



**Plant Health Care in Organic
Farming**

Position paper

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General Introduction

As a system approach to sustainable agriculture, organic farming aims to effectively manage ecological processes whilst lowering dependence on off-farm inputs. Plant health in organic production is managed mainly by preventive and indirect measures internal to the agroecosystem. In this respect, organic farming plays a very important role as a pioneer in the development and the introduction of preventive measures and biocontrol solutions for plant health care. In case of necessity such measures may be complemented by external inputs such as plant protection and fertilisation products.

Organic breeders and small, local seed suppliers, for instance, aim for broader genetic diversity because it is essential for the adaptability of plants to local farming conditions and changes in weather patterns, and the basis for natural disease and pest resistance. Where external inputs are used, organic plant health is based on the precautionary principle. This acknowledges that the impact of synthetic pesticides on our agroecosystems, the wider environment and human health can never be exhaustive. As a result organic farming rejects the unpredictable risks coming from the release of artificially designed molecules (e.g. “synthetic” pesticides) and organisms (from genetic engineering) into the environment. Thus, Organic production focuses on the use of plant varieties from traditional breeding and inputs are limited to naturally occurring substances. This does not mean that all naturally occurring substances do not necessarily have an impact on the ecosystem or human health. However there is a difference between substances with newly designed molecules and organisms and those with an existing natural background exposition. In the case of the use of natural occurring substances, what has to be considered is the additional risk of the proposed use (e.g. mode of application, concentration etc.) rather than its release into the environment where they already present.

Many of these aspects of organic plant health care are not adequately addressed in the current EU policy and regulatory framework. As a result, to effectively support the future development of organic plant health care immediate and long-term actions in the EU regulation and policy, are needed to address these challenges. In the first instance immediate efforts to support a better regulatory framework. This includes:

- Ensuring traditional and new plant varieties with a broad genetic spectrum have access to the market
- Public investment to support applications for naturally occurring substances- needed to close gaps in organic health care strategies. These investment are of public interest where there is a limited economic interest for industry to invest due to small market size and the limited possibility to protect the intellectual property
- Registration processes in horizontal legislation further adapted to naturally-occurring substances reflecting their special importance for plant health care in organic farming, low input agriculture and amateur gardening (especially for substances with multiple modes of action and traditional use).
- A fast-track procedure for the inclusion of registered substances in line with the organic principles and necessary for organic plant health.

In addition long term EU policies must be put in place to mainstream organic and agro-ecological approaches for plant protection. This includes:

- Prioritisation of organic farming in National Action Plans implemented under the Sustainable Pesticide Use Directive in order to better meet its objectives
- A more supportive and coordinated agricultural policy environment to stimulate the uptake of organic and agro-ecological practices such as soil management, crop rotation, the breeding of robust varieties and biological pest control
- Prioritisation of research (e.g. the good example set in the Horizon 2020 programme 2016/2017) and, innovation and knowledge transfer for organic plant health to support greater agroecosystem resilience
- Introduction of a green valued add tax (VAT) on pesticides and synthetic fertilisers with revenues used to fund applied research development on organic and agro-ecological approaches¹.

¹ Pesticide taxes have been pioneered by countries such as Denmark, France, Norway and Sweden See Böcker, T., and Finger, R., (2016): European Pesticide Tax Schemes in Comparison. Available at: www.mdpi.com/2071-1050/8/4/378

Plant health care strategies in organic farming: A system approach

One of the main principles of organic production is the appropriate design and management of biological processes and natural resources which are internal to the agroecosystem with the aim of creating resilient agricultural systems. Plant health is managed mainly through preventive and indirect measures such as the choice of appropriate species and varieties less susceptible to pests and diseases and adapted to the local conditions, appropriate crop rotation, the enhancement of functional biodiversity, the release of macrobials, mechanical and physical methods. Organic farmers play a key role in the development and the improvement of such measures. The intelligent use of functional biodiversity is also central part of organic breeding programmes. Mainly in speciality crops plant health care strategies consist in intelligent combinations of such measures with the use of naturally occurring substances. The continuous improvement of these management systems with the aim of further reduction of the dependence of these substances is a substantial part of the organic farming reality.

Biodiversity plays a central role in plant health care. Varieties and seeds from organic breeding and ecosystem management are the key factors for more and more resilient farming systems. These systems provide also a high number of ecosystem services which are considered an important additional value of organic production systems. Climate change (extreme climate situations) and globalization (introduction of new pests and diseases) add new and enhance existing challenges in plant health care. To face this situation, a sufficient number of solutions including products for plant protection and biostimulants appropriate to organic farming and specific enough to reduce infestations without compromising the whole resilience of the system is needed. Specific research and development (including registration) must provide new solutions for new and already existing gaps in the strategy and optimize the use of the traditional products.

Several substances used in organic plant health care are “multi-functional”, meaning they perform a number of roles in plant health care as fertilising, enhancement of crop quality, plant strengthening or direct protection. The efficacy of such products towards pests and/or diseases is usually not comparable to the ones of “synthetic” pesticides. Due to their multiple properties, however, in intelligent combinations with other measures these substances give a valuable contribution to successful plant health management. Currently naturally occurring substances of interest for organic farming are in a first instance evaluated by EU and national authorities in the frame of the registration of the substance in horizontal legislation according to its use. But the current EU regulatory framework is primarily designed to evaluate chemicals in synthetic substances and there are technical difficulties to adapt the registration criteria to naturally occurring substances. Additionally, the suitability of the substance for organic farming is evaluated. This second evaluation includes not only the consideration of possible impacts on human and animal health and the environment but it considers also possible ecological impacts of the production (e.g. origin of kelp to obtain laminarin) or social implications of its production (e.g. botanicals from developing countries).

EU horizontal legislation for plant health care and the impacts on organic farming

Regulation (EC) No 1107/2009 covers the placing of plant protection products on the market. The issue with this legislation, for the organic movement, is that the registration procedures described are suited to synthetic substances, which are usually single molecules with high effectiveness against specific pests or diseases.

As part of the implementation of Regulation 1107/2009, specific guidance has been developed for several categories of naturally occurring substances including microorganisms, semiochemicals (pheromones) and botanicals (plant extracts), which contribute substantially to a better adapted evaluation of these substances and is welcome. For the botanicals, the still narrow focus will likely incentivize botanicals that are as similar as possible to synthetic substances (e.g. purified single compounds). The need of special guidance for substances of mineral origin should be discussed considering the experience of applicants in the current process.

Before the implementation of Regulation (EC) No 1107/2009, several Member States had implemented special registration procedures for well-known substances with high natural background (e.g. rock powders, horsetail)

and/or commonly used for other purposes (e.g. sodium bicarbonate, calcium hydroxide). Thanks to these special procedures, several substances traditionally used in organic farming were available to farmers.

In the framework of Regulation (EC) No 1107/2009 there is no similar solution available. Substances addressed as “low risk” must follow the normal registration process before they can be legally defined as “low risk”. In this process the criteria for the evaluation of the lower risk follow completely the risk assessment process usual in registration. The lower unpredictable risk associated with substances with existing natural background exposure is not part of these considerations. As the costs associated with registration are very high for substances with a small market segment a return on investment is not expected. Furthermore, the possibility for industry to protect intellectual property for these substances is very limited. Thus, for several substances traditionally used in amateur gardening and organic farming a solution for a registration at EU level must be found.

The only solution that seems possible is Art. 23 of Regulation 1107/2009 (basic substance). In this area, the organic farming sector has been active in preparing proposals for several substances. However, the process can still be improved and concrete solutions must be found for better implementation of the legislation at Member State level. With draft guidance on basic substances still in the process of being developed, a working group on basic substances chaired by the European Commission could help to find practicable solutions for better implementation. This working group should clearly aim to review the draft guidelines for basic substances applications and evaluate the current experiences of applicants and assessors as well as national implementation with the aim to find practicable solutions for the above mentioned group of substances. Small SME should be part of this solution since their engagement and innovation potential usually is very high – a chance that should not be missed. For the preparation of the database requested for the registration of naturally occurring substances with a market segment that is too small for a return of investment in registration and a public interest in the use solutions must be found. First MS as France and regions as Baden Wuerttemberg have started funding the preparation of dossiers for this special case of minor use. The further development of these activities in a special minor use concept for organic farming is crucial for organic farming.

Under the review of **Regulation (EC) No 2003/2003** the registration procedure for naturally occurring substances should not repeat the situation of the plant protection legislation where the process is designed for “synthetic” molecules presenting many difficulties for naturally occurring substances. Furthermore the process should be proportional to the potential risks of such substances and existing traditional use should be considered. The multiple uses of these substances for plant protection, fertilisation and biostimulation have to be taken into account. Feasible solutions are needed to allow the use in different categories.

Organic farming rules and EU horizontal legislation for plant health

Organic regulation (EC) No 834/2007 is currently under review and a new regulation might be adopted.

The current organic regulation allows the use of specific plant protection products, when duly justified and when preventive measures are not enough. However the current process to insert new products in the list of allowed substances is very long, as the product has to be first approved under the horizontal legislation and afterwards approved under the organic regulation. This implies that simple natural products or even products recognised as food can take years to get the approval and be used by organic farmers. In particular, solutions must therefore be found for a number of products traditionally used in organic farming that were previously regulated at Member State level.

The Commission’s aim to facilitate and speed up the authorisation of **basic substances** in organic farming under Annex II of the **Regulation (EC) No 889/2008** is welcome. A fast-track procedure for basic substances to be included in the organic regulation would solve the current situation in which the recognition of “sucrose” as substance allowed for the use in plant protection takes years.

At the same time, the wording² proposed by the Commission to amend the current Regulation would imply an automatic recognition of such substances without a further check whether they are in line with the principles of organic farming and – not least – whether the use of such substance is needed in organic farming. As selection criteria in terms of the need for the substance in organic production or specific production method are not addressed in the registration process, an additional evaluation by the sector is necessary under any fast-track procedure. If an automatic recognition is discussed, restricting the definition only to substances that have “plant and animal origin”, however would exclude many basic substances of mineral origin (e.g. sodium hydrogen carbonate). On the other side, this new proposed wording will make it possible again for the organic sector to use group of substances that are considered undeniably suitable for organic farming (e.g. microorganisms not from GMO origin, pheromones in traps and dispensers) in order to close existing or new gaps in strategies for more resilient systems as it was the case in the past twenty years.

EU policy frameworks to support the development of sustainable plant health care

To create a more supportive environment that stimulates the development of sustainable plant care strategies, EU policies must be able to complement the EU rules on plant health care. As a system approach to sustainable agriculture based on agro-ecological practices, organic farming can make a very important positive contribution to the reduction of the dependency of the agricultural production systems of pesticides as well as the risks derived from the use of these substances. Such practices and systems should be central part of any strategy for reaching the aims of these EU strategies.

Currently the **Sustainable Pesticide Use Directive (SPUD)** remains a key instrument to reduce the risks and impacts of pesticide use on people's health and the environment. In this respect the development of the organic farmland area across the EU can play an important role to help meet the goals of the SPUD. The EU Institutions' commitment to devise an **EU strategy for a non-toxic environment**³ should also foresee the development of organic farming. To this end organic farming should be prioritised under Member States **National Action Plans** as part of the SPUD implementation as well as under the EU's forthcoming non-toxic environment strategy. This can be achieved by incentivising the uptake of agro-ecological practices and prioritising the development of organic farming under the **Common Agricultural Policy** including knowledge transfer and innovation as well as market development.

The EU's existing marketing laws for **seed and plant propagating material** also need to be urgently reformed in order to better enable the development of genetic resources for sustainable plant health care and resilient systems. Central to this overhaul is the need for seed laws that are fit for purpose which recognise the contribution that small breeders, farmers and seed savers make to the seed and plant breeding.

Finally investments in research and innovation are needed to address current challenges in the organic regulatory framework relevant to organic plant health care such as finding alternatives to contentious inputs and increasing the availability of organic seeds – towards 100% organic seed. At the same time development on eco-functional intensification that enhances the productivity, stability and resilience of agro-ecosystems are necessary such as the breeding of robust plant varieties and ecological support in specialised and intensive plant production systems⁴.

²Only those basic substances within the meaning of Article 23(1) of Regulation (EC) No 1107/2009 of the European Parliament and of the Council(**) that are covered by the definition of 'foodstuff' in Article 2 of Regulation (EC) No 178/2002 of the European Parliament and of the Council(***) and have plant or animal origin.

³The non-toxic environment concept is cross-sectoral (i.e. beyond agriculture) and has existed as an objective for almost two decades originating in Swedish chemical policy. See Action Plan for a Non-Toxic Everyday Environment 2015-2020 Available at: www.kemi.se/en/global/rapporter/2014/rapport-5-14-handlingsplan-giftfri-vardag-2015-2020.pdf

⁴ Research and innovation question are set out in TP Organics' Strategic Research and Innovation Agenda for Organic Food and Farming. Further information is available at: http://www.ifoam-eu.org/sites/default/files/ifoameu_ri_strategic_research_and_innovation_agenda_for_organic_food_and_farming_brochure_20150129.pdf