



**MINISTRY OF AGRICULTURE  
DEPARTMENT OF THE AGRICULTURAL MARKETS**

**COURTESY TRANSLATION**

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**THE NATIONAL FRAMEWORK FOR ENVIRONMENTAL ACTIVITIES  
SELECTED UNDER THE OPERATIONAL PROGRAMMES OF THE FRUITS  
AND VEGETABLES PRODUCER ORGANISATIONS**

**MODIFICATION**

**Budapest, 31 August 2017**

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**1. ENVIRONMENTAL NEEDS AND PRIORITIES IN HUNGARY**

*1.1. ENVIRONMENTAL CONDITIONS AND PROBLEMS IN HUNGARY FROM  
THE AGRICULTURAL PERSPECTIVE*

The diversity of geographical conditions in Hungary (richness of the surface waters, soil types, climatic conditions) resulted in a high level of biodiversity. Thus the country is characterised by a diverse wildlife and multifaceted landscapes. The environmental exposure of domestic agriculture reflects regionally different levels in particular after the political transition, yet as a whole it can be regarded as low. All these circumstances contributed to the preservation and maintenance of our natural and environmental heritage.

Native livestock (such as Hungarian grey cattle or the *mangalica* pig), game (for instance red deer and hare) in Hungary represent a very high value genetically, and together with the rare plant varieties demonstrate a high level of genetic diversity. This is partly the result of the systems intended to maintain the genetic base.

The ratio of the areas covered with forests is significant (in 2015 21%) and the state of these areas is also good. Forestry management has an ever-growing role and importance in the battle against climate change, in water management and erosion control. The country has a significant forest planting potential. Nature conservation areas cover a significant part of the country and the extent of the areas under Natura 2000 is almost 2 million hectares, their ratio in the total area is 21.4%.

Certain environmental problems arise primarily from soil degradation and deficiencies in nutrient management (such as adverse tendencies in nutrient element ratios). In Hungary the frequency and the intensity of extreme weather events (such as torrential rains, severe hurricane-like storms, snowstorms, heat waves) increase, the extreme water levels might be more common, the risk of forest fires increases, the droughts are longer and the biodiversity is in decline due to the climate change.

The environmental load of agriculture is not significant mainly due to reduced production intensity and concentration as well as due to diminishing inputs

(chemicals). Risk is represented rather by the too scattered production structure and in certain places by incompetent production or agro-technical interventions. Sometimes excessive use of environmental resources, lack of environmental awareness in husbandry and the consequential environmental problems can be observed.

Analysis of the state of individual environmental components (soil, water, air and biodiversity) is included in Chapter 4.1 SWOT Analysis of Hungary's Rural Development Programme for 2014-2020 (RDP) and in the Second Climate Change Strategy of Hungary for 2017-2030.

### *1.2. NEEDS AND PRIORITIES OF THE ENVIRONMENT*

Based on the foregoing chapter it can be said that the Hungarian situation in the agriculture is quite advantageous from the perspective of environmental loads. The most serious agri-environmental problems are represented by wind and water erosion, abandonment of cultivation, diminishing biodiversity, soil compaction and elimination of farming, as well as greenhouse gas emission. Objectives related to tackling of these problems are defined in the RDP, stating that general development of environmental conditions and more efficient conservation of the natural heritage was of paramount importance. The basic principle of sustainable farming is the application of a land use system adjusted to the available natural resources, the landscape, the properties and limits of the environment and to the wildlife, as well as ongoing development of the quality thereof. This way more efficient conservation of primary natural values can be ensured. Taking into account the natural heritage, the nature of the landscape and preservation of the traditional rural landscape shall specify intensity of conservation measures. This development trend assists in preserving natural resources including biodiversity, maintenance of environmentally sound production methods, the conservation of renewable energy sources, and in the promotion of land use patterns accommodated to the nature of the environment. These increase the attractive force of rural regions and serve healthy development as well as strengthening regional cohesion on the long run.

**The environmental priorities in Hungary can be set in more details as follows:**

The state of the environment should be further improved in rural areas by improving efficiency of use of resources, enhanced protection of high value nature conservation areas, co-ordinated action to mitigate wind and soil erosion and the propagation and promotion of environmentally sound management and husbandry practices, in order to **maintain the favourable state of the environment** and the current low level of environmental exposure.

The application of **natural and environmentally friendly agricultural farming methods must be promoted.**

Exploitation of the favourable conditions, **environmentally aware landscape management**, land use patterns adjusted to the production capabilities may contribute to maintain and improve natural values and to the conservation of biological and landscape diversity. In areas and regions less apt for competitive agricultural production an alternative option lies in the application of land use patterns aimed at nature conservation purposes (for example forestation, grassland propagation or creating wetlands).

Environmentally **reasonable land use** means appropriate tillage, management of organic matter and crop structure on land excessively exposed to water and wind erosion. Soil degradation may be reduced by conservation agrotechnical solutions. Deflation control can be enhanced by reforestation which also reduces erosion impact of water. With the development of forestry management methods more favourable situation can be generated in terms of water management as well.

**Forestation** in line with the environmental considerations and improving the quality of standing forests are also important objectives. With its impact on diminishing erosion and deflation damages, **forestry management** also has an important role to play in maintaining biodiversity. The establishment of agroforestry systems is regarded as a new and potentially important area of development in terms of diversification. The propagation of environmentally sound husbandry method accommodating wildlife habitat conditions (agri-environmental protection, Natura 2000) is closely connected to the continuation of existing rural development support and the implementation of new payment titles as soon as possible.

For the purposes of **land conservation on nitrate sensitive areas and the protection of waters** the use of artificial fertilisers and pesticides must be reduced. In order to achieve the protection of waters and reducing existing nitrate contaminations the rules of Good Agricultural Practices must be observed on the agricultural land concerned. It is advisable to encourage the application of reasonable land use patterns which take into account the interests of nutrient and soil management.

Special emphasis should be put onto **integrated water management practices** in order to ensure adequate amount and appropriate quality water supply. For the purposes of achieving and maintaining good water quality, restrictions specified in the integrated water management plans must be applied on the catchment areas in accordance with the relevant provisions laid down in the Water Framework Directive (Directive 2000/60/EC). Risks of flooding and excess inland water are both reduced by the changed land use patterns, the establishment of wetland habitats and reforestation.

Intensive soil acidification may be turned around to a great extent and the greenhouse gas formation is reduced by the introduction of **environmentally sound nutrient management practices**, enhancement of organic nutrient contents in soils and the utilisation of green manure. Mitigation of the precipitation of salt requires more stringent land use and water management restrictions. Soil compaction can be avoided by the application of the appropriate agro-technical methods and for the purposes of

preventing compaction of deep soil layers amelioration and water management can be added as appropriate.

Improving energy efficiency enhances the competitiveness and effectiveness of holdings on one hand and contributes to sustainable, climate friendly development on the other hand. To reduce the production costs while a reduction in employment is not required, i.e. the modernisation does not substitute for manual labour, is an important consideration in modernisation of energy use. Technological and building energy modernisations as well as use of renewable energy sources are important Hungarian development priorities for climate change mitigation.

### *1.3. ENVIRONMENTAL IMPACTS OF FRUIT AND VEGETABLE PRODUCTION*

The environmental conditions in Hungary are excellent for the purposes of producing the best quality fruits and vegetables. During the agricultural production operations and in the activities of the producer organisations the objective must be kept in mind that environmental loads should be minimised while separated from economic growth.

Impacts of fruit and vegetables production on the environment can be specified as follows:

- a) Greenhouse effect: the activities associated with production and at the same time aggravating the greenhouse effect include harmful emissions originating from pest control, transport of goods and the use of power machinery.
- b) Nature and biodiversity: the multitude of different life forms in nature is mostly impaired by pest control (herbicides, pesticides which also affect useful organisms), and artificial fertilisation.
- c) Human environment and health is also most sensitive to artificial fertilisation and excessive use of chemicals as part of agricultural production. Agricultural producers are held responsible for the rest of society; therefore the provision of chemical free goods in appropriate quality and the protection of the environment are partly up to the producer community.
- d) Quality of life: it shall be a fundamental right of employees to work under decent working conditions. It is the responsibility of the producer community not to expose their employees to enhanced risk and hazard. Workers should receive the necessary work safety, fire prevention and the production related sanitary and technical training.
- e) With a view to conserving our natural resources the following priority order can be set up from the perspective of agricultural production: soil, water, air, natural environment, rural areas. Their sustainable use can be implemented by appropriate practices in pest control and production, or may be rendered more efficient by the promotion of biological pest control methods.
- f) Waste generation: the volume of hazardous and other types of waste has kept on growing during the past period. Competent and adequate disposal of empty pesticide packaging, spent plastic greenhouse covers and irrigation pipes is problematic. Furthermore, additional cause for concern include the appearance of wrapping materials used in larger and larger volumes in agriculture as a



consequence of ever diminishing sizes in packaging units in the fruit and vegetables sector. These are disposable materials; sale of goods in reusable wrapping materials is poorly implemented yet.

In agriculture, pollution abatement at the source is of special importance. In this respect the role of producer organisations is crucial, therefore effective measures have to be defined for each of the areas described above, with the assistance of which these organisations shall be able to execute the objective set successfully, that is the mitigation of environmental loads and the decoupling of environmental impacts from economic growth.

## 2. GENERAL REQUIREMENTS FOR THE ENVIRONMENTAL ACTIONS SELECTED UNDER OPERATIONAL PROGRAMMES

### 2.1. LEGAL OBLIGATIONS

#### *2.1.1. Obligations mentioned in Article 33(5) of Regulation (EU) No 1308/2013 of the European Parliament and of the Council*

Pursuant paragraph (5) Article 33 of Regulation (EU) No 1308/2013 it shall be a mandatory requirement for production organisations that

- a) operational programmes include two or more environmental actions; or
- b) at least 10% of the expenditures under operational programmes covers environmental actions.

Where at least 80 % of the producer members of a producer organisation are subject to one or more identical agri-environment-climate commitments provided for in Article 28(3) of Regulation (EU) No 1305/2013, then each one of those commitments shall count as an environmental action as referred to in point (a) of the first subparagraph of Article 33(5) of Regulation (EU) No 1308/2013. **In this case however, the performance of these commitments cannot be supported using the operational fund.** The description of agri-environment-climate commitments is contained in Chapter '8.2.9 M10 - Agri-environment-climate measures' of the RDP that can be deemed as an environmental action should at least 80% of the producer members of a producer organisation adhere to them.

#### *2.1.2. Obligations mentioned in Article 28(3) of Regulation (EU) No 1305/2013 of the European Parliament and of the Council*

Environmental actions selected under operational programmes shall respect the requirements concerning the agri-environment-climate payments mentioned in Article 28(3) of Regulation (EU) No 1305/2013.

In other words, only such commitments shall be included in the operational programmes, which go beyond

- a) the relevant mandatory standards established pursuant to Chapter I of Title VI of Regulation (EU) No 1306/2013,
- b) the relevant criteria and minimum activities as established pursuant to points (c)(ii) and (c)(iii) of Article 4(1) of Regulation (EU) No 1307/2013
- c) relevant obligatory requirements established pursuant to the first subparagraph of Article 14(4) and in Annex III of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides;

- d) relevant minimum requirements for fertiliser and plant protection products use established pursuant to the Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources;
- e) other relevant mandatory requirements established by national law.

The above mentioned minimum requirements are given in the RDP.

Where a producer organisation includes actions that are identical to agri-environment-climate commitments in its operational programme, the following data and documents shall be submitted at the time the request for approval of the operational programme or its modification are lodged:

- which producers take part in the environmental action concerned and with which parcels,
- the declarations of the participating producers that they will not receive any financial aid under the agri-environment-climate payment related to the given parcels during the period of the operational programme.

***Warning: In order to avoid double funding producers participating in environmental actions which are supported under operational programmes and identical to a commitment of agri-environment-climate payments are not entitled for support under agri-environment-climate payments for the same actions on the same parcels.***

### *2.1.3. Other requirements*

The environmental actions implemented under operational programmes shall

- conform to the national framework for environmental actions;
- be compatible with and complementary to the other environmental actions selected under operational programmes or, where applicable, the agri-environment-climate commitments supported under the RDP and performed by the members of the producer organisation, and shall supplement them.

Various environmental actions may be combined provided they are complementary and compatible. It was indicated at the description of the individual actions specified when any of such actions can not be combined with other actions at the level of the operational programme or at the level of the members in the producer organisation.

## *2.2. SUPPORTING ENVIRONMENTAL ACTIONS SELECTED UNDER OPERATIONAL PROGRAMMES*

Aids granted for environmental actions referred to in the first subparagraph of Article 33(5) of Regulation (EU) No 1308/2013 shall cover additional costs and income foregone resulting from the actions concerned.

Investments that are made at the premises of producer organisations, associations of producer organisations or subsidiaries complying with the 90% requirement referred to in Article 22(8) of Delegated Regulation (EU) 2017/891, or at the premises of their producer members and meet the requirement mentioned in Article 3(3)-(6) of Implementing Regulation (EU) No 2017/892 are eligible for support in the frame of environmental actions of the operational programmes.

The expected reduction and, where applicable, the expected additional environmental benefit, shall be demonstrated ex ante through project specifications or other technical documents to be presented by the producer organisation or association of producer organisations at the moment of the submission of the proposed operational programme or of the amendment of such a programme for approval, showing the results that could be obtained through the implementation of the investment, as attested by the technical documents or by an independent qualified body or expert agreed by the Member State.

Exclusions mentioned in Annex II of Delegated Regulation (EU) 217/891 shall also be applied to the environmental actions, with the exceptions mentioned in Annex III of Delegated Regulation (EU) 217/891.

Support for environmental actions that are identical to agri-environment-climate or organic farming commitments as referred to in Articles 28 and 29 of Regulation (EU) No 1305/2013 respectively, shall be limited to the maximum amounts laid down in Annex II to that Regulation for agri-environment-climate payments or for organic farming payments. Those amounts may be increased in duly substantiated cases taking account of specific circumstances that are justified in the national strategy and in the operational programmes of the producer organisations. However, this does not apply to environmental actions which do not relate directly or indirectly to a particular parcel.

The level of aids granted for the combination of environmental actions other than investments in physical assets shall be established pursuant point a) of Article 3(7) of Implementing Regulation (EU) 2017/892 by taking into account the specific income foregone and additional costs resulting from the combination of the actions.

Should the operational programme allow for the combination of various environmental actions, and/or should the environmental actions selected under the operational programme be combined with agri-environment-climate or organic farming commitments supported under the RDP, the level of the aid shall be defined by taking

account of the specific income foregone and additional costs resulting from the combination.

Aids provided to environmental actions selected under operational programmes may be subject to modification in the event of change of the relevant reference level (in other words, the set of standards beyond which an agri-environmental commitment must go).

### *2.3. THE SHORTEST MANDATORY DURATION OF INDIVIDUAL ENVIRONMENTAL ACTIONS SELECTED UNDER OPERATIONAL PROGRAMMES*

#### *2.3.1. Environmental actions that are identical to agri-environment-climate and organic farming commitments supported under the RDP*

For environmental actions other than investments implemented under the operational programme, which are identical to agri-environment-climate and organic farming commitments supported under RDP, the statutory duration specified for the above mentioned commitments shall be applicable. This may be deviated from in cases where

- the descriptive part of the national framework for environmental actions allows for the application of other durations in justified cases;
- the application of a shorter duration or the discontinuance of the action is necessary according to the results of the evaluation in the last but one year of the implementation of the operational programme.

Should the duration of the operational programme be shorter than the duration of the commitments referred to above, the environmental actions in question shall be continued in the next operational programme as well. This requirement may be derogated only for duly justified cases, provided that such derogation is substantiated by the results of the evaluation in the last but one year of the implementation of the operational programme.

The statutory minimum duration of application was indicated for each of the environmental actions described. However, as the national framework contains only a non-exhaustive list of environmental actions, the obligation referred to above shall apply to environmental actions not included in the list but intended to be implemented under operational programmes. At the same token, it shall be applicable to new environmental actions to be included in the national framework at a later point in time.

#### *2.3.2. Investments in the environmental actions of the operational programmes*

The rules for investments under the operational programmes mentioned in Article 31(5)-(7) of Delegated Regulation (EU) 2017/891 and in the ministerial order on the producer organisations in the fruit and vegetable sector shall also be applied to the investments in the frame of environmental actions.

### **3. NON-EXHAUSTIVE LIST OF ENVIRONMENTAL ACTIONS**

#### *3.1. ENVIRONMENTAL ACTIONS RELATED TO SOIL PROTECTION AND NUTRIENT MANAGEMENT*

A key requirement for any husbandry or farming is to be economically efficient and environmentally sound that is, in other words, to be adapted to the prevailing ecologic and economic conditions. It is a worldwide aim to implement husbandry methods that are sustainable in the long run. Though sustainable farming has a number of definitions, from the environmental point of view the main thing is that no changes should occur to the natural resources. In this respect the preservation of soil fertility without any unnecessary load to the environment is of utmost importance in agricultural production.

Soil fertility depends, besides lots of other factors, mostly on nutrient management. The implementation of environmentally sound nutrient management requires regular soil analysis, with the help of which the level of nutrient and contaminant content can be determined. For the purpose of maintaining soil fertility, it is important to identify the areas of different sensitivity. When doses of nutrients are established, it is still advisable to take the needs of the plant and the capacity of the soil to supply nutrients into account or follow the balance principle and act in view of other environmental factors such as groundwater depth from the surface or slope conditions. The good professional practices of the use of fertilisers and organic manures must be followed and the expected economic efficiency must be taken into account.

Unfavourable natural conditions and inappropriate soil or agro-technology (cultivation, fertilisation, and plant protection) may lead to soil degradation or soil contamination. Once soil is degraded – though its fertility may be improved through careful husbandry within years or decades – a complete restoration may take centuries. It is therefore necessary to arrange for soil protection.

Soil protection means the mitigation of the impacts of various soil degradation processes (erosion, compaction, loss of organic matter, acidification and salinization) by the implementation of a variety of agro-technical methods. It means that soil protection is designed to protect and preserve the fertility and quality as well as to prevent and avoid the physical, chemical and biological degradation of arable lands. The aims of soil conservation are mainly to prevent impacts and processes causing wind erosion, water erosion, extreme water management situations, salinization, acidification and other physical, chemical or biological degradation or contamination threatening the quality of fertile soil, as well as to maintain soil fertility by professional soil cultivation methods and procedures, soil conservation interventions and facilities.

The nutrient replenishing role of the use of green manure and compost has diminished as a consequence of the application of inorganic fertilisers. Today the main purpose of these actions is to achieve soil protection and a beneficial impact on the physical properties of soil.

Measures under this chapter applied on areas included in the Ministerial Order (FVM) 43/2007 of 1 June 2007 on the disclosure of Nitrate Sensitive Areas at LPIS Block

Levels should comply with the requirements set in Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources and in the Ministerial Order (FVM) 59/2008 of 29 April 2008 on the detailed rules for the protection of waters against nitrate pollution from agricultural sources and on the reporting and registration obligations.

### **3.1.1. Use of compost**

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#### **Description and justification of the action:**

Compost is an earth-like, crumbling dark substance with high levels of organic matter content, improving the fertility of soil, which can be generated by controlled autothermic, and haemophilic biological decomposition of plant residues in the presence of oxygen and with the help of macroorganisms and microorganisms.

Advantages of the use of compost include the enhancement of organic matter contents in the soil, thus improving the water and temperature regime equilibrium of the soil, improving soil structure, which in turn provides better aeration for the soil and contributes to protecting it from erosion as well. The use of compost increases the nutrient supply capabilities of soil and promotes biological activity in the soil.

#### **Commitments related to the action:**

- a) Procurement and use of compost.

#### **Eligible expenditure:**

- Cost of compost upon presenting the related invoice.

When combined with the action entitled “Compost production”, the cost of compost production produced by the producer organisation cannot be subsidised.

Costs subject to aid shall be reduced by the costs of inorganic fertilisers saved, which have identical nutrient contents as that of the compost.



### **3.1.2. The use of green manure**

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#### **Description and justification of the action:**

Green manuring is understood as the method of organic manuring when the whole green mass of the crop(s) planted, sown for this reasons (in budding or flowering state) is worked into the soil in order to preserve or enhance soil fertility.

Environmental benefits associated with green manure include the increased organic matter content of the soil, and thus improving water, temperature and air equilibrium of the soil, enhancing its nutrient supply capabilities, improving its structure and promoting biological activity. Production of green manure crops contributes to the prevention of erosion and deflation, leaching of minerals (such as easily dissolved nutrients like nitrates) and the compaction of the soil. It shall facilitate the creation of crumbling, earthy soil structure and in bound soils it improves the poor physical properties of the soil. Also, by shading the surface, weeding risks are mitigated.

#### **Commitments related to the action:**

- a) Sowing and growing green manure crops. Only the green manure plants that are permitted under agri-environment-climate payments may be used as green manure plants under this action.
- b) Ploughing under of green manure crops.

#### **Eligible expenditure:**

- Costs of seeds of green manure crop(s) upon the invoice presented.
- Cultivation costs of green manure crop(s) upon the invoices presented, or in accordance with the standards laid down in the relevant issues of the publication entitled “Operation of Agricultural Machinery” issued by the Institute of Agricultural Engineering of National Agricultural Research and Innovation Centre (NARIC) on the prices and operating costs as well as on the costs of mechanised agricultural works.
- Costs of ploughing under of green manure crops in accordance with the standards laid down in the relevant issues of the publication entitled “Operation of Agricultural Machinery” issued by the NARIC on the prices and operating costs as well as on the costs of mechanised agricultural works.

Cost savings (such as the cost of inorganic fertilisers representing nutrient contents identical with that of the green manure crop, costs of ploughing, when ploughing would have been necessary for the main crop anyway) have to be deducted from the costs subjected to the aid. For the purposes of nutrient contents in green manure crops the data found in the references shall apply. In this respect leaf analysis shall not be supported.

Eligible costs shall not exceed the level of support for agri-environment-climate payments under the RDP.

The financial assistance is conditional on submitting the data of members participating in the action (such as the name and the registration number of the producer, the land registry number, the block identifier and the size of the coherent area covered by the action, the name of the green manured culture) at the time the application for payment is lodged.

**This action cannot be combined with agri-environment-climate payments and organic farming payments!**

### **3.1.3. Use of animal manures and/or bio-fertilisers**

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#### **Description and justification of the action:**

The use of animal manures and bio fertilisers means a fertilisation method where nutrient replenishment is performed through products that contain live microorganisms playing a major role in soil life and plant nutrient supply.

The environmental benefits associated with the use of animal manures and bio-fertilisers include the increase of soil organic matter content resulting in improved water, heat and air management, better structure, enhanced nutrient supply ability and greater biological activity of soils. Animal manures and bio-fertilisers introduce such microorganisms in the soil that are natural players in soil life but whose number has significantly dropped as a result of the adverse changes that took place in agriculture. These microorganisms facilitate the mobilisation and solubility of nutrients that are otherwise hardly or not available for plants, whereby such nutrients are dissolved in the soil solution and become readily available for plants. The use of animal manures and bio-fertilisers facilitates the formation of friable soil structure and improves the poor physical properties of hard soils.

A bio-fertilizer (also bio fertilizer) is a substance which contains living microorganisms which, when applied to seed, plant surfaces, or soil, colonizes the rhizosphere or the interior of the plant and promotes growth by increasing the supply or availability of primary nutrients to the host plant Bio-fertilizers add nutrients through the natural processes of nitrogen fixation, solubilizing phosphorus, and stimulating plant growth through the synthesis of growth-promoting substances. Bio-fertilizers reduce the use of chemical fertilizers and pesticides. The microorganisms in bio-fertilizers restore the soil's natural nutrient cycle and build soil organic matter. Through the use of bio-fertilizers, healthy plants can be grown, while enhancing the sustainability and the health of the soil. Bio-fertilizers do not contain any chemicals which are harmful to the living soil.

The bio-fertilizers are made of Rhizobiuminoculant, Azotobacter, Azospirillum, Blue green algae (Cyanobacteria genus, Nostoc or Anabaena or Tolypothrix or Aulosira), Anabaena in association with water fern Azolla, Pantoea agglomerans strain P5 or Pseudomonas putida strain P13.

#### **Commitments related to the action:**

- a) Use of locally produced animal manures and/or bio fertilisers instead of inorganic fertilisers.

Locally produced animal manures are those produced within a distance of no more than ten kilometres from the location of use of the animal manure as soil improver/fertiliser.

When applying animal manure, in order to prevent the nitrate pollution of waters, the requirements set in paragraphs 4 to 9 of Ministerial Order (FVM) 59/2008 of 29 April 2008 shall comply with.

**Eligible expenditure:**

- Additional costs needed for the use of locally produced animal manures and/or bio fertilisers on the basis of a study prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry.

In the calculation of additional costs, possible cost savings such as the costs of the mineral fertilisers no longer used, need to be deducted.

Transport costs are not eligible for support.

The financial assistance is conditional on submitting the data of members participating in the action (such as the name and the registration number of the producer, the land registry number, the block identifier and the size of the coherent area covered by the action, the name of the fertilised culture) at the time the application for payment is lodged.

**This action cannot be combined with agri-environment-climate payments and organic farming payments!**

### **3.1.4. Protection against soil erosion and degradation**

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#### **Description and justification of the action:**

Water erosion is one of the major soil degradation processes in Hungary, which damages mainly the hillside areas. The areas exposed to wind erosion are also of a great extent. The wind erosion affects mostly sandy soils.

Soil erosion is triggered and influenced by such factors as topographic conditions, volume, frequency and intensity of precipitation, wind, soil properties, vegetation and, consequently, land use and cultivation method.

As erosion and deflation lead to the removal of the most valuable soil layer (components rich in humus and nutrients), they represent harmful processes both for agricultural production and for the balance between living and non-living nature. Furthermore, nutrient and pesticide leaching caused by water erosion results in additional environmental problems, while wind erosion leads to the assimilation surface reduction, tissue damage and suffocation of the plants, as well as to air pollution and, consequently, to human health problems.

The measure taken under the operational programme is designed to maintain soil fertility and to prevent soil degradation and other environmental damages caused by wind and soil erosion.

#### **Commitments related to the action:**

- a) Protection methods used during plant cultivation to prevent erosion (e.g. installation of grassy belts, lawn or other cover plants, hedges, forest belts, etc.) and
- b) Construction works aimed at soil conservation (e.g. low walls, terraces, drainage ditches, grassy drainages, etc.).

The cultivation methods preventing soil compaction and the tillage parallel with contour lines are minimum requirements, therefore they are not eligible for support.

#### **Eligible expenditure:**

- Protection costs evidenced by invoices. When protection work is performed at his own cost/alone by a member of the producer organisation, material costs are eligible against the relevant invoices and labour costs are eligible, calculated with the prevailing minimum wage and the public charges payable thereafter, on the basis of the working hour records in accordance with the detailed description of the protection work performed.

Maximum values for eligible labour costs for the creation/building of a unit of each type of eligible construction work will be defined on the basis of a study, prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry, and aimed to define the average working hours needed for creating a unit of each type of eligible protection work

**Related horizontal commitments:**

- i) planning related to protection against erosion and deflation;
- ii) training related to protection against erosion and deflation;
- iii) advisory services related to protection against erosion and deflation.0

**This action cannot be combined with agri-environment-climate payments and organic farming payments!**

### *3.2. ENVIRONMENTAL ACTIONS RELATED TO WATER MANAGEMENT*

In Hungary, the infrastructure of agriculture failed to follow the changed land ownership and land use patterns. A great part of the amelioration and irrigation development investments have become obsolete and worn out by these days.

The rate of irrigated and ameliorated land is still very low. In addition, a typical problem is represented by the fact that in the land under consideration not the most appropriate crop has been planted and not the most appropriate land use patterns are applied. Development level of the water management structures ensuring stability and reliability of agricultural production (water replenishment, storage of irrigation water, water retention) is not always appropriate and natural or almost natural water retention modes must be put in focus.

Based on the findings in the situation analysis prepared for the RDP, protection of the areas affected by excess inland water against such damages must be ensured. Only construction and value added reconstruction of irrigation plants and systems taking into account the newly formed ownership structures of properties, adjusted to the complex regional landscape management systems and complying with all environmental requirements shall be justified. In order to restore the mosaic pattern of cultivated agricultural landscapes and to develop infrastructure, the installation of forested strips, borderland turf, tree alleys is necessary.

An important area in getting prepared for the expected impacts of the global climate change is the development of agricultural water management. In the course of such development efforts, investments projects conforming to the procedures formulated under the Water Management Framework Directive (2000/60/EC) can be supported. New methods of sustainable regional water management, irrigation, land drainage, protection against excess inland waters and of soil conservation have been set up in the past ten-fifteen years in accordance with the needs of the principles of sustainability.

The current agricultural (regional) water management infrastructure does not comply with the needs related to water management in agriculture, and hence, with the relevant objectives in a great part of the country. At the same time all surface and underground waters and wetland habitats have to be brought into good conditions including securing the water regime and water quality control necessary for the water replenishment required by aquatic habitat chains, water retention, for the good ecological condition of water transporting and storing reservoirs and associated riparian bands. The needs of agriculture and ecological (environmental) needs in a larger area can only be met by putting the facilities and structures of the agricultural water management infrastructure (inland water drainage, hillside drainage, erosion control, water retention, soil conservation, irrigation) in good condition, retrofitting and re-engineering of or establishing the appropriate land use patterns and road networks. For the purposes of getting prepared to the assumed adverse effects of the global climate change the continuation of environmentally sound husbandry and management is essential.

### **3.2.1. Improvement of existing irrigation systems or their replacement with more efficient ones (modernisation of irrigated areas)**

#### **Description and justification of the action:**

Due to the low volume and irregular distribution of annual precipitation in Hungary's fruit and vegetable producing regions, droughts have become quite frequent recently. However, agriculture accounts for only 11% of all water extracted (600 million m<sup>3</sup>) and its water consumption dropped substantially in the early 1990s. Irrigation accounts for only 25–30% of the total volume of water consumed by agriculture in Hungary.

For the purpose of getting ready for the assumed adverse effects of global climate change, the development of water- and energy-efficient irrigation is an essential farming objective. That is why there is a need to step up water-saving efforts also in the fruits and vegetables sector. The role of irrigation in the protection of soils and in the maintenance of soil fertility must also be mentioned here as this role contributes to the prevention of extreme water management situations representing a risk to the quality of arable land.

Regarding the affected body of water, projects which result in a net increase of the area under irrigation shall be eligible for support only if quantitative status of the affected body of groundwater has received ratings not worse than “good” in the river basin management plan being in force at the date of becoming the water right licences.

In case of the bodies of groundwater, where the results of quantitative assessments of status are not known (grey, data-poor body of groundwater), the status/potential shall be presumed less than “good”. The competent authority at its discretion reviews the valid water rights licences for the conformity of the Water Framework Directive before the project planned to implement on that kind of area is approved.

#### **Commitments related to the action:**

- a) Replacement of existing poor performance irrigation systems with water-saving irrigation systems (e.g. drip irrigation). New irrigation equipment can only be subsidised if the analysis of the water management balance gives a positive result. Only applications complying with the requirements laid down in Article 5 and Annex V of the Water Framework Directive (2000/60/EC) can be supported.
- b) Procurement of equipment contributing to reducing the water volume used by existing irrigation systems. E.g. measurement and control of the irrigation frequency, timing and water volume, and replacement of the existing nutrient solution applicator.
- c) Commissioning of the preparation of an irrigation plan and its implementation.

The commitments can only be supported if



- i. using the best available technology, the investment project can ensure a saving of at least 5% in the consumption of irrigation water compared to the consumption prior to the investment;
- ii. the investment project does not result in a net increase of the area under irrigation, unless the total water consumption for irrigation of the whole farm, including the increased area, does not exceed the average of water consumption of the previous 5 years prior to the investment.

The measure can be included in the operational programme only on the basis of studies, prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry, providing evidence that the investment project will lead to a water saving of at least 5% calculated over the fiscal depreciation period of the investment. The compliance with the support condition mentioned in point ii of the above paragraph shall be attested at the time the request for approval of the operational programme or its modification is lodged.

**Eligible expenditure:**

- Investment costs evidenced by invoices. Where investments are replaced, the residual value of the investments replaced must be subtracted from the eligible expenditure or added to the operational fund of the producer organisation in accordance with Article 31(6) of Delegated Regulation (EU) 2017/891.
- Cost of preparation of the irrigation plan against invoice.

**Related horizontal commitments:**

- i) Advisory services with regard to the improvement or replacement of existing irrigation systems (either used as third-party services or provided as professional consulting by an employee of the producer organisation to the producing members).

### **3.2.2. Procurement and/or development designed to the treatment and reuse of water**

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#### **Description and justification of the action:**

The water (irrigation water, A/C equipment water, industrial wastewater, etc.) used by the producer organisation or its members during cultivation or production is mixed with contaminants that will not allow the recycling or repeated use of such water for irrigation (effects of eutrophication and pollution).

However, as water is a very valuable resource (see: diminishing water resources), it is an important objective to preserve water quality and to implement water-saving technologies. The operational programme's measure designed to treat water and improve water quality will, by allowing the repeated use of already used water, reduce the water volume used by the producer organisation or its members and also the resulting volume of wastewater.

#### **Commitments related to the action:**

- a) Procurement and installation of equipment that will allow the treatment and reuse of water for the same or another purpose by the producer organisation or its members.
- b) Only such investment projects are eligible that lead to environmental improvements and go well beyond the applicable environmental regulations.

The commitments can only be supported if the investment project can ensure a saving of at least 7% in the consumption of water as compared with the currently used facilities, given that the investment project has other beneficial environmental impacts as well (such as lower emission of waste water, which is may also be combined with reduction in use of energy and reduced emission of pollutants in waste water). The measure can be included in the operational program only on the basis of a study, prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry, providing evidence that the investment will lead to water saving of at least 7%.

#### **Eligible expenditure:**

- Investment costs evidenced by invoices.

#### **Documents to be submitted with the operational programme:**

- i) Declaration confirming that the planned investment project will lead to an improvement that goes well beyond the applicable environmental regulations.

### **3.2.3. The application of ground cover designed to reduce water loss**

#### **Description and justification of the action:**

The application of ground cover for the water-saving irrigation (drip irrigation) systems used by the members of the producer organisation in plant cultivation will significantly reduce water loss through evaporation and, consequently, the actual volume of irrigation water and the energy required for irrigation. As an additional environmental impact, ground cover will reduce the weed infestation of crop production areas, leading to a substantial drop in the applied amount of chemical herbicides.

#### **Commitments related to the action:**

- a) Procurement and application of ground cover materials that will enable the members of the producer organisation to reduce the volume of irrigation water, the energy required for irrigation and the amount of herbicides used.
- b) Collection of non-degradable ground cover materials in order to prevent soil contamination and subsequent transfer of the material collected to an authorized landfill or an authorized recycling installation. It is a minimum requirement and therefore the costs associated with such collection and transfer are not eligible.

#### **Eligible expenditure:**

- Costs of ground cover materials evidenced by invoices.

Only the following types of ground cover materials are eligible for support: biodegradable plastic films, recyclable agricultural plastic films and sheet materials, paper, tulle, and muslin materials.

**This action cannot be combined with measure 3.4.5 (The use of biodegradable and oxo-biodegradable plastics in cultivation).**

### *3.3. ENVIRONMENTAL ACTIONS RELATED TO THE MITIGATION OF CLIMATE CHANGE*

Climate change has a number of impacts, and a complex response is needed in the abatement efforts in the field of agriculture. Future of agriculture is predominantly influenced by our reactions expressed and solutions found in response to the direct and indirect impacts of global climate change. The RDP plays an important role in this. Beside reducing atmospheric discharge of greenhouse gases and their increased level of absorption, adaptation to the changing weather and climatic conditions is also indispensable. This includes prediction of foreseeable changes, prevention of the damages caused, preparation for their mitigation, and elaboration of methods for recovery. Preparation to the adaptation to climate change will soon provide the opportunity to further improvement of beneficial processes. Re-shaping of energy use implies substantial energy savings in addition to the reduction of greenhouse gas emissions. Replacement of fossil fuels with renewable energy resources offers the possibility to implement new technological developments. The introduction of carbon trading facilitates effective emission reductions. Due to the synergies involved, the emissions can be further reduced and development – based on local resources – continued further on.

Beside reducing emissions, agriculture and forestry management have the basic fundamental task to develop soil management practices by taking into account the climate change (which besides the implementation of the “double-purpose” water management system (inland water management) has a significant water storage and carbon-dioxide sequestration function as well). Additional aims include the growth of market share taken by energy crops and reforestation, including the plantation of forests with native species in agricultural land and the propagation of forestry management practices in order to create a permanent forest vegetation cover.

### **3.3.1. Setting up heating systems using renewable energy resources**

#### **Description and justification of the action:**

Renewable energy resources are understood as energy resources when used the source is not depleted but replenished or renewed at the same rate. Renewable energy resources include solar energy, wind, geothermal energy, hydropower, and biomass. The use of renewable energy resources may be multifaceted. Traditionally, their most important area of application is the heat generation for heating purposes.

The action selected under operational programmes is directed to replace conventional heating systems based on fossil fuels with heating systems taking advantage of the benefits of renewable energy resources. The action includes the establishment of new heating systems when new facilities are envisaged and the replacement of heating systems using fossil fuels such as fuel oil or gas in the case of existing establishments. Implementation of this action in Hungary can be envisaged as based on annual and perennial (weedy vs. woody) energy crops, plant residues to be utilised for energy generation purposes and geothermal energy.

Environmental contamination impact of renewables is much less when compared to fossil resources. Thus the use of renewables in the fruit and vegetables sector, in addition to reducing the use of fossil fuels, shall also diminish the emissions of greenhouse gases generating climate change (primarily nitrogen-monoxide, carbon-dioxide, sulphur-dioxide) and certain air pollutants.

#### **Commitments related to the action:**

- b) Installation of new heating systems using annual and perennial (weedy vs. woody) energy crops and/or plant residues to be utilised for energy generation purposes.
- c) Installation of new heating systems using geothermal energy.
- d) Replacement of conventional heating systems based on fossil fuels with new heating systems using annual and perennial (weedy vs. woody) energy crops and/or plant residues to be utilised for energy generation purposes.
- e) Replacement of conventional heating systems based on fossil fuels with new heating systems using geothermal energy.

#### **Eligible expenditure:**

- The costs of the investment upon the respective invoices. When replacement of conventional heating systems is made, the residual value of the existing structure must be deducted from the cost subject to the subsidy or added to the operating base of the producer organisation pursuant to Article 31(6) of the Delegated Regulation (EU) 2017/891.

In order to avoid double financing, no such investment project is eligible for support under this measure that is already financed from another source (e.g. under the RDP).

**Related horizontal commitments:**

- i) training of the person operating the heating system using the renewable energy resource,
- ii) advisory services related to the heating system using the renewable energy resource,
- iii) planning the investment.

### **3.3.2. The use of more energy-efficient production tools and methods**

#### **Description and justification of the action:**

The reduction of the use of fossil fuels and the emissions of carbon dioxide and other greenhouse gases is possible not only through the modernisation of the heating system. The introduction of more advanced technologies in the case of certain systems used in the field of cultivation, production, storage and distribution will lead to energy saving and, consequently, to lower greenhouse gas emissions and, eventually, to further environmental benefits. This action might include, inter alia, climate screens, energy saving lighting systems, replacement of low-heat-retention covering materials with higher-heat-retention ones.

#### **Commitments related to the action:**

- a) Replacement of the existing technological system with a new one having the same capacity but requiring at least 15% less energy. Nevertheless, when it is clearly identifiable that the system development will lead to further environmental benefits (such as the reduced emission of air pollutants or the use of renewable energies), the new system will be eligible for support if it requires at least 7% less energy.

The action can be included in the operational program only on the basis of a study, prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry, providing evidence that the investment will lead to the above mentioned reduction in energy consumption and, where relevant, the other clearly identifiable environmental benefits.

#### **Eligible expenditure:**

- Investment costs evidenced by invoices. Where investments are replaced, according to Article 31(6) of Delegated Regulation (EU) 2017/891 the residual value of the investments replaced must be subtracted from the invoice amount or added to the operational fund of the producer organisation.
- Acquisition costs of special materials and tools against invoice regarding the use of such materials and tools resulting in energy saving during the operation of existing infrastructure.

#### **Related horizontal commitments:**

- i) training related to the application of more energy-efficient technological systems;
- ii) professional consulting related to the application of more energy-efficient technological systems;

iii) planning, cost and energetic calculations related to the application of more energy-efficient technological systems.

**Documents to be submitted with the operational programme:**

Verification documents issued by experts: technical documents, expert declaration, energetic and other calculations (regarding energy consumption, carbon dioxide emission and other environmental benefits) for the existing situation and for the situation expected as a result of the investment.



### **3.3.3. Combined heat and power (CHP) generation through the use of fruit and vegetable wastes from cultivation and production**

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#### **Description and justification of the action:**

The degradation of organic wastes originating from fruit and vegetable cultivation and production is accompanied by the formation of a large volume of gas that can be used as primary energy carrier for heat and power generation, reducing this way GHG emissions.

Combined generation means that heat and power can be simultaneously generated by the same plant with the use of the same energy source. This arrangement utilises also the heat energy that is lost in other systems, whereby CHP enhances the efficiency of energy use and also leads to other environmental benefits. The environmental benefits multiply if waste is used as primary energy carrier instead of natural gas as in this case the emission of pollutants and the consumption of fossil energy will be lower.

#### **Commitments related to the action:**

- a) Procurement and operation of equipment using organic waste for combined heat and power generation.
- b) Use of the generated heat and power.

Eligibility of the action is limited to use of on site produced and/or locally produced organic waste. The definition of locally produced organic waste will result from the outcomes of a specific study aimed to define what is the maximum transport distance for which the environmental benefits achievable from the use of organic waste as energy source outweigh the environmental costs associated with the transport of the waste from the place of production to the location of the use as a source of energy.

The energy generation of the installed systems may not exceed the energy volume used by the producer organisation and/or its members for fruit and vegetable production.

In order to avoid double financing, no such investment project is eligible for support under this measure that is already financed from another source (e.g. under RDP).

#### **Eligible expenditure:**

- Investment costs evidenced by invoices.

#### **Documents to be submitted with the operational programme:**

Technical documents containing system capacity data and the producer organisation's declaration confirming that the generated volume of heat and power will not exceed the energy consumption of the producer organisation and/or its members.

#### **Related horizontal commitments:**

- i) training of the person operating the system of CHP generation;

- ii) advisory services related to the system of CHP generation;
- iii) technical planning, cost and energetic calculations related to the system of CHP generation.

### *3.4. ACTIONS RELATED TO WASTE MANAGEMENT*

Originating from industrial and agricultural production and services, as well as due to reasons of retail consumption, the amount and volume, furthermore the hazardousness of the waste generated is growing continuously. The process may lead to the increased loads put on the environment and the depletion of natural resources; in an extreme case it may entail the growth of environmental damages and the related health impairment.

Waste management represents the system of activities related to waste, including the prevention of waste generation, the reduction of its volumes and hazardousness, management, handling, design and control thereof, operation, shut down and follow up of waste treatment facilities and sites, tests carried out following abandonment of operation, and all related consultancy and training. The primary aim of waste management is the protection of human health, the conservation of natural environment, ensuring sustainable development and raising environmental awareness. Additional objectives may include saving on natural resources, minimisation of the environmental impact caused by wastes, pollution prevention by avoiding the generation of waste (the possible most complete utilisation of materials extracted from nature, production of long useful lifetime and reusable products), reduction of the amount and hazardousness of the waste generated, utilisation of the waste generated in an extent the greater the better, closing the consumption-production cycle, disposal of non-usable, non-recyclable waste in an environmentally sound manner.

Waste utilisation means the use of waste or any of its components in production or services in line with any of the procedures listed in Annex No 4 to the Act No CLXXXV. of 2012 on waste. Thus the exposure of the environment to harmful impacts can be mitigated by repeated use of the waste material in production or services sectors (reprocessing), by the separation of a reprocessible component of the waste and by transforming it into a starting material for another process (recovery), by recovering the energy contents of the waste (use as an energy resource), and by aerobic or anaerobic decomposition of the biologically degradable organic components in the waste, rendering them suitable for further processing (such as composting).

### **3.4.1. Composting**

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#### **Description and justification of the action:**

Compost is the product generated by controlled autothermic and haemophilic biological decomposition of crop remains from production and/or other organic residues in the post-harvest activities in the presence of oxygen and with the help of macroorganisms and microorganisms. Thus composting is a combination of the natural process of decay and the reprocessing of organic matter.

In the fruit and vegetables sector a great amount of organic residues and by-products are generated which can be transformed by composting into an earth-like, crumbling dark substance with high levels of organic matter content which can be used as soil improver.

Environmental advantages of the use of compost include the enhancement of organic matter contents in the soil, thus improving the water and temperature regime equilibrium of the soil, improving soil structure, which in turn provides better aeration for the soil protecting it from erosion as well. In addition to the beneficial effects exerted on the soil, the compost may also contribute to the mitigation of contaminations caused by pest control operations by reducing the pesticide risks caused by non-appropriate management of plant residues.

Considering the crop residues to be used for composting and the amount of compost used by the producing members of the producer organisations, the open prism composting method can be suggested as the most appropriate composting technology.

#### **Commitments related to the action:**

- a) The establishment of composting plants (design and implementation): construction of infrastructure (pavements, drainage), buildings, and/or procurement of machinery/equipment used for composting, such as screens, crushing and mixing machines, excavators, turning adapters mounted on power machines, prism turning machines, compost screens, thermometer probes, gas analysis probes.
- b) Use of the compost produced (obligatory requirement not eligible to support)

Only the installation of composting capacities (associated facilities and machinery capacity) can be supported which are proportional to the amount of compost used by the producing members of the producer organisation. Commercial compost generation shall not be subsidised.

Technical conditions of composting and the quality of the compost generated must comply with the requirements of the respective legislation on technical specifications of biological waste management and composting, on the authorisation, storage, marketing and use of growth promoters, and on the record keeping and data supply obligations related to waste.

When combined with the action entitled “The use of compost” the cost of compost generated by the producer organisation shall not be supported.

**Eligible expenditure:**

- Costs of the investment upon the invoices presented.

**Related horizontal commitments:**

- i) training on composting technology,
- ii) advisory service on composting technology (either used as services from a service provider, or executed by an employee of the producer organisation),
- iii) planning the infrastructure and the buildings related to composting.

### **3.4.2. Promotion of the use of crop residues as an energy resource**

#### **Description and justification of the action:**

The action which can be implemented under operational programmes is directed to replace conventional heating systems based on fossil fuels with heating systems utilising the energy contents of the crop residues generated in the establishment, for instance, pruning in fruit plantations. The action does not involve the establishment of new heating systems when new facilities are envisaged and the replacement of heating systems using fossil fuels such as fuel oil or gas in the case of existing establishments, since for the purposes of the latter the possibility exists under the action entitled “Setting up heating systems using renewable energy resources”. However, by creating the conditions necessary for the preparation of crop residues with the intention to use for energy generation, it will promote the dissemination of the heating systems using renewable energy resources.

Environmental contamination impact heating installations fired with crop residues with the intention to generate energy is much less when compared to those using fossil resources. Thus the use of crop residues, in addition to reducing the use of fossil fuels, shall also diminish the emissions of greenhouse gases generating climate change (primarily nitrogen-monoxide, carbon-dioxide, sulphur-dioxide). An additional benefit is that by burning crop residues plant hygiene risks are diminished.

#### **Commitments related to the action:**

- a) Collecting prunings (requirement no eligible for support).
- b) Cutting up of prunings (preparation for the use as fuel).
- c) Storage of prunings and chippings.

#### **Eligible expenditure:**

- Procurement of the machinery used for cutting up the prunings upon the invoices presented.
- Establishment of the building used for storing the prunings and chippings (design and implementation) upon the invoices presented.

The action is eligible for support only when combined with the action entitled “3.3.1. Setting up heating systems using renewable energy resources” (setting up of the heating installation fired with the crop residues suitable for energy generation can be supported as part of that action) or when there is a contract for the supply of organic residues to an existing heating installation, which is able to run on bio-masses, belonging to another producer organisation or its members.

### **3.4.3. The use of biodegradable binding materials by farms**

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#### **Description and justification of the action:**

Normally, synthetic materials (e.g. PVC, polypropylene, etc.) are used for the binding of shoots in greenhouse cultivation or support-based open-field cultivation methods. The removal of plastic binding materials is a cumbersome and labour-demanding task. A part of the generated large waste volume is not removed but left on the area and contaminates the soil.

Synthetic binding materials may be replaced with degradable paper binding materials decomposed by various microorganisms (bacteria, fungi or other biological agents) under natural aerobic and anaerobic conditions. The result will be water, carbon dioxide, methane and other non-toxic materials.

#### **Commitments related to the action:**

- a) Replacement of plastic binding materials with degradable binding materials.

#### **Eligible expenditure:**

- Difference between the purchase price of plastic binding materials and degradable binding materials on the basis of a study prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry.

### **3.4.4. The use of biodegradable and oxo-biodegradable plastics in cultivation**

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#### **Description and justification of the action:**

Vegetable producers use a large volume of plastic foils (greenhouse cover foils, black cover foils, plane foils, veil foils, special foils such as asparagus cover foil). For traditional plastic foils the most frequently used plastics include linear low density polyethylene (LLDPE), low density polyethylene (LDPE) and, for certain cultures, ethylene vinyl acetate (EVA) copolymer.

The removal of plastic foils is a cumbersome and labour-demanding task that cannot be mechanised. The foil may be ripped or torn during the removal process, whereby the soil may be contaminated with a substantial amount of plastic wastes.

The oxo-biodegradable plastics are made of linear low density polyethylene (LLDPE) mixed with an additive during the manufacturing process in order to achieve the oxo-biodegradation of the plastic. The use of biodegradable plastics has several environmental benefits. Their raw material comes from a renewable source; it means that, once ploughed into the soil, they undergo the process of humification without turning into waste. Biodegradable plastics are decomposed by various microorganisms (bacteria, fungi or other biological agents) under natural aerobic and anaerobic conditions. The result will be water, carbon dioxide, methane and other non-toxic materials.

#### **Commitments related to the action:**

- a) The use of biodegradable and oxo-biodegradable plastics instead of non-degradable plastics.

#### **Eligible expenditure:**

- Difference between the purchase price of traditional plastic foils and biodegradable or oxo-biodegradable foils on the basis of a study prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry.

**This measure cannot be combined with measure 3.2.3 (The application of ground cover to reduce water loss) if the biodegradable or oxo-biodegradable plastics are used for the purpose specified in the said measure.**



### **3.4.5. Selective waste collection**

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#### **Description and justification of the action:**

Selective garbage or waste collection means the collection of waste separated by kinds in accordance with the utilisation possibilities. Its aim is to facilitate the recycling of usable components back into the processing industry, to reduce the exposure of the environment by separated handling of the hazardous components and to save on disposal capacities. Producer organisations may contribute for their members to the recollection and utilisation of waste beyond the statutory requirements by organising selective waste collection schemes. Under this scheme recollection of highly problematic and large volume materials can also be realised as for instance the plastic film covering of greenhouses or plastic irrigation pipes.

#### **Commitments related to the action:**

- a) Placement of storage containers and bins at the members.
- b) Temporary storage of selectively collected waste (up to transport to the treatment plant).
- c) Record keeping associated with selective waste collection.

#### **Eligible expenditure:**

- Procurement of the storage containers placed at the members and used by the producer organisation upon the invoices presented.
- Procurement of assets necessary for the record keeping operations (such as an information technology system – software) upon the invoices presented.

### *3.5. ENVIRONMENTAL ACTIONS RELATED TO INTEGRATED PEST MANAGEMENT*

Plant is the primary and non-replaceable energy carrier of food production. This renewable natural resource is managed mostly by agriculture, while the raw material supply of timber industry is the responsibility of forestry. The economic performance of sectors as well as the quality and quantity of goods produced by them are almost fatally jeopardised by various harmful organisms (viruses, bacteria, fungi, pests and weeds).

However, the risk of damage may become a fatal hazard not only for cultivated and wild growing crops but also for our natural values that deserve protection. The appearance of a harmful organism not indigenous in Hungary or the repeated occurrence of an epidemic caused by any other harmful organism may cause irreversible damages that may lead to the transformation and eventual degradation of the entire ecosystem. That is why prudent plant protection is an indispensable factor for the production safety of agriculture and forestry and for the protection of nature and environment.

Recent years in Hungary have seen the rapid rise of chemical-free organic farming, although domestic demand for fresh and processed organic produce has increased only at a slower pace. One reason is the higher consumer price of organic products; another is the lack of organization in the internal markets. Most of the country's organic farms continue to focus on exports, with 95-97% of their certified and branded organic products landing in markets in Western Europe, particularly Germany, Switzerland, the Netherlands, Austria and, to a lesser degree, France and the UK. In addition to their core production business, a minority of organic farms also pursue certain supplementary activities, first and foremost in other food industry areas, primarily food processing.

Apart from the fact that the organic production systems do not use inorganic fertilisers, chemical pesticides to control pathogens, pests and weeds, or any other technology that may lead to the degradation of soil quality and environment. These systems directly contribute to improving the quality of soil and water resources as well as help preserve the natural habitats of many species and maintain the biodiversity. As an indirect impact, they reduce the emission of greenhouse gases by decreasing the use and, consequently, the production volume of synthetic materials.

In order to encourage the implementation of the integrated pest management (IPM), – and in compliance with the first subparagraph of Article 14(4) of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides –, Hungary transposed the general principles of IPM mentioned in Annex III of the Directive into **Ministerial Order (FVM) 43/2010 of 23 April 2010 on the pest management activities**. The environmental actions of this chapter are based on the general principles of IPM mentioned in Annex 8 of the Ministerial Order. **The activities which are compulsory according to the Ministerial Order are not eligible under the operational programmes.**

### **3.5.1. Preparation or commissioning the preparation and implementation of nutrient management plans**

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#### **Description and justification of the action:**

Maintaining soil fertility and meeting the needs of agricultural crops in terms of nutrients is the basis of successful production. However, nutrient management practices must also conform to the aspects of environmental protection. Lack of nutrients shall lead to diminished soil fertility and excess nutrients leaching out may cause contamination of natural waters. Implementation of the nutrient management scheme prepared by taking into account all these considerations shall serve the mitigation of adverse environmental impacts arising from the application of nutrients to arable lands. Exact determination of the amounts of nutrients to be administered on the land shall require soil analysis, or, in case of plantations, leaf analysis.

It is an environmental benefit originating from this action that on the basis of planning, taking into account existing soil nutrient levels and nutrient supply capacities as well as the needs of the crop on land on the basis of the planning activities, only the absolutely necessary volumes of artificial fertilisers will be administered on the cropland, thus preventing an eventual overshoot in fertilisation causing discharge into the environment and contamination of the waters. The action contributes to the implementation of general principle mentioned in Point 1.3 of Annex 8 of Ministerial Order (FVM) 43/2010.

The action applied on areas included in the Ministerial Order (FVM) 43/2007 of 1 June 2007 on the disclosure of Nitrate Sensitive Areas at LPIS Block Levels is not eligible in the operational programme.

#### **Commitments related to the action:**

- b) Preparation (or commissioning of preparation) and implementation of a nutrient management plan.
- c) Implementing the nutrient management plan.
- d) Keeping records on all operations related to nutrient management.

#### **Eligible expenditure:**

- Costs of preparation of the nutrient management plan upon the invoice submitted when a qualified service provider was used or payment of the wages earned by the qualified employee preparing the nutrient management plan at the producer organisation in accordance with the work time registration records.
- Procurement of software necessary for record keeping, payment upon the invoice presented.

Eligible costs shall not exceed the level of support for agri-environment-climate payments under the RDP.

The financial assistance is conditional on submitting the data of members participating in the action (such as the name and the registration number of the producer, the land registry number, the block identifier and the size of the coherent area covered by the action, the name of the fertilised culture) at the time the application for payment is lodged.

**Related horizontal commitments:**

- i) soil and leaf analysis necessary for the preparation of the nutrient management plan and control checking of implementation, furthermore
- ii) advisory services assisting in the implementation of the nutrient management scheme (either used as services from a service provider, or executed by an employee of the producer organisation).

**This action cannot be combined with agri-environment-climate payments and organic farming payments!**

### **3.5.2. Replacement of pest control machinery and pesticide application equipment possessing disadvantageous technical properties with more technically advanced machines and equipment**

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#### **Description and justification of the action:**

The results of chemical pest management and its environmental impact depends on the technical conditions and the machinery applied. The system and design of pest management machinery, together with the technical solutions applied during the pest management operations, exert an important influence on the volumes of pesticide distributed, and thus on the extent of environmental contaminations caused. A fundamental condition and requirement for successful pest management is thus the application of the appropriate technology and the use of machinery that fits the purpose.

Lately the requirements raised for pest management machinery have become more stringent, and a number of new technical solutions appeared on the market. There is an ever growing pressure from the trade and society alike that pest management operations be executed using reduced amounts of spraying without compromising on the quality of work or efficiency of the control. There are technical solutions for spraying machinery (active and passive injector nozzles, nozzles reducing drift and pluming, air bag sprayers, tunnel sprayers, infra red, or ultrasonic plant detecting equipment, and so on), which may assist in substantially reducing the drifting of spray applied, and hence the impact on the environment. Chemical-efficient technical solutions may also facilitate and promote the protection of live waters which are particularly sensitive to environmental exposures. According to the findings of the study conducted by the NARIC 45 to 76% of the spray and 50-90% of the drifting can be saved when using the technical solutions referred to above. The action contributes to the implementation of general principle mentioned in Point 6 of Annex 8 of Ministerial Order (FVM) 43/2010.

#### **Commitments related to the action:**

- a) Procurement of pest management machinery and equipment possessing more favourable technical specifications. However, procurement shall only be supported when the amount of plant protection product's spray applied with the help of the new machine or equipment is reduced by at least 15% as demonstrated on the basis of the study issued by the NARIC.

#### **Eligible expenditure:**

- Costs of procurement for the pest control machinery or equipment upon the invoices presented. When replacement is made, the residual value of the existing machinery or equipment must be deducted from the cost subject to the subsidy.

### **3.5.3. Application of biological control tools and preparations**

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#### **Description and justification of the action:**

In addition to the forecasting tools, preparations, which do not represent any harm to the human health or the environment and are based on natural substances or natural enemies of the pests are applied during the vegetation period of the crops as part of the biological pest control methods.

When biological pest control is applied, the expectations rose in respect of human health, animal and environmental protection are enforced to a greater extent. Environmentally harmless preparations and natural predators replacing pesticides (introducing beneficial organisms and ensuring their life conditions), as well as the so-called bio-preparations reduce the load onto the environment. Pest forecasting techniques allow for planning and the implementation of timely and pest specific treatments thus enhancing the efficacy of pest control. The action contributes to the implementation of general principles mentioned in Points 1.5, 2, 3 and 4 of Annex 8 of Ministerial Order (FVM) 43/2010.

#### **Commitments related to the action:**

- a) Using natural plant protection product and biological preparations.
- b) Use of natural enemies or pathogens.
- c) Use of pest control forecast techniques.
- d) Monitoring related to biological control, record keeping.

#### **Eligible expenditure:**

- Additional costs as compared to conventional costs incurred in related to the application of pest control agents and bio-preparations or the use of natural enemies based on a study prepared by independent experts, submitted with the operational programme or its modification and approved by the ministry.
- Procurement of forecasting tools upon the invoices presented.
- Covering vents and doors and windows during forcing: procurement of insect nets upon the invoices presented.

#### **Related horizontal commitments:**

- i) trainings related to biological pest control and integrated forcing,
- ii) advisory services related to the application of biological control methods, tools and preparations and integrated forcing.

### **3.5.4. The use of grafting for the purpose of reducing pesticide application**

#### **Description and justification of the action:**

In the case of land cultivation in particular in greenhouse cultivation sprouting the various soil-borne parasites such as eelworms (*Meloidogyne* spp.) and fungi (*Fusarium*, *Verticillium*, *Pyrenochaeta*, *Phytophthora* spp. etc.) may cause major yield losses or, in severe cases, completely destruct the plants and the cultivation results. That is why increased attention must be paid to their control, including soil disinfection and post-emergent control. The most commonly used method against soil-borne pests and pathogens in Hungary is the chemical disinfection of soils (through the application of general soil disinfectants and selective pesticides).

An environment-friendly method of protection is the technique of grafting, when the desired plant cultivar is grown not on its own root but it is grafted onto the stock in order to benefit from the resistance of the stock against pests and pathogens.

The technique of grafting reduces the applied quantity of pesticides and, in particular, soil disinfectants; the resulting use of grafted transplants contributes to reducing the level of water and soil pollution and helps keeping the balance of soil-borne organisms. The action contributes to the implementation of general principle mentioned in Point 6 of Annex 8 of Ministerial Order (FVM) 43/2010.

In Hungary, the technique of grafting is applied in the case of tomato, paprika, cucumber, melon, watermelon, and eggplant for the prevention of damages caused by the above species.

#### **Commitments related to the action:**

- a) The use of grafted transplants in cultivation.

#### **Eligible expenditure:**

- Additional costs needed for the use of grafted transplants on the basis of a study prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry.

#### **Related horizontal commitments:**

- i) training related to grafting and to the use of grafted transplants,
- ii) professional consulting related to grafting and to the use of grafted transplants,

**This action cannot be combined with action 3.5.6 The use of resistant and tolerant varieties aimed at achieving the same output.**

### **3.5.5. The use of alternative weed control procedures**

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#### **Description and justification of the action:**

Due to its lower labour demand and its effectiveness, chemical weed control has been widespread in Hungary. Herbicides represent ecological risks, mostly in terms of soil and water quality and biodiversity.

These ecological risks may be mitigated through the promotion of alternative weed control procedures such as mechanical weed control, thermal weed control and biological weed control. Through its soil surface tillage effect, mechanical weed control also improves the water retention capacity of soils and increases soil life. The action contributes to the implementation of general principle mentioned in Point 4 of Annex 8 of Ministerial Order (FVM) 43/2010.

#### **Commitments related to the action:**

- a) The use of alternative weed control procedures.

#### **Eligible expenditure:**

- Investment costs evidenced by invoices.

**This action cannot be combined with the agri-environment-climate payments and the organic farming payments supporting the same commitment!**



### **3.5.6. The use of resistant and tolerant varieties**

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#### **Description and justification of the action:**

As a result of intensive farming practice, the non-stop pressure by pests and pathogens represents a constant challenge for plant protection; that is why resistant varieties play an ever increasing role in the reduction of the level of environmental load caused by pesticides.

On one hand, the use of varieties resistant to pests and pathogens can help organic and integrated cultivation, the purpose of which is to implement an environment-friendly crop production technology. On the other hand, the use of such cultivars can greatly reduce the application of pesticides also in traditional crop production. Thus, apart from the recently emerged alternative and biological control methods, the environment-friendly option of plant protection is represented by the use of resistant cultivars, helping to meet the expectations regarding health and environment protection aspects. The action contributes to the implementation of general principle mentioned in Point 1.2 of Annex 8 of Ministerial Order (FVM) 43/2010.

#### **Commitments related to the action:**

- a) The use of resistant and/or tolerant cultivars.

#### **Eligible expenditure:**

- Additional costs of the seeds and transplants of resistant and/or tolerant cultivars on the basis of a study prepared by independent qualified experts, submitted with the operational programme or its modification and approved by the Ministry.

**This action cannot be combined with action 3.5.4 The use of grafting for the purpose of reducing pesticide application aimed at achieving the same output.**

### **3.5.7. Integrated farming**

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#### **Description and justification of the action:**

Integrated pest management is defined as “a pest management strategy employing all methods consistent with economic, ecological and toxicological requirements to maintain pests below economic threshold while giving priority to natural limiting factors” (IOBC – FAO, 1977). Integrated farming is defined as a farming regime in which habitat and cultivar selection, tillage operations and, mostly, plant protection activities are performed so that the least possible amount of chemicals will be used in an environment-friendly manner. Integrated farming applies a cultivation technology where the same priorities are assigned to economic aspects and to the protection of environment, nature, foods and human health. Integrated farming helps reduce water and soil pollution, leading to a more sustainable agriculture and the protection of natural resources in the long run. Furthermore, the methods of biological control applied in integrated farming have a directly beneficial impact on biodiversity (see: use of natural enemies in plant protection, mitigation of risks representing danger for ecosystem balance). The action contributes to the implementation of general principles mentioned in Point 1 to 8 of Annex 8 of Ministerial Order (FVM) 43/2010.

#### **Commitments related to the action:**

- a) Farming practice in line with the rules of integrated farming, which means the compliance with the commitments of “horizontal arable land” and/or “horizontal permanent crops” land-use categories under the agri-environment-climate payments.
- b) Record-keeping of issues related to integrated farming.

#### **Eligible expenditure:**

- Commitments of “horizontal arable land” and/or “horizontal permanent crops” land-use categories under the agri-environment-climate payments on the basis of flat rate costs specified there. As the commitments are identical, the flat rate support provided in the operational programmes is exactly the same as the RDP flat rate support.

#### **Related horizontal commitments:**

- i) training related to integrated farming,
- ii) advisory services related to integrated farming.

**This action cannot be combined with agri-environment-climate payments and organic farming payments supporting the same commitments!**

### **3.5.8. Organic farming**

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#### **Description and justification of the action:**

This action aims at the widespread promotion of action farming methods complying with the rules of fertilisation and pest management requirements as laid down in Council Regulation (EEC) No 2092/91 and, from the 1<sup>st</sup> January 2009, in Council Regulation (EC) No 834/2007 of the European Union in the field of nutrient management and pest management. Growing safe and healthy fruits and vegetables for fresh consumption and the processing industry is implemented under the protection of the complete organic production system. The action contributes to the implementation of general principles mentioned in Point 1 to 8 of Annex 8 of Ministerial Order (FVM) 43/2010.

#### **Commitments related to the action:**

- a) Applying organic farming methods complying with the rules of fertilisation and pest management requirements as laid down in Regulation (EEC) No 2092/91 and, from 1<sup>st</sup> January 2009 on, in Regulation (EC) No 834/2007.
- b) maintaining records related to organic farming.

#### **Eligible expenditure:**

- Commitments of the 'Conversion to organic farming, maintenance of organic farming' project under RDP (hereinafter referred to as organic farming) based on the flat rate costs defined therein. The flat rate support in the operational programme is exactly the same as in the RDP as the commitments are also the same.
- Procurement of the software necessary for keeping the records upon the invoices presented.

#### **Related horizontal commitments:**

- i) trainings related to organic farming,
- ii) advisory services related to organic farming.

**This action cannot be combined with agri-environment-climate payments and organic farming payments under the RDP!**

### *3.6. ENVIRONMENTAL ACTIONS RELATED TO CONSERVATION OF NATURAL HABITATS AND BIODIVERSITY*

Biodiversity refers to the diversity of life on Earth and ecosystems. The natural resources of Hungary represent outstanding values even in a European comparison; our varied ecological features are favourable for biodiversity. Unfortunately the European negative tendencies of biodiversity also occur in Hungary, i.e. the loss of biological diversity and the decline of ecosystem services. Maintaining biodiversity is of essential importance in providing the conditions of human life and human well-being. Biodiversity offers ecosystem services that are indispensable for human life, e.g. it provides the ecological basis of healthy food, clear fresh water and pure air, offers a habitat and raw material for medical drugs to us, plays a fundamental role in the prevention and mitigation of the impacts of disasters, epidemics and diseases, as well as in climate regulation.

In addition to the environmental action of this chapter, all the actions mentioned in Chapter 3.5 contribute to the maintenance of biodiversity by means of promoting IPM.

### **3.6.1. Promoting the spread of farming technologies based on pollination with honeybees and bumblebees**

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#### **Description and justification of the action:**

Many insect species may take part in the pollination of fruits and vegetables. For instance, more than 40 insect species are present in the orchards during the flowering period. However, the most efficient pollen carriers are honeybees and bumblebees. The importance of all other insects is much smaller in the task of pollination.

The pollination crisis, which is mostly the result of the gradual decrease in the number of bee species and individuals, may jeopardise the pollination of not only the crops but also that of the plants of natural habitats in the long run.

Therefore, the purpose of the measure is to encourage the spreading of technologies in which honeybees and bumblebees, that is the most active and most efficient pollinators are used to assist pollination. By setting up beehives and increasing the number of honeybees and bumblebees, the measure contributes to preserving and enhancing biodiversity in the fruit and vegetable production areas and also in the natural habitats in their vicinity.

#### **Commitments related to the action:**

- a) The spreading of technologies in which honeybees and bumblebees are used for pollination, and/or creating habitats and grow bee plants on the edges.

#### **Eligible expenditure:**

- Actual price or rent of honeybee and bumblebee hives as evidenced by invoices.
- Cost of bee forage seed mixture evidenced by invoices.

The honey-related income must be deducted from the eligible expenditure, provided that honey is sold by the producer organisation or its member.

### *3.7. HORIZONTAL ACTIONS*

If implemented alone, horizontal actions do not have any environmental impact directly; therefore they cannot be selected as environmental actions to be implemented independently under operational programmes. However, in order to implement or enhance the effectiveness of certain environmental actions, it may be necessary to conduct horizontal actions as well. Horizontal actions can thus be included in the operational programmes only and always in connection with environmental actions having direct environmental implications in order to contribute to the implementation of those actions and to their effectiveness.

### **3.7.1. Water, soil and plant analysis**

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#### **Description and justification of the action:**

It is a condition precedent for the implementation of the commitments related to certain environmental actions that exact information be available on certain characteristics or properties of the water, the soil or the nutrient element contents of the leaves. Thus, competent and effective nutrient supply requires the assistance of soil analysis. In the same way, the determination of a balanced nutrient supply cannot be made without first analysing parts of the cropped plant diagnostically. Moreover, it is necessary to carry out the analyses mentioned above in order to assess or control the impact or success of certain environmental actions in relation to the environment.

#### **Commitments related to the action:**

- a) soil testing and/or leaf analysis necessary for the preparation of a nutrient management plan and control checking of its implementation.

#### **Eligible expenditure:**

- Costs of sampling and soil tests or leaf analysis upon the invoices presented or based on the flat rate prices stipulated in the RDP.

### **3.7.2. Education and training**

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#### **Description and justification of the action:**

The environmental measures can be implemented efficiently if the producer or producer organisation affected by the measures has the knowledge required for efficient implementation. According to law, in certain cases the basic condition for the implementation of the measure is the required qualification. Under the measure, producer organisations may enrol their employees to the required vocational training and may provide/arrange for the required training for their producing members. Depending on its purpose and topic, training or education may be arranged with the use of external service providers and/or with the involvement of the producer organisation's employees having the necessary qualifications and professional experiences.

#### **Commitments related to the action:**

- a) training related to the protection against erosion and deflation;
- b) training of the (heating/maintenance) person operating the heating system that uses alternative/renewable energies (including crop residues);
- c) training related to the system of CHP generation;
- d) training related to composting technology;
- e) training related to the application of more energy-efficient production tools and methods;
- f) training related to biogas plant operation;
- g) training related to grafting and to the use of grafted transplants;
- h) training related to integrated pest management and biological procedures of plant protection;
- i) training related to integrated farming;
- j) training related to organic farming.

The training/education must fulfil the following conditions in order to become eligible for support under the national framework of environmental measures:

- a) It must relate to an actual environmental measure that has a direct impact on the environment and that is integrated in the operational programme for this reason and it is specifically designed to strengthen the impact of such measures or programmes.
- b) A qualified (external or internal) expert is appointed to implement it. The operational program must clearly indicate the specific tasks that must be performed by such qualified expert.



- c) Any additional training/education or other measures of the National Strategy, which are designed to help access to training/education, must clearly exclude similar objectives.

**Eligible expenditure:**

- Costs of training/education evidenced by invoices.
- In the case of training arranged by the producer organisation for its producing members and held by an employee of the producer organisation, the employee's wage on the basis of the working hour records.

The costs are eligible if it is demonstrated that producer members apply the outcomes of the training/education.

### **3.7.3. Advisory services**

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#### **Description and justification of the action:**

The environmental measures can be implemented efficiently if the producer or producer organisation affected by the measures has the knowledge required for efficient implementation. In certain cases such knowledge – mostly if it is a knowledge related to special technologies or technical equipment – cannot be acquired through training and education. Therefore, professional consulting is an activity, designed to acquire technical and technological knowledge, which supports farmers in the development of production processes.

In the case of environmental measures, advisory services must provide new knowledge to assist the producer organisation or its producing members in the implementation of the technology related to the measure, in the operation of the required machines and equipment, in the use of the various tools and in the settlement of any problem arising in connection therewith (identifying the cause of the problem, laying down a recommendation, ensuring a follow-up of the applied solution). Depending on its topic, advisory services may be arranged with the use of external service providers and/or with the involvement of the producer organisation's employees having the necessary qualifications and professional experiences.

#### **Commitments related to the action:**

- a) advisory services related to the protection against erosion and deflation;
- b) advisory services to assist the implementation of the nutrient management plan;
- c) advisory services related to the development or replacement of the existing poor performance irrigation system and to the operation of the new irrigation system;
- d) advisory services related to the operation of the heating system that uses renewable energies (including crop residues);
- e) advisory services related to the system of CHP generation;
- f) advisory services related to composting technology and legal obligations;
- g) advisory services related to biogas plant operation;
- h) advisory services related to the application of more energy-efficient production tools and methods;
- i) advisory services related to grafting and to the use of grafted transplants;
- j) advisory services related to integrated pest management and biological procedures of plant protection;
- k) advisory services related to integrated farming;
- l) advisory services related to organic farming.

The advisory services must fulfil the following conditions in order to become eligible for support under the national framework of environmental measures:

- a) It must relate to an actual environmental measure that has a direct impact on the environment and that was integrated in the operational programme for this reason, or it must relate to agri-environment-climate payments or organic farming payments under the RDP and it is specifically designed to strengthen the impact of such measures or programmes.
- b) A qualified (external or internal) expert is appointed to implement it. The operational programme must clearly indicate the specific tasks that must be performed by such qualified expert.
- c) Any additional training/education or other measures of the National Strategy, which are designed to help access to professional consulting, must clearly exclude similar objectives.

**Eligible expenditure:**

- Costs of advisory services evidenced by invoices.
- In the case of advisory services provided by an employee of the producer organisation, the employee's wage on the basis of the working hour records.

The costs are eligible if it is demonstrated that producer members apply the outcomes of the advisory services.

### **3.7.4. Planning, cost and energetic calculations**

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#### **Description and justification of the action:**

In certain cases, planning and performing calculations (e.g. cost and energetic calculations) is a basic condition for the implementation of the environmental measures laid down in the operational programme. Applied alone, planning and performing calculations will not have any direct environmental impact and that is why it cannot be chosen as an independent environmental measure of the operational programme.

#### **Commitments related to the action:**

- a) Planning related to protection against erosion and deflation.
- b) Planning of a heating system, together with the required cost and energetic calculations, designed to generate energy from annual or perennial (weedy or woody) energy crops and/or plant residues.
- c) Planning of a new heating system, together with the required cost and energetic calculations, designed to work on geothermal energy.
- d) Planning of a system of CHP generation, together with the required cost and energetic calculations.
- e) Planning of a biogas plant, together with the required cost and energetic calculations.
- f) Planning of infrastructure and buildings related to composting, together with the required cost calculations.
- g) Planning, cost and energetic calculations related to the application of more energy-efficient production tools and methods.

#### **Eligible expenditure:**

- Costs of planning services evidenced by invoices.
- Cost of preparation of cost and energetic and others calculations as evidenced by invoices.