania -New Zealand and Australia (grassed based milk production) having a higher GHG production relative to product produced in North America” • Include the following statements in the Executive Summary: “Unhealthy levels of hydrogen sulfide beyond the property boundary of large 	<p>Staff reviewed the report and decided to delete the reference to GHG comparisons for differing production methods, although the UN FAO is not directly applicable for Wisconsin production comparisons.</p> <p>Included in both Executive Summary and Section 2 where health issues are addressed.</p>

		<p>animal agricultural operations have not been documented in Wisconsin and are typically not associated with dairy operations, even those with liquid manure handling systems.”</p> <p>“Few studies of ammonia levels at various distances from the source of ammonia have been reported”</p> <ul style="list-style-type: none">• A note should be in the executive summary indicating the Advisory Group met to develop BMPs for use on animal agricultural facilities and did not meet to consider rule making and the Advisory Group’s results are not intended for rule making.	<p>Existing language: “Unhealthy levels of hydrogen sulfide beyond the property boundary of large animal agricultural operations have been little studied in Wisconsin and to date have not been documented as a health hazard associated with dairy operations in Wisconsin.”</p> <p>Added: “Few monitoring studies have been completed in Wisconsin, to date, which document ambient ammonia concentration change with respect to distance and time from a source. “</p> <p>Comments addressed in Executive Summary, Acknowledgements page, and possibly cover letter.</p> <p>“On April 17, 2010 the WDNR convened the first in a series of meetings of the Agricultural Waste Air Emissions Advisory Group. The charge given to the Advisory Group was to identify, and recommend to the Department, suitable best management practices (BMPs) for the reduction of emissions of hazardous air pollutants from</p>
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			<p>various types of livestock operations in Wisconsin. For the purposes of this report, the Advisory Group was neither asked to consider rule making nor how the BMPs may be implemented. The two hazardous air contaminants, on which the DNR requested the Advisory Group to focus, are ammonia and hydrogen sulfide.”</p> <p>“While the Advisory Group was invaluable in the discussion of animal agriculture and beneficial practices to reduce ammonia and hydrogen sulfide, Department staff primarily authored the report and is responsible for its content.”</p>
Busch, Dennis			
Jacobson, Larry	11/19/10 email/pdf	<ul style="list-style-type: none"> • Minor additions/edits • BMP practice word addition for “Chimney Exhaust/Air Impaction” practice 	<p>Comments/edits incorporated</p> <p>Added “Chimney Exhaust” to BMP title</p>
Meyer Smith, Amber		<ul style="list-style-type: none"> • Clean Wisconsin’s comments submitted by Peter Taglia (see below) 	
Murphy, Pat	11/30/10 email	<ul style="list-style-type: none"> • No specific comments 	
Pofahl, Bob	11/22/10 email/pdf	<ul style="list-style-type: none"> • Comments/questions on technical aspects of BMPs • Minor edit for Section 2 	<p>Comments/edits incorporated</p> <p>Comments/edits incorporated</p>
Powell, J.	11/24/10	<ul style="list-style-type: none"> • Omit literature references at the end of each BMP. 	Eliminated journal literature

Mark	email/pdf	<ul style="list-style-type: none"> Edits/comments on the Draft Report, including the following portions: Executive Summary; BMP practices Silage storage, Composting, Mechanical scraping, Anaerobic digesters, Permeable covers; Section 2, pg 2; Ammonia, paragraphs 1 and 2 	<p>references in BMPs.</p> <p>Comments/edits incorporated</p> <p>Composting BMP – the BMP specifies maintaining the C:N ratio and is reflected in the title.</p>
Saul, James			
Struss, Steve	11/29/10 pdf	<ul style="list-style-type: none"> Comments/edits in all sections. In Section 1 BMP practices on Silage Storage: “Wouldn't this practice apply to beef and swine as well?” In Section 1 BMP practices on Mechanical Scraping: “Vacuuming should probably also be added to this practice. We are seeing more and more vacuum trucks coming into use.” In Section 1 BMP practices on Chemical & Biological Additives (in housing): “Since this is bedded pack manure, I'm not so certain that this practice applies. We may want to research this a bit more before including it here.” In Section 2 – Background: “I would recommend moving it [Section 2] up to the front of the document.” 	<p>Comments/edits incorporated</p> <p>The group explicitly decided to remove feed from the silage storage BMP due to lack of supporting evidence in the consulted literature.</p> <p>The bovine subgroup addressed vacuuming and concluded there was not enough information in the consulted literature to support including it. Reference to vacuuming made in the mechanical scraping BMP.</p> <p>There is information on ammonia reductions for alum used on bedded pack manure. This is a demonstration practice.</p> <p>Recommendation adopted by moving BMP descriptions to Appendices A through F.</p>
Taglia, Peter	12/3/10 comments	<ul style="list-style-type: none"> The water quality implications of various BMPs were discussed in the subgroups but were not included in the individual BMP descriptions in the draft report. For 	<p>Added italicized language in executive summary. “As part of</p>

	received by email	<p>example, the swine and poultry group discussed the potential surface and groundwater impacts from composting and found these impacts depend on where and how on the farm the compost piles are created and maintained. Large manure composting operations could result in groundwater and surface water pollutant if appropriate measures are not taken to collect and treat runoff and prevent rainwater infiltration of the compost piles. This information needs to be included in a subsection of each BMP where the subgroups identified potential risks from the BMP to ground or surface water.</p> <ul style="list-style-type: none"> The demonstration BMP descriptions (e.g., wet scrubber/bioscrubber, housing air impaction methods, chemical or biological manure additives) in the draft report are incomplete with regards to the subsections on “Engineering, O&M requirements” and “Confirmation that BMP is working.” While the introductory text correctly notes that demonstration BMPs will require the review of individual design and integration of the BMPs, the description of the demonstration BMPs should also include the same language to make the report comprehensive. 	<p>the development of BMPs specific to ammonia and hydrogen sulfide, the Advisory Group identified air quality co-benefits, <i>and potential impacts to water quality.</i>”</p> <p>As a part of this Advisory Group process, the Department did not charge the Advisory Group to address implementation issues during the development of the report, including how to evaluate demonstration practices.</p>
Thiboldeaux, Rob	11/24/10 email/pdf	<ul style="list-style-type: none"> In Section 2 comments on ammonia, hydrogen sulfide, odor, and PM. Mostly health-related issues. 	Comments/edits incorporated
Wehler, Mike	11/19/10 email	<ul style="list-style-type: none"> In Section 1 BMP: “Vegetative Buffers - 10% too low, out of sight, out of mind- needs to be 20%” In Section 1 BMP: Anaerobic Digester – “Can we include an example where digesters to reduce emissions and what is required to obtain the reduction. Effluent moving directly to the digester or mixing tank will reduce emissions 50-90 percent according to Clear Horizons claims to one of our producers” In Section 1 BMP: Bottom Filling – “Add language that using a flexible pipe at the end of the tube would allow a farmer to bottom fill.” 	<p>At the October Full Advisory Group Meeting discussed VEB reductions and agreed on 10%.</p> <p>The anaerobic digester practice is a demonstration BMP and would need to demonstrate a given design and operation will achieve a stated emission reduction.</p> <p>Practice written by Bovine Subgroup to allow flexibility for producers. They did not want to be overly prescriptive on design/construction issues.</p>

		<ul style="list-style-type: none"> • In Section 2 Background: Comments made on the Greenhouse gas section which cites United Nations report claiming Ag contributes 18 % of the GH gases [and Governor’s Task Force on Global Warming attributing agriculture with 9% of GHG emissions]. “This number has little to do with NH3 and H2S emissions from livestock and should be eliminated. Some will say DNR is bias because of using this study as the baseline.” • Much of the legal stuff at the end of the report has not be provided to the attorney's that represent Agriculture and thus we should not be asked to support until we can provide legal comments on those sections. • “Under permeable geotextile and bio-covers there is an "a" missing in the 4th paragraph. In the same bmp under engineering the word "matter" is misspelled.” • “Finally I think it matters how the bmp's are to be used in the rule from a regulatory standpoint and thus I think we should withhold final approval of the bmp.s until we know how they will be used.” 	<p>Eliminated GHG percentages from UN report and Governor’s Task Force report per recommendation.</p> <p>Eliminated discussion on CERCLA, EPCRA, Clean Water Act, Petition of US EPA under Clean Air Act and some redundant language on the NAEMS study. The remaining language was provided to the Natural Resources Board through the two compliance extensions and remains in the report.</p> <p>Added the missing “a.” Fixed spelling of the word matter.</p> <p>Added to Executive Summary: “For the purposes of this report, the Advisory Group was neither asked to consider rule making nor how the BMPs may be implemented. “ Advisory Group considered next steps on 12/13/10. Department will also take public comment on final report.</p>
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