

ASC Responsible Feed Project

White paper – Supply Chain

Author: Trygve Berg Lea, June 2014

Within the ASC Responsible Feed Project several Technical Working Groups (TWGs) will focus on what “responsible” should mean for their areas of expertise.

These TWGs address the main aqua feed ingredients groups: 1) marine ingredients, 2) terrestrial plant ingredients, 3) terrestrial animal ingredients, 4) micro ingredients and one working group on 5) feed mill requirements and supply chain.

As a starting point for the group discussions on what “responsible” should mean, a number of White Papers are drafted (one per TWG). These papers will present an overview of the current environmental and social issues per ingredient group, as well as proposed steps forwards and points of attention. The reason for the development of these papers is to make sure that all members of the relevant TWG have the same starting information. Depending on their stakeholder background and/or expertise, members analyses of, and additions to this information are expected.

The key role of the TWGs is to develop draft criteria and indicators for the Feed Standard based on the starting point of these WP’s.

Please keep in mind that the points addressed in the WPs should start the discussion, not define its boundaries.

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Scope of standard

The section of an ASC Feed standard related to responsible operation of a feed company (feed mill) could contain (this list is not exhaustive and should be revised by the technical working group in this area) – this sentence needs completion and I am not sure what was to go in here.

Scope

Aquaculture feeds utilise to a large extent agricultural commodities and different processed products from such commodities. In an environmental context the most critical commodities have been identified as fishmeal, fish oil, soya, wheat, rice, canola, corn and palm oil.

Soya is considered a commodity. Often a buyer of soya will be trading with an intermediary that combines production from multiple farms. Some of those farms may be “sustainable”, others not. In fact, the buyer might not know where the soya actually came from. It could



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have been traded multiple times before it physically gets to fish feed supplier's manufacturing facility. This creates a big problem if the goal is to make the commodity "certified under a standard" or more "sustainable": how can a buyer differentiate between a batch of sustainable soya and one that is not? One option, of course, is to secure a sustainable supply chain from a certified farm to the manufacturing plant.

If a fish feed manufacturer operates with both "sustainable soya" and "normal soya" it creates challenges in the supply chain if one needs to segregate the sustainable soya during transport, when stored at the manufacturing facility and if one needs to produce separate products that physical contains only the "sustainable" soya.

In most cases the fish feed manufacturer does not utilise an unprocessed soy bean (or any of the other most relevant commodities) coming directly from a farm. In nearly all cases the commodity passes through one or several processing steps and the commodity is processed into several raw materials (soybean concentrate, soy lecithin and soybean oil) which then are utilised by the fish feed manufacturer. If these processed raw materials shall originate from a "sustainable" source, then also the processing industry needs to adapt to the same environmental standards and keep their production separated accordingly.

The logistic costs associated with a segregated system are generally so large that it will be prohibitive for the value chain to implement a fully segregated system. In a response to this one has in many areas adopted the system of mass balance in order to overcome the logistical challenges in the supply chain.

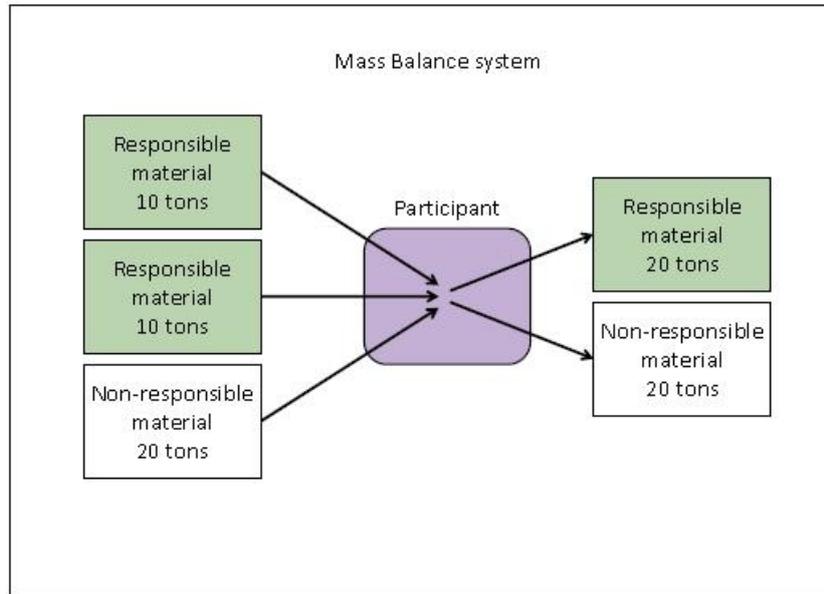
Mass balance system is system allowing « batches » of biomass or products with different sustainability criteria to be physically mixed (sustainable products with non sustainable products).

Mass balance must be made for each logistical unit, including sub contractors. The mass balance system shall ensure that the amount of sustainable material sold does not exceed the amount of material purchased as sustainable for each logistical unit under the certification unit. It enables to avoid following traceability of sustainable material though the supply chain and makes possible mixing sustainable and non sustainable.

The mass balance system is today used within many sectors;

- Energy sector (Renewable energy certificates)
- Fair trade (coffee)
- Palm oil (RSPO)
- Soya (RTRS)
- Forestry (certified wood and paper)

Figure 1. The principle of the mass balance system



Within the mass balance system is also developed what is called a “Book and claim” system. In this system the raw material environmental origin does not need to have a physical meaning in the value chain, and only certificates of the environmental origin are traded. RSPO (Round table of sustainable palm oil) has provided information on how the mass balance system is applied in their value chain - http://www.rspo.org/files/begin/howtobegin/htb_5rm.html .

The ASC “Feed standard” must decide on and give guidelines on how the standard deals with the logistic challenges in the value chain regarding specific environmental origin of different commodities.

If there is a specific environmental origin demanded (as for marine ingredients and soya in most of today’s ASC aquaculture standards) – how does the aquafeed manufacturer demonstrate compliance to these criteria? Several of the present ASC aquaculture standards recognise mass balance as a means of demonstrating compliance. At the same time it seems that little guidance is given in explaining within what boundaries this system can be applied. In the case that the commodity value chain has developed mass balance options as part of their standard – which of these are recognised by the ASC feed standard (physical mass balance, book and claim, both...)? In the case of marine ingredients, the producers do not offer a mass balance solution, and what will the standard here demand in order for the fish feed manufacturer to apply the mass balance principle in a way that is recognised by the standard and what are the auditing guidelines.

Appendix 1. A simple example in order to explain the logistical challenges associated with production of a product based on commodities of different environmental origin.



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“Coffeebucks” is a chain of stores selling different drinks based on coffee. In the market there is now a new standard for “Responsible coffee drinks”. According to this standard one must use environmentally certified coffee as the source of the coffee drinks.

Coffeebuck’s has undertaken a simple assessment of the implications of implementing the standard in their business operation.

The certified coffee will result in a slightly higher cost, estimated to 5 cents per cup of coffee. Their business is very competitive and they do not believe all their customers will be willing to pay this price, at least not until the benefits of environmentally coffee are better known and accepted by their customers. So they still need to produce and serve “uncertified” coffee.

Coffeebuck’s produce a large number of coffee drinks (normal coffee, espresso, americano, coffee latte, caffe mochachino).

In the case of that Coffeebuck’s will make all their coffee drinks based on physical segregated coffee, it has quite big logistical challenges. The person in charge of coffee making has estimated that they need to

- build a bigger store room for the coffee to be able to segregate the two different types of coffee
- invest in a new coffee making machine (because they cannot risk cross contamination and it gets too complicated to run on one machine)
- invest in double set of thermos (one for normal coffee and one for certified coffee drinks)

These investment results in 15 cents higher “logistical” cost for the coffee drinks based on the certified coffee, so in total for example an Americano coffee fulfilling the new “Responsible coffee standard” will cost 20 cents more at Coffeebuck’s.

The other option is that Coffeebuck’s offer their coffee drinks based on the new standard applying the mass balance principle. They then avoid expanding store room, invest in new coffee machine and thermos. The customer can order the coffee drink based on the new standard and Coffeebuck’s keep records of the orders. They adjust their purchases of certified coffee according to the number of customers that wants to buy coffee based on the new standard. In this case (applying the mass balance principle), the additional cost for the customer is 5 cents per cup of coffee. If over time the customers more and more are demanding certified coffee, as a result Coffeebuck’s must source more and more of their coffee as certified.



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The section of an ASC Feed standard related to logistical challenges in the supply chain could contain (this list is not exhaustive and should be revised by the technical working group in this area):

Principle 1: The use of Mass Balance systems

Aquaculture feeds utilise to a large extent agricultural commodities and different processed products from such commodities. In an environmental context the most critical commodities has been identified as fishmeal, fish oil, soya and palm oil. Today there are many different classifications and criteria linked to defining these commodities as being from an acceptable “sustainable” source. Mass balance system is system allowing « batches » of biomass or products with different sustainability criteria to be physically mixed (sustainable products with non-sustainable products).

Mass balance must be made for each logistical unit, including sub-contractors. The mass balance system shall ensure that the amount of sustainable material sold does not exceed the amount of material purchased as sustainable for each logistical unit under the certification unit. It enables to avoid following traceability of sustainable material though the supply chain and makes possible mixing sustainable and non-sustainable

The purpose of Principle 7 is to ensure companies apply the mass balance system in a consistent way.

To be considered:

- Develop guidelines, rules and scope for the use of Mass Balance systems in order to use raw material commodities with different criteria regarding sustainability criteria.

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If a fish feed manufacturer operates with both “sustainable soya” and “normal soya” it creates challenges in the supply chain if one needs to segregate the sustainable soya during transport, when stored at the manufacturing facility and if one needs to produce separate products that physical contains the “sustainable” soya.

In most cases the fish feed manufacturer does not utilise an unprocessed soy bean (or any of the other most relevant commodities) coming directly from a farm. In nearly all cases the



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commodity passes through one or several processing steps and the commodity is processed into several raw materials (soybean concentrate, soy lecithin and soybean oil) which then are utilised by the fish feed manufacturer. If these processed raw materials shall originate from a “sustainable” source, then also the processing industry needs to adapt to the same environmental standards and keep their production separated accordingly.

The logistic costs associated with a segregated system are generally so large that it will be prohibitive for the value chain to implement a fully segregated system. In a response to this one has in many areas adopted the system of mass balance in order to overcome the logistical challenges in the supply chain.