EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR AGRICULTURE AND RURAL DEVELOPMENT

Directorate B – Sustainability

Brussels,
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I would like to thank you for your email of 23 December 2021[1], in which you refer to our previous reply to a question concerning the use of carbon dioxide in organic microalgae production[2] and ask for the recognition of the use of carbon dioxide for balancing and enriching land-based microalgae cultivation systems as compliant with the organic production principles.

As you mentioned in your letter, Regulation (EU) 2018/848[3], in particular Annex II, Part III, Point 2, lays down specific provisions on production rules for algae, and point 2.3.2. provides for the following: "*In facilities on land where external nutrient sources are used, the nutrient levels in the effluent water shall be verifiably the same, or lower, than the inflowing water. Only nutrients of plant or mineral origin authorised pursuant to Article 24 for use in organic production may be used*."

The potential use of carbon dioxide enrichment for different purposes in organic production has been evaluated several times by the European expert group for technical advice on organic production (EGTOP)[4], in particular, in its reports on Fertilisers (2011), Greenhouse production (2013) and Aquaculture I (2016).

Against this background, I would like to recall that EGTOP concluded in 2011[5] that "*The technique of carbon dioxide enrichment should be considered in general discussions on a*

[1] ARES(2022)15360

[2] ARES(2018)1629809

[3] Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007 ( OJ L 150, 14.6.2018 p.1 )

[4] https://ec.europa.eu/info/food-farming-fisheries/farming/organic-farming/co-operation-and-expert-advice/egtop-reports_en

[5] https://ec.europa.eu/info/food-farming-fisheries/farming/organic-farming/co-operation-and-expert-advice/egtop-reports_en

*set of standards for organic protected cropping. In the opinion of the group, carbon dioxide rebalancing, as well as enrichment to elevated levels, is not in contradiction to the Council regulation. The group concluded that certain forms of carbon dioxide enrichment techniques could be in line with organic farming principles."* However, the group has not concluded whether carbon dioxide from all origins should be acceptable.

Later on, in the report on Greenhouse production of 2013, the group further underlined that: "*The group accepts the practice of $CO_2$ enrichment, but is concerned about the widespread tendency of burning fossil fuels in summer for the main purpose of obtaining $CO_2$. Operators should minimize the loss of $CO_2$ to the environment through responsible energy management in the greenhouses. It may be a problem to produce $CO_2$ for $CO_2$ balancing/enrichment in greenhouses using renewable energy sources like windmills, hydropower plants or sun power panels without $CO_2$ production or common biogas plants situated a distance away. Research is needed to find the most energy and production efficient alternatives for $CO_2$ enrichment based on burning of fossil fuels. Fossil fuel burning with the main purpose of $CO_2$ enrichment of greenhouses should not be allowed."*

Finally, in the 2016 EGTOP report on Aquaculture I, it can be read that: "*The Group sees no possibility for applying the overall principle of fertilization with low solubility mineral fertilizers (as given in Art. 4(b)(iii) of Reg. 834/2007 and currently applied for terrestrial plants) to phytoplankton. Also, the Group considers that it would be difficult to define production of 'organic phytoplankton' which would be sufficiently different from conventional phytoplankton to justify its existence as a separate, organically certified product. In view of the necessity to use phytoplankton in hatchery, the Group recommends that, for the time being, the use of phytoplankton should be authorized without requiring organic certification. However, GMO strains of algae must not be allowed."*

Against this background, the authorisation to use carbon dioxide in the production of organic microalgae was not proposed. However, the services of the Commission may reassess the issue, under the conditions laid down under Article 24 of Regulation (EU) 2018/848 to approve certain substances and products to be authorised for use in the organic algae cultivation. For this purpose, a Member State would have to submit a dossier to the Commission and to the other Member States; this dossier would be then evaluated by EGTOP. Should EGTOP provide a positive advice, the Commission may propose to the Committee on organic production to add this product in the relevant Annex of Commission Implementing Regulation (EU) 2021/1165[6], which lists all authorised products and substances for use in organic production. The implementing act amending Regulation (EU) 2021/1165 shall be adopted in accordance with the procedure referred to in Article 55(2) of Regulation (EU) 2018/848.

[6] http://data.europa.eu/eli/reg_impl/2021/1165/oj

To conclude, EGTOP did not recommend the use of carbon dioxide in the production of organic microalgae and this is not authorized by current rules in force. A comprehensive research could be necessary to find the most energy and production efficient alternatives for CO2 enrichment in microalgae production.

Yours sincerely,