



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR AGRICULTURE AND RURAL DEVELOPMENT

Brussels,
PP/nb/agri.ddg1.b.4(2021)5367589



I would like to thank you for your email of 17 June 2021 (Int. Ref. ARES (2021)4281820) asking clarification with respect to the use of certain very specific vertical growing systems in the production of plant material for the production of organic herbs in pots under new Regulation (EU) 2018/848¹.

In general, with respect to the use of systems like yours, I would like to recall main relevant general principles laid down under Article 5, in particular Article 5(c) and (f) of Regulation (EU) 2018/848: *“the responsible use of energy and natural resources, such as water, soil, organic matter and air”* and *“the appropriate design and management of biological processes, based on ecological systems and using natural resources which are internal to the management system, using methods that ... (ii) practice soil-related crop cultivation and land-related livestock production...”*

Since the very beginning of the organic scheme, organic plant production is based on nourishing the plants primarily through the soil ecosystem. Plants should be produced on and in living soil in connection with the subsoil and bedrock. Consequently, under Article 4 of Regulation (EC) No 889/2008, hydroponic production was prohibited in organics. For the future, a similar prohibition is laid down in point 1.2 of part I of Annex II to Regulation (EU) 2018/848: *“Hydroponic production, which is a method of growing plants which do not naturally grow in water with their roots in a nutrient solution only or in an inert medium to which a nutrient solution is added, is prohibited.”*

However, during the revision of the organic rules, the co-legislators agreed upon very few exceptions to these fundamental rules and identified the following limited exceptions

¹ [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 \(OJ L 150. 14.6.2018 p.1 \)](#)



to soil-related cultivation, which are laid down under Part I of Annex II to Regulation (EU) 2018/848 :

- point 1.3. for the production of sprouted seeds or chicory heads for their particular production techniques implying a phase hors-soil for safety and peculiar technical purpose,
- point 1.4. **for the production of ornamentals and herbs that are sold in pots to the consumers for which the principle of soil-related crop cultivation is not adapted or for which no risk exists that the consumer could be misled regarding the production method,**
- point 1.4. for growing seedlings or transplants in containers for further transplanting in order to facilitate availability of healthy young plant reproductive material,
- point 1.5. for a transitional period up to 31 December 2030 for growing crops in demarcated beds in Finland, Sweden and Denmark but limited to the surfaces already certified before 28 June 2017.

It is to be noted that the exceptions referred to relate only to the requirement in point 1.1. concerning the cultivation in living soil in connection with the subsoil and bedrock. Therefore, all other organic rules laid down in the regulation apply, including the prohibition of hydroponic production.

From the information provided in your letter describing your system of production, I conclude that your final products are in fact herbs cultivated in pots to be sold as such to the consumers and that you intend to change the first phase of germination moving from germination chambers to *“multilayer cultivation and growth is supported via special light spectrum (LED) similar to vertical farming”*. In this way, you underline that the plant material of the herbs presents several benefits in terms of quality, more efficient use of resources and no need for fossil energy. You underline in fact that this system of production *“is even more distinguished by a very low environmental impact due to very modern environmentally friendly techniques such as an own solar energy production, own electricity production with reuse of heat and CO₂, use of rainwater which is collected in a closed irrigation system, etc ...”*.

As said above, the production of herbs and ornamentals in pots for final consumers is a limited derogation from the basic requirement of soil-related crop cultivation laid down under point 1.1. of Part I of Annex II to Regulation (EU) 2018/848, and all other organic plant production rules and principles shall apply.

In particular, with respect to the use of artificial light in greenhouse production, I would like to underline the conclusion expressed in the report on Greenhouses from the European expert group for technical advice on organic production (EGTOP)²: *“In the Group’s opinion, the provision of artificial light is in line with the objectives and principles of organic farming, if the normal daylight is insufficient for the normal growing of crops. It should only be allowed on dark, overcast days and for extending the daylight period, and only during autumn, winter and early spring. However, the intensity of artificial light used in overcast or short days should not exceed the*

² [final-report-etop-greenhouse-production.pdf \(europa.eu\)](#)

*Photosynthetically Active Radiation (PAR) of the country during a summer day (21st of June) and the number of hours should not exceed 12 hours of daylight including artificial light. **Artificial light should also be allowed for the production of seedlings and herbs in pots, for the forcing of herbs, and for photoperiodical induction of flowering.***”

Moreover, with respect to energy use in general, EGTOP concludes that “*In organic greenhouse production, as in other organic systems, **as little energy as possible should be used.** For that, awareness of responsible energy use among the operators is needed. Maximal heating temperatures, maximal heating periods and energy saving production methods as well as good heat insulation are in the foreground in addition to a reasonable use of CO₂ (see Chapter 3.8). For that the Group recommends that the heating of green houses to assure frost protection to 5°C is allowed without limitation. Heating to higher temperatures is in line with the Organic Regulation if the green house is insulated. These higher heating temperatures should be justified in relation to the crop. Heating with renewable energy is in line with the principle of organic farming and is highly preferred. The Group also recommends that greenhouse operators, who heat for more than frost protection, must keep records of their energy consumption and draw up and implement a plan based on elements of environmental management systems on how to reduce their consumption and **replace fossil energy with renewable energy.** The Group further recommends that energy reduction plans should also be considered for other types of organic production systems.*”

From the information you provided, it appears that the intensive first cultivation phase of your seedlings to be grown later in greenhouse for the final production of herbs would be carried out in a type of vertical system where temperature and light are controlled and derived from renewable energy; in addition, such controlled conditions concern a limited part of the whole cultivation cycle and are based on the principles of use of renewable energy and respect of resources; hence, this particular system could be considered to be in line with organic principles.

Vertical farming systems being a system not land-related can only be allowed in organic farming within the limits set under the above-mentioned legal exceptions, which indeed cover the production of seedlings and transplants in containers for further transplanting and herbs and ornamentals in pots. However, **I would further recall that all other organic principles and rules shall have to be fully respected and I would invite you to contact the competent authorities of the territory where you carry out your production to assess the overall compliance of your production system with the organic legislation.**

The present opinion is provided on the basis of the facts as set out in your email of 17 June 2021 and expresses the view of the Commission services and does not commit the European Commission. In the event of a dispute involving Union law, it is, under the Treaty on the Functioning of the European Union, ultimately for the European Court of Justice to provide a definitive interpretation of the applicable Union law.

Yours sincerely,

