

## Quantification Protocol for Including Edible Oils and/or Increasing Concentrates in Cattle Feeding Regimes: Summary of Comments & Revisions

*January 2008: Protocol Review*

Page Number	Comment	Resolution (Round 1 and Round 2)
1	In terms of the 4-6% edible oils requirement in the protocol, reviewers asked if there is the potential for values to be outside of this range and if the protocol has flexibility mechanisms to allow for a range of concentrations.	There is no flexibility in the 4-6% range for edible oils as this is the value that scientists were confident in. The following was added under Protocol Scope and Description to clarify this point: "Edible oils must be in the range of 4% to 6% as this is the range at which experts are confident that the oil content actively suppresses methanogenesis to a 20% reduction."
22	Comment that if 90% concentrates is allowed in the baseline are there really any emission reductions in the project condition.	Yes there is a potential for emission reductions in the project if edible oils in the baseline are less than 4-6% and concentrates are greater than 90%. The enteric emission factors for each case are listed in Table 2.4 and would change from 4.0% to 3.2% if edible oils are increased and concentrates are already >90% in the baseline. No change made.
4, 22	<p>There is an inconsistency between the protocol description (pg 1 line 5, "finishing diet for cattle to include of edible oils and/or including a higher percentage of concentrates") and the emissions factors under project and baseline SS's (see pg 21 and pg 22).</p> <p>Overall there was confusion on the options for</p>	<p>Protocol applicability was clarified by adding the following in the application section:</p> <ul style="list-style-type: none"><li>- "Baseline conditions applicable to this protocol are (1) No supplemented edible oils (DM basis) and &lt;90% concentrates in the diet; or (2) No supplemented edible oils (DM basis) with &gt; or = 90% concentrates in the diet. <b>and</b></li></ul>

	baseline and project scenarios that may be selected and protocol applicability.	<ul style="list-style-type: none"> <li>- Project conditions applicable to this protocol are (1) supplemented edible oils in the 4 to 6% range (DM basis) and &lt; 90% concentrates in the diet; or (2) supplemented edible oils in the 4 to 6% range (DM basis) and &gt; or = to 90% concentrates.</li> </ul> <p>Emission factors were updated to account for this change in Table 2.4. This change was tracked throughout the protocol.</p>
22	In Table 2.4, page 21, Emission factor row, there is one scenario not covered - in other words it has no reference value-: i.e. less than 4-6% edible oil & > 90% concentrate (scenario 2). OR, the and/or should be changed to and.	Emission factors were updated as described above.
	Confusion about the inclusion of concentrates. It was suggested that the protocol be clarified to outline the possibility that if the baseline already had high concentrates, one could add edible oils and see an added emission reduction in the project.	The protocol was clarified as described above to allow for only two baseline and two project scenarios, with the baseline always being less than 4% to 6% edible oils and the project always being between 4% to 6%. Concentrates were eliminated as a factor that project proponents could vary.
Title Page		Following the above change, the title of the protocol was changed to: "Quantification protocol for Including Edible Oils in Cattle Feeding Regimes".
5	Is the definition for concentrates appropriate?	Definition was added to and now reads: "A broad classification of feedstuffs that are high in energy and low in crude fibre (<18% Crude Fibre). This can

		things like include grains and protein supplements, but excludes feedstuffs like hay or silage or other roughage".
22, 23	Reviewers questioned if it is appropriate to assign the same emissions factor for any concentration below 90% and whether this is conservative. Note that further specification should be included as to when the IPCC applies this emission factor (i.e. climate).	IPCC is inherently conservative. In terms of assigning the same emissions factor, review found these values to be appropriate for the Alberta context. As such, under measurement justification reference to Alberta was added. Definition now reads "Set based on best available science and in reference to the IPCC, 2006 guidance and appropriate for the Alberta context".

**Quantification Protocol for Including Edible Oils and/or Increasing Concentrates in Cattle Feeding Regimes: Summary of Comments & Revisions**

*January 25<sup>th</sup>, 2008: Stakeholder Review*

Page Number	Comment	Resolution (Round 1 and Round 2)
N/A	Originally distiller's grains were considered for inclusion in this protocol, however it was determined during a scientific/technical review that the science isn't there yet. Hopefully in a couple of years this can be reexamined and distillers grains may be added.	No change to protocol.
N/A	Are protocols for grazing and native pasture being developed? When will they be available?	Response was that the decision in terms of what protocols will be developed has not yet been finalized. Given the process involved in developing a protocol it can be anywhere from 3 months to a year and a half until they are made available. No

		change to protocol.
N/A	Can you comment on the tillage protocol and its reception by Ag producers in AB?	Response was that there has been a lot of activity surrounding the tillage protocol in AB including ten companies and hundreds of farmers participating. No change to protocol.
N/A	As far back as 1994, there were expectations that farms were going to be getting benefits from offsets. Farmers have been told for a number of years regarding sequestration rates. These rates have substantially decreased over the past years (from .4 to .16 and .08).	Response was that reducing coefficients is a means of addressing additionality in AB –to allow broader participation. It’s not an easy process. No change to protocol.
N/A	What if the baseline gets changed to 1996 at the national level?	Response was that if you look at the tillage protocol and only allow new carbon going forward and 2001 and 2006 census data, you will have lower carbon values as time moves on. No change to protocol.

*February 2008 – Third Round or Public Posting Review*

Page Number	Comment	Resolution (Round 3)
N/A	Reviewers indicated that it is possible to have a baseline with higher than 90% concentrate yielding less enteric emissions than a project with edible oils but less than 90% concentrate in the diet. They recommended that concentrate levels should remain constant between baseline and project for the benefits to accrue. Alternatively, the baseline could be: no edible oils and low levels of concentrate.	Diet clarification incorporated into the Final version of the protocol. Baseline and Project Conditions explicitly stated in the Protocol Applicability section and in the Quantification Table 2.5.