EUROPEAN FISHMEAL AND FISH OIL PRODUCERS

SA BREF – Comments from European Fishmeal for data assessment

First of all, we wish to thank the EIPPCB for the 1st Data Assessment Workshop on the revision of the SA BREF 28-29 September 2020.

The European Fishmeal (EFFOP) represents the European fishmeal and fish oil producers in Denmark, Estonia, the Faroe Islands, Germany, Iceland, Ireland, Norway, Spain, France, and the United Kingdom.

Several factors make fishmeal production plants differ from the other non-slaughter installations in the BREF. Therefore, EFFOP has consistently argued that fishmeal and fish oil plants should be segregated from the other non-SA installations.

Even though the production process is broadly similar across the sector, the factories have individually designed production processes making each factory unique. Therefore, the BREF SA-revision must take into account that technologies are adapted to local conditions and that one or more units of process equipment cannot be substituted with other standard equipment.

Furthermore, the raw material used in fishmeal processing varies significantly in both quality, freshness and content compared to the other plant types in the SA-BREF. The increasing use of by-products and trimmings intensifies this variation of raw material even further. Anfaco-Cecopesca expressed this argument in their comments uploaded to BATIS March 9th 2020, where they highlight how the quality of the raw material affects the various emissions in the fishmeal production.

General comments regarding data assessment & Qlik Sense

I. EFFOP supports Germany's proposal uploaded to BATIS October 16th that EIPPCB undertakes and share with the TWG a second data report that presents all data filtered and restructured according to the remarks made by the TWG at the 1st Data Assessment Workshop.

II. We would like to request the possibility in Qlik-sense to view the data sorted with respect to average values and minimum values. As of now, the data can only be viewed sorted with respect to maximum values. This would provide a better overview of the data, as well as minimize the inconvenience of big maximum values.

III. We encourage EIPPCB to make a hierarchy of the data concerning the obtainment method, as, i.e. estimated and measured values do not have the same level of uncertainty. Likewise, EIPPCB is encouraged to weigh average values according to the number of samples to ensure statistical reliability. EIPPCB should consider disregarding averages based on only one measurement, in cases where data have significant variance. At the very least, EIPPCB should take the number of measurements into considerations when assessing the data. For example, on Total N, DK091 has

made 50 measurements and reported values ranging from 0 - 9.7; ES121 have only made one measurement during the reference years and reported 12.30 on Total N. This is just two examples of the significant variance in the emission values, and they underly the importance of taking the number of measurements into account, as well as the statistical uncertainty of the values based on one or few measurements.

Comments on specific production plants

As mentioned by several members of the TWG during the 1st Data assessment workshop, EIPPCB should treat not only extraordinarily high values as outliers but also extraordinarily low values. On this account, EFFOP has noticed some curiosities in the data concerning other fishmeal production plants. This is not to question the validity of the data, nor to criticize the production plants delivering it, but rather to argue that EIPPCB should consider checking data carefully.

EFFOP would on this account like to pose the following questions to EIPPCB:

I. Concerning ES121, are there any specifications concerning the plant that explains their notably low values on the following points?

   a. Water consumption**:**
      i. It seems like ES121 could have made an error in calculating their recycled water. Their reported data on water consumption is 0.080; 0.120; 0.120, which is about a factor 5 below the second-lowest fishmeal plant. The reported proportion of recycled water is between 94 and 96 pct. If ES121 has made this error, they are maybe not the only ones, and we encourage EIPPCB to check the plants that have reported use of recycled water, to ensure the correctness of data. Alternatively, as suggested by Germany on October 29th, that EIPPCB do not regard recycled water due to the inconsistencies in how it has been calculated.

      ii. ES121's water consumption on boilers, which seem to be the only water consumption they have, is estimated. Furthermore, their total specific net water consumption is less than their water consumption on boilers.

   b. Specific wastewater discharge:
      i. EIPPCB should be aware that sanitary wastewater (PW2) for ES121 is included in the data. ES121's values on Bod5, COD and TSS are all based on the stream from their sanitary wastewater (PW2). According to earlier discussions in the TWG, only process water should be included in the SA-BREF. On the specific amount of wastewater discharged, ES121 has reported the values 0.04; 0.03; 0.03 - a factor 10 below the second-lowest fishmeal plant. These values also stem from PW2, i.e. their sanitary water.

EUROPEAN FISHMEAL AND FISH OIL PRODUCERS

ii. Energy, electricity, and heat consumption: ES121 has reported the values 50.25; 49.85; 101.57 on average for total net energy consumption a factor 6 below the second-lowest fishmeal plant. The second-lowest fishmeal plant, DE071 has even reported recovery of 30 pct. against ES121's 20 pct.

iii. The reported values on Drying and cooking/sterilization are 515.38; 542.42; 497.27, which in 2016 and 2017 is ten times more than the reported Total specific net energy consumption. Since the reported energy source in Drying, cooking, and sterilization is liquefied natural gas, the values should be reported as total heat consumption. However, the reported value in this regard is 2.35; 1,85; 1.36 - more than 200 times less.

II. Concerning ES133 the following has caught our attention:

a. The maximum concentration of TN reported by ES133 is 0.53 – 18 times lower than the second-lowest fishmeal plant and more than four times lower than the second-lowest non-SA value on TN. Furthermore, the value is based on 1 measurement per year and measurement is carried out in 2 years only. Furthermore, ES133 has not reported a monitoring method on these values, which we also believe should be taken into account when EIPPCB asses the data again. (See general comments, III).

b. Concerning ES133 process water, PW2 is reported as "Non-SA industrial waste water". Nevertheless, this water stream is included in the SA-BREF data. As mentioned earlier, the Technical Working Group has agreed that only process water should be included in the data assessment.

Emissions to water

I. COD

a. As mentioned, both at the kick-off meeting and during the 1st Data Assessment Workshop, COD is unfitting for the fishmeal industry. As promised, EFFOP has uploaded a scientific document explaining this. To investigate this matter in practice, we suggest performing a series of measurements of BOD, COD and TOC on synthetic samples, which contain both trimethylamine and dimethylamine to elucidate the problem using concrete measurements.

b. In the fishmeal industry, COD fluctuates a lot depending on the quality of the raw material. Our technical expert estimates the influence of the raw material on COD can be between up to a factor ten.

EUROPEAN FISHMEAL AND FISH OIL PRODUCERS

Emissions to air

I. Odour
   a. EFFOP supports the predominant position in the TWG that odour has no place in this BREF. The measurements of odour are notoriously unreliable, the nuisance it causes are contingent on external factors and the degree of the inconvenience it causes dependent on geographical placement. Furthermore, national, fully implemented solutions are already in place, and disregarding these in favour of something different could be very costly – also environmentally.

II. NOx
   a. NOx values should be calculated with respect to O2 levels since the NOx levels depend on whether malodorous air is burned in a steam boiler, thermal combustion, or indirect hot air dryers. EFFOP has uploaded a document to BATIS explaining this in more detail. With this in mind, we argue that it would be just to segregate the data on NOx based on applied technology.

Water Consumption

I. Seawater/freshwater
   a. EFFOP would like to underline that seawater is not a scarce resource, and the use of it should not be subject to environmental regulation. Freshwater, on the other hand, is a scarce resource, and we, therefore, argue that BAT-AEPL's should only be set on freshwater.

II. Seawater in scrubbers
   a. During the 1st Data Assessment Workshop, EFFOP argued that seawater, once through cooling towers or scrubbers, should not be included in the data samples. EIPPCB verbally agreed to this, and we, therefore, encourage EIPPCB to remove this data from water consumption graphs. If this is not done, the data will not be comparable, and the potential AEPL will be based on misleading data.
      i. As an example, see NO280, whose total specific net water consumption in 2017 counts 24.2 m^3/tonnes of raw material, but their fresh water consumption only accounts for 0.8 m^3/tonnes of raw material, making the seawater proportion of the water consumption 96.7% (see table 1 below).

Tabel 1

Year	Total specific net water consumption m^3/tonne of raw material	Fresh water consumption m^3/tonne of raw material	Seawater's proportion of total specific net water consumption in pct.
2016	26.43	Fresh water is 1,1 m3/ton	95.8%
2017	24.2	Fresh water is 0,8 m3/ton	96.7%
2018	23.12	Fresh water is 0,8 m3/ton	96.5%

We hope that our recommendations will be well received and that our comments will be taken into account in the further BREF-process.

Kind regards,
Anne Mette Bæk
Managing Director
European Fishmeal and Fish oil Producers