

CEN

CWA 18346

WORKSHOP

February 2026

AGREEMENT

ICS 13.020.20; 67.200.10

English version

Protocol for sustainable production of extra virgin olive oil

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Foreword

This CEN Workshop Agreement (CWA 18346:2026) has been developed in accordance with the CEN/CENELEC Guide 29 “CEN/CENELEC Workshop Agreements — A rapid way to standardization” and with the relevant provisions of CEN/CENELEC Internal Regulations — Part 2. It was approved by the Workshop CEN/WS “Sustainable EVOO - Sustainable production of Extra Virgin Olive Oil”, the secretariat of which is held by UNE (Spanish Association for Standardization) consisting of representatives of interested parties on 2026-01-14, the constitution of which was supported by CEN following the public call for participation made on 2025-10-21.

However, this CEN Workshop Agreement does not necessarily include all relevant stakeholders.

The final text of this CEN Workshop Agreement was provided to CEN for publication on 2026-02-03.

This document is a result of the studies and activities performed under SOIL O-LIVE project, funded under the European Union’s Horizon Europe research and innovation programme under grant agreement No. 101091255.

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Introduction

This CEN Workshop Agreement (CWA) has been developed as a resource for olive orchards farmers and olive oil mill owners who want to tackle the increasing quality, environmental, social and economic challenges that they currently face. By following the Protocol, olive orchards and olive oil mills can build their operational resilience, generating a positive social, economic and environmental impact, helping to protect rural livelihoods and supporting their economic development both today and for generations to come.

This protocol sets requirements and is designed to educate and protect people and the planet, as well as the legacy of extra virgin olive oil. It also encourages the creation of valuable collaborations and partnerships throughout the supply chain in order to make sustainably sourced extra virgin olive oil available to consumers and help build a better future for the entire sector.

This protocol is aligned with various European legislative initiatives, such as the European Green Deal [1] or the 'Farm to Fork' strategy [2] as well as with international initiatives such the UN Sustainable Development Goals (SDGs) [3], especially those related to responsible production and consumption, climate action and life on land, or the International Agreement on Olive Oil and Table Olives [4], which promotes to study the interaction between olive growing and the environment, particularly with a view to promoting environmental conservation and sustainable production, and to ensure the integrated and sustainable development of the sector.

The olive oil sector and the agricultural sector as a whole face a series of environmental, social and economic challenges that give rise to the urgent need to adopt sustainable practices to guarantee their long-term viability and increase their resilience.

This CWA provides general requirements for sustainable agricultural practices, efficient resource management and product quality improvement. It also seeks to support farmers and olive oil mills in adopting responsible practices that promote operational resilience and sustainable economic development.

The objective is to promote sustainable production of extra virgin olive oil, which improves the social and environmental sustainability, as well as the business prosperity and operational resilience of all actors in the chain, improving the efficiency in the use of resources and ensuring the quality of the final product, all with the aim of providing the olive oil sector with a tool to improve the future of its activity.

The aim of extending sustainability policies to the entire supply chain in a collaborative manner is reinforced. For this reason, the protocol involves the participation of various stakeholders from several Extra Virgin Olive Oil producing regions around the world.

1 Scope

This CWA (CEN Workshop Agreement) document establishes a framework for the standardization of requirements for sustainable practices in olive orchards and in olive oil mills for the production of Extra Virgin Olive Oil (EVOO).

This document applies to all stages of Extra Virgin Olive Oil production, from the cultivation of the olives to the extraction and packaging of the Extra Virgin Olive Oil.

2 Normative references

There are no normative references in this document

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp/>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

sustainability

state of the global system, including environmental, social and economic aspects, in which the needs of the present are met without compromising the ability of future generations to meet their own needs

Note 1 to entry: The environmental, social and economic aspects interact, are interdependent and are often referred to as the three dimensions of sustainability.

SOURCE: ISO Guide 82:2019 [5]

3.2

sustainable development

development that meets the environmental, social and economic needs of the present without compromising the ability of future generations to meet their own needs

SOURCE: ISO Guide 82:2019 [5]

3.3

environment

surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelationships

Note 1 to entry: Surroundings can extend from within an organization to the local, regional and global system.

Note 2 to entry: Surroundings can be described in terms of biodiversity, ecosystems, climate or other characteristics.

SOURCE: ISO 14001:2015 [6]

3.4

biodiversity

biological diversity

variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems

[SOURCE: Convention on Biological Diversity [7]]

3.5

virgin olive oil (VOO)

oil which is obtained from the fruit of the olive tree (*Olea europaea L.*) solely by mechanical or other physical means under conditions, particularly thermal conditions, that do not lead to alterations in the oil, and which have not undergone any treatment other than washing, decantation, centrifugation and filtration

Note 1 to entry: It has a free acidity, expressed as oleic acid, of not more than 2.0 grams per 100 grams and the other physico-chemical and organoleptic characteristics of which correspond to those fixed for this category in COI/T.15/NC No 3/Rev. 20 November 2024.

[SOURCE: COI/T.15/NC No 3/Rev. 20 November 2024 [8] modified]

3.6

extra virgin olive oil (EVOO)

virgin olive oil (3.5) which has a free acidity, expressed as oleic acid, of not more than 0,80 grams per 100 grams and the other physico-chemical and organoleptic characteristics of which correspond to those fixed for this category in COI/T.15/NC No 3/Rev. 20 November 2024

[SOURCE: COI/T.15/NC No 3/Rev. 20 November 2024 [8] modified]

3.7

olive oil production

in terms of this document, it involves all the procedures necessary to obtain extra virgin olive oil, from the olive orchards to the packaging thereof

3.8

food safety

assurance that food will not cause an adverse health effect for the consumer when it is prepared and/or consumed in accordance with its intended use

Note 1 to entry: Food safety is related to the occurrence of food safety hazards in end products and does not include other health aspects related to, for example, malnutrition.

[SOURCE: ISO 22000:2018 [9], modified]

3.9

traceability

ability to trace and follow a food, feed, food-producing animal or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing and distribution

[SOURCE: Regulation (EU) n° 178/2022 [10], modified]

3.10

gender-based discrimination discrimination

intentional or unintentional unfavourable treatment of a person or a social group on the basis of their gender and gender stereotypes assigned in a social and cultural context which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise of their right

[SOURCE: ISO 53800:2024 [11], modified]

4 Sustainable production of Extra Virgin Olive Oil

4.1 General overview of the protocol

This Protocol is designed to establish requirements for the sustainable production of Extra Virgin Olive Oil and is based on the integration of four pillars: economic, social, environmental and product quality.

This Protocol is a set of sustainable practices that apply to olive orchards and/or olive oil mills and is divided into eight key areas. In total, there are 235 practices divided into these eight key areas, each focusing on different aspects and specific challenges of sustainability:

1. **Organization and people:** Focuses on compliance with legal and fiscal responsibilities, occupational safety, human rights, business viability, decent employment, equality, social contribution and information management.
2. **Quality and food safety:** Ensures high standards of food safety and quality throughout the entire production process, from the reception of the olives to the final product.
3. **Water management and monitoring:** Focuses on efficient water use, quality control and measures to prevent water pollution.
4. **Energy efficiency management:** Seeks to reduce the carbon footprint through efficient energy use and the adoption of renewable energy sources.
5. **Soil management and conservation:** Addresses soil health, erosion prevention, preservation of organic matter and enhance stock carbon and measures to improve soil productivity and biological activity.
6. **Biodiversity management:** Focuses on biodiversity conservation, including measures to protect different species and promote ecological balance.
7. **Waste and by-product management:** Promotes circular economy practices by minimizing and managing waste and optimizing the use of by-products.
8. **Agrochemical management:** Focuses on the optimization, efficient management and minimization of the use of agrochemicals (fertilizers and phytosanitary products) in olive cultivation to protect human health and the environment.

This Protocol includes a marking system that assigns four levels of requirement for these practices in each of the key areas. These levels are categorized as:

- **Mandatory (M):** Basic requirements that must be met to adopt this protocol.
- **Basic (B):** Fundamental practices that ensure minimum standards are maintained.
- **Intermediate (I):** Improved practices that increase sustainability performance.
- **Advanced (A):** Best practices that demonstrate leadership in sustainability.

These levels aim to ensure that the entities adopting this protocol can progressively improve their sustainability practices and achieve higher standards over time.

Annex A includes a marking system for assessing compliance with the requirements described in section 4.2, with the aim of helping those entities that wish to implement this Protocol in their activity and to facilitate the implementation, validation and monitoring of the requirements included in the Protocol.

This structured approach allows for continuous improvement and provides clear guidelines for achieving sustainability objectives in the production of extra virgin olive oil.

4.2 Requirements

4.2.1 Organisation and people

The olive oil sector provides valuable employment opportunities and economic stability, particularly in rural areas at risk of depopulation. By improving access to resources and promoting sustainable agricultural practices, the development of olive farming communities will be promoted, making them more resilient to climate change and more economically stable.

Generating sustainable economic growth by creating decent employment opportunities is a priority. Farming communities are increasingly impacted by risks such as market volatility, climate change and ageing populations. By working together, the Protocol supports the safeguarding of rural livelihoods, economic development and future proofing of these communities to preserve economic stability for generations to come.

Protecting worker livelihoods involves ensuring fair working conditions and inclusive growth opportunities for all people, including women, young people and other vulnerable groups. The protocol can help identify opportunities for positive impact in communities, implement strategies to increase transparency, prevent workplace issues across the supply chain, comply with legal and fiscal obligations, and develop ways to measure progress.

Requirement	Applied to	Level
1.1. Compliance with obligations (permits, licenses and authorisations according to legislation in force) and responsible tax		
1.1.1 All the permits, deeds and records listed in the example evidence are owned.	Olive orchard & mill	M
1.1.2 There is evidence that the organisation has registered its annual accounts and is up to date with Social Security and Tax Agency payments.	Olive orchard & mill	M
1.1.3 The annual accounts have been audited.	Mill	I
1.2 Occupational safety and health		
1.2.1 The company has a plan for the prevention of occupational hazards for the provision of safe and healthy working conditions. The obligations and preventive measures established in the preventive plan are monitored. The required records are available for the audited sample.	Olive orchard & mill	M

Requirement	Applied to	Level
1.3 Good governance with respect to human rights		
1.3.1 The organisation has a policy that includes the following commitments: 1. consumer health protection, 2. protection and respect for the environment, including prevention of pollution, 3. provision of safe and healthy work environments, 4. respect for human rights and internationally accepted behaviour, 5. contribution to the development of the community, 6. continuous improvement, 7. compliance with this Sustainability Protocol. This policy is presented and communicated to the staff who work in the organisation.	Olive orchard & mill	M
1.4 Viability and business continuity		
1.4.1 The organisation has a calculation of general production costs and the manager of the organisation has professional training in its activity.	Mill	B
1.4.2 The organisation has a calculation of cost per unit of production.	Mill	I
1.4.3 The organisation has a calculation of an analysis of the trajectory of the organisation's economic results.	Mill	I
1.4.4 The organisation has a medium or long-term strategic plan.	Mill	A
1.4.5 The company has a documented organisational chart.	Mill	B
1.4.6 The company has documented job profiles for each of the positions defined in the organisation chart.	Mill	B
1.4.7 The company has a person responsible for sustainability management.	Mill	A
1.4.8 The organisation makes specific investments and justification of the latest investments.	Mill	B
1.4.9 The organisation has an investment plan for the innovation and technological update of the activity.	Mill	I
1.4.10 The organisation has an analysis of the results of investments and returns on investment.	Mill	A
1.5 Full employment, productive employment and decent work		
1.5.1 The right to collective bargaining and freedom of association has been communicated, regardless of whether the right has been exercised.	Olive orchard & mill	M
1.5.2 If the right is exercised, it has been carried out transparently and independently.	Mill	B
1.5.3 The company has provided technical training in the last year.	Mill	B
1.5.4 The company has a training plan.	Mill	I
1.5.5 The company has provided skills training (management of emotions, teamwork, stress management, motivation, leadership, etc.).	Mill	A
1.5.6 The organisation has social benefits that are above what is established in its applicable collective labour agreement and are documented.	Mill	B
1.5.7 The organisation has a work-life plan.	Mill	A

Requirement	Applied to	Level
1.6 Equal opportunities and combating discrimination		
1.6.1 The commitment to work toward equality between men and women has been communicated. There is foresight for the development of this commitment.	Olive orchard & mill	B
1.6.2 The organisation has signed an agreement for equality between men and women.	Mill	I
1.6.3 The organisation has hired women in the last 3 years.	Mill	I
1.6.4 The organisation has carried out some type of action in favour of equality in the last 3 years.	Mill	I
1.6.5 The organisation has an Equality Committee and an Equality plan.	Mill	A
1.7 Social contribution to the community and promotion of employability		
1.7.1 The organisation sponsors and/or organises social activities periodically and they are documented.	Mill	I
1.7.2 More than 50% of the workers are local.	Mill	I
1.7.3 Some type of service has been carried out for the olive oil mill with local companies in the last three years.	Mill	I
1.7.4 More than 50% of the companies that have carried out some type of service for the olive oil mill in the last three years are local.	Mill	A
1.7.5 The organisation has hired people under 30 years of age in the last 3 years.	Mill	I
1.7.6 The organisation has hired people over 45 years of age in the last 3 years.	Mill	I
1.8 Information and data		
1.8.1 The organisation has a contract with a specialised company or documented evidence of carrying out computer equipment maintenance measures.	Mill	B
1.8.2 Backup copies of the data are kept in custody outside the facilities. An updated antivirus is available. There is an active firewall.	Mill	B
1.9 Voluntary Certifications		
1.9.1 ISO 9001 certification is in force.	Mill	A
1.9.2 BRC/IFS/FSCC22000 certification is in force.	Mill	A
1.9.3 ISO 14001 certification is in force.	Mill	A
1.9.4 GLOBAL GAP or similar is in force.	Olive orchard	A
1.9.5 ISO 450001 or similar is in force.	Mill	A

4.2.2 Quality and food safety

With global problems of malnourishment and food-borne diseases increasingly prevalent, food safety and quality have never been more important. These issues need to be tackled at the source, and the approach to the global system of food production needs to change.

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Focusing on adherence to internationally recognized food safety standards and more sustainable processes, the protocol can help to protect and preserve the quality and prevent risk of disease at all stages of production – maintaining food production and increasing access to safe food for years to come. Through this, the protocol ensures the great taste, safety and quality of the final product received by the consumer.

Requirement	Scope	Level
2.1. Facilities		
2.1.1 During the visit it is shown that the facilities are within a closed perimeter that does not allow access by unauthorised persons.	Mill	B
2.1.2 There are vehicle parking areas and they are defined; vehicles do not park in production and operational areas.	Mill	B
2.1.3 A flow is defined for vehicles and people, with parking areas for visitors and transport or contractors. There is enough space for manoeuvring easily.	Mill	B
2.1.4 There is control of access to the production area.	Mill	I
2.1.5 Video surveillance is available.	Mill	A
2.2 Olive reception		
2.2.1 At the facilities, it is shown that it is not possible for vehicles to pass over the raw material reception hoppers.	Mill	B
2.2.2 An evaluation/review of the olive fruits is carried out at the reception.	Mill	M
2.2.3 The weighing of the transports is carried out and the weight is not greater than 5,000 kg in more than 80% transport.	Mill	I
2.2.4 There are records of inspection of the quality of the olive fruits. The record specifies the criteria that are checked (soil and flight, frost, fly, maturity stage, etc).	Mill	B
2.2.5 There are records of inspection of the quality of the olive fruits. The record specifies the criteria: variety.	Mill	I
2.2.6 There are records of inspection of the quality of the olive fruits. The record specifies the criteria: damaged olive (frost, affected by pests) and/or state of maturation/quality (early olive, 1st tree, integrated certification etc).	Mill	A
2.2.7 It is evident that actions have been carried out in favour of the early harvest of the olive.	Mill	A
2.3 Reception yard		
2.3.1 A plan to replace non-food grade belts with food grade belts is projected and documented and/or periodic controls are carried out to ensure the absence of phthalates in the product.	Mill	M
2.3.2 Food grade and phthalate free belts are used but not on all lines.	Mill	B
2.3.3 Food grade and phthalate free belts are used on all lines.	Mill	I

Requirement	Scope	Level
2.3.4 The frequency of changing the water in the olive washer is, at least, once per day and/or every 1,000Tn. The water has an acceptable appearance. There are records of the change of water in the washing machine.	Mill	B
2.3.5 The olive fruit is not stored in bags or they are made of food grade material.	Mill	M
2.3.6 The hoppers, where the olive fruits are stored before starting to mill them, are covered.	Mill	I
2.3.7 The hoppers where the olive fruits are stored before starting to grind them, are made of stainless steel or internally covered with epoxy paint, stainless steel.	Mill	I
2.3.8 The storage hoppers do not have angles where the olive fruits can be retained, causing fermentation.	Mill	A
2.3.9 There is a control system through production reports and records which verifies that the residence time of the olive fruits in hoppers with a capacity of 40,000 kg is less than or equal to 24 hours (if fewer olives are stored, the time of permanence may be longer). If the olive oil mill stores the olive fruits in boxes of a size equal to or less than 600 kg, the residence time is less than 24 hours.	Mill	B
2.3.10 There is a control system through production reports and records which verifies that the residence time of the olive fruits in hoppers with a capacity of 40,000 kg is less than or equal to 12 hours (if fewer olives are stored, the time of permanence may be longer). If the olive oil mill stores the olive fruits in boxes of a size equal to or less than 600 kg, the residence time is less than 24 hours.	Mill	I
2.3.11 There is a control system through production reports and records which verifies that the residence time of the olive fruits in hoppers with a capacity of 40,000 kg is less than or equal to 8 hours (if fewer olives are stored, the time of permanence may be longer). If the olive oil mill stores the olive fruits in boxes of a size equal to or less than 600 kg, the residence time is less than 12 hours.	Mill	A
2.3.12 At the exit of the hoppers and/or at the entrance of the mills there are magnet elements for metal detection.	Mill	B
2.3.13 There is a record of operational control of the efficiency/cleanliness of the magnets.	Mill	I
2.4 Plant		
2.4.1 It is ensured that the malaxation of olive paste time is less than or equal to 60 minutes with records to prove it.	Mill	I
2.4.2 The malaxation of olive fruit paste temperature is between 22 °C and 25 °C. There are records of temperature control (at least once a day).	Mill	I
2.4.3 The malaxation of olive fruit paste temperature is between 22 °C and 25 °C. There are computer records through integrated software.	Mill	A

Requirement	Scope	Level
2.4.4 The outlet temperature of the virgin olive oil from the centrifuge is less than or equal to 27 °C. There are temperature control records for each shift and/or each change in production conditions.	Mill	I
2.4.5 Food grade greases and lubricants are used (Food grade H1 certificate).	Mill	M
2.4.6 It is not possible to contaminate the olive or the product with fats or lubricants.	Mill	I
2.4.7 There is evidence of analysis of the MOSH and MOAHS content of the greases/lubricants used.	Mill	A
2.4.8 A certificate of suitability for use in the food industry is available for all cleaning products and adjuvants (e.g. talc, filtering earths, cellulose).	Mill	M
2.4.9 There are batch records of the use of technological aids (talc) used.	Mill	B
2.4.10 Food grade certificates and migration tests are available for pump stators.	Mill	M
2.5 Storage		
2.5.1 The decantation process is carried out and there are records that prove it.	Mill	I
2.5.2 There are facilities to carry out the advanced filtration process (cellulose, with filtering soils...etc) of the oils obtained, this process is carried out and there are records that prove it.	Mill	A
2.5.3 Food-grade and phthalate-free hoses are used.	Mill	M
2.5.4 There is a temperature control system that ensures that the storage temperature of the oil is between 13 °C to 25 °C and there are temperature control records in the cellar.	Mill	I
2.5.5 The storage tanks are made of stainless steel and are located in a closed space with little lighting.	Mill	B
2.5.6 Storage tanks have head space with inert gases.	Mill	A
2.6 Cleaning, Maintenance and Traceability		
2.6.1 Order and cleanliness are observed during the visit to the facilities. There are no bad smells. There are a cleaning plan and records of verification that correct cleaning activities have been carried out.	Mill	B
2.6.2 There is a periodic maintenance plan and records of the maintenance tasks carried out.	Mill	B
2.6.3 Field work machinery have maintenance records (ITEAF or equivalent).	Olive orchard	M
2.6.4 Depending on current legislation, the field work machinery is registered in the Official Registry of Agricultural Machinery (ROMA or equivalent).	Mill	M
2.6.5 Product traceability is ensured during all stages of production and handling, as well as storage up to the point where the olive oil mill is no longer the owner of the product.	Mill	M

Requirement	Scope	Level
2.6.6 Oil drain operations are carried out, and there are records that prove it.	Mill	I
2.6.7 The traceability system is computerised. (Backup copies are made and specialised maintenance is available).	Mill	A
2.7 HACCP		
2.7.1 There is an implemented HACCP study, which ensures that all the products they supply are safe from the point of view of food safety.	Mill	M
2.7.2 Chemical hazards other than pesticides have been identified (benzopyrenes, phthalates, etc).	Mill	B
2.7.3 Good Handling and Manufacturing Practices are documented.	Mill	M
2.7.6 A pest control procedure is in place.	Mill	M

4.2.3 Water management and monitoring

Water is a critical resource for people and the planet alike. It is also critical in agriculture – from small holds to industrial operations. Water-scarcity is a real and significant threat, approximately 2 billion people live in countries experiencing high levels of water stress.

The efficiency in the use of the water is one of the most important challenges of olive growing facing climate change [12].

The protocol should help to ensure efficient use of water across our supply chain.

Another key concern is keeping water resources free from pollution. With water pollution an ever-increasing problem, the olive oil production needs to act now to mitigate risk of pollution across the supply chain. Water pollution can occur as a direct consequence of industrial wastewater discharges, the use of agrochemicals, inadequate disposal of waste and extreme weather phenomena caused by climate change.

Maximising the efficiency of water consumption across our collective processes can reduce waste, save money and make these operations sustainable, contributing to the longevity of this natural resource to cover demands in the future.

By implementing this protocol, the partners involved should work together to make water usage more efficient, reduce wastewater and improve water quality. They should also be not merely concerned with addressing the here and now but also with creating more sustainable water management practices for the future.

Requirement	Scope	Level
3.1 Water supply		
3.1.1 In accordance with the applicable legislation, there is evidence of permits for the collection and/or use of water from all sources and/or water consumption.	Olive orchard & mill	M
3.2 Water quality		
3.2.1 Annual analysis of the organoleptic and microbiological quality of the water used in the process is carried out.	Mill	M
3.2.2 Chlorine and organoleptic analyses are carried out in accordance with the applicable legislation.	Mill	M

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Requirement	Scope	Level
3.2.3 Annual analysis is carried out by an external laboratory, of the organoleptic and microbiological quality of the water used in the process.	Mill	I
3.2.4 An analysis of water for irrigation has been carried out in the last 3 years.	Olive orchard	I
3.3 Management and efficient use of water		
3.3.1 Water consumption is recorded systematically and is individualised for oil production.	Mill	B
3.3.2 Existence of documented good management practices and efficient use of water.	Mill	B
3.3.3 An inventory of water uses is available.	Mill	B
3.3.4 Water consumption is measured in relation to the production unit.	Mill	I
3.3.5 Water consumption is taken at least every 15 days.	Mill	I
3.3.6 Objectives are established to reduce water consumption.	Mill	A
3.3.7 The water consumption of each section of the process is quantified.	Mill	A
3.3.8 There are control records of the conditions of the transport and water supply facilities.	Mill	B
3.3.9 There are records of the use of the water collected.	Olive orchard	I
3.3.10 It is periodically checked that the olive grove is irrigated in a uniform manner.	Olive orchard	I
3.3.11 A visual inspection of the state of the irrigation and water facilities (pipes, couplings and intakes) is carried out.	Olive orchard	I
3.3.12 Preventive maintenance of the irrigation installation is carried out and there is a record of the tasks realised.	Olive orchard	A
3.3.13 Drip irrigation and/or hydro infiltrators are used.	Olive orchard	I
3.3.14 Subterranean drip irrigation is used.	Olive orchard	A
3.3.15 There is a justified and documented knowledge of the calculation of the dose and frequency of irrigation based on scientific knowledge of the crop development cycle and its sensitivity to water stress in each phase, also to the need for crop water by direct or indirect methods, or by making use of the public system of advice to the irrigator.	Olive orchard	B
3.3.16 There is an irrigation notebook that documents the irrigation planning and execution process.	Olive orchard	I
3.3.17 It has a water footprint verified by an independent entity.	Olive orchard & mill	A
3.3.18 There are documented and demonstrable reduction plans for the reduction of the water footprint.	Olive orchard & mill	A
3.3.19 The organisation has an automated irrigation and/or NBS systems to optimise the use of water.	Olive orchard	I

Requirement	Scope	Level
3.3.20 The organisation has an automated irrigation system that calculates the dose and frequency is not higher than irrigation according to the information received from climate-soil-olive tree sensors.	Olive orchard	A
3.3.21 It is evident that the limits of water use of not higher than 1,500 m ³ /ha for intensive and 2,500 m ³ /ha for super-intensive are met.	Olive orchard	I
3.3.22 The organisation reuses rainwater.	Olive orchard & mill	A

4.2.4 Energy efficiency management

If significant changes are not made to the food is manufactured, the production of extra virgin olive oil will continue to depend on non-renewable fossil fuels it is crucial for us to change these processes to become more energy efficient. That is why the protocol is focused on increased use of renewable energies in the production of extra virgin olive oil.

Measuring and reducing energy consumption within the involved stakeholders' operations, will help to lower their carbon footprint – something which is not only positively impactful for the planet, but which translates as financial savings for them and their suppliers.

Collaboration is key to working towards a low-carbon future with zero waste. The protocol focusses on continuing to be more energy efficient across the olive oil production collective processes. Joining together to target a steady, long-term emission reduction and transition to more renewable energy sources, we have the power to create change and preserve the future of the sector.

The olive oil sector has the potential to create positive impact for the planet and society, through transforming production models for more efficient management and use of energy, reducing greenhouse gas emissions and investing in low-carbon technologies for manufacturing.

Requirement	Scope	Level
4.1 Energy supply		
4.1.1 In accordance with the applicable legislation, evidence of permission is provided for the capture and/or use of energy from all sources and/or energy consumption. Energy contracts exist in the company's name.	Olive orchard & mill	M
4.2 Management and efficient use of energy		
4.2.1 There are reliable energy consumption records (energy meters and/or energy bills) individualised for oil production.	Mill	B
4.2.2 Energy consumption is recorded systematically.	Mill	I
4.2.3 Existence of good management practices and efficient use of energy documented.	Mill	I
4.2.4 Goals are set to reduce energy consumption.	Mill	A
4.2.5 There is an energy efficiency audit report.	Mill	A
4.3 Reduction of greenhouse gas emission		
4.3.1 The organisation has a biomass boiler.	Mill	B
4.3.2 The organisation has 100 % biomass boilers.	Mill	I

Requirement	Scope	Level
4.3.2 The organisation has the installation of solar panels in the olive oil mill.	Mill	A
4.3.3 Electric or hybrid company vehicles and/or charging points for electric vehicles.	Mill	A
4.3.4 There is a verified carbon footprint calculation.	Mill	A
4.3.5 There are documented and demonstrable reduction plans for the reduction of the carbon footprint.	Mill	A
4.3.6 Reduce the use of non-renewable energy sources and increase the use of renewable energy sources.	Olive orchard	A
4.3.7 Optimisation of the use of inputs with high energy consumption such as inorganic fertilisers.	Olive orchard	B
4.3.8 Optimising the use of appropriate agricultural machinery.	Olive orchard	B
4.3.10 Prevent loss of ground cover or introduce ground covers for soil protection.	Olive orchard	B
4.3.11 Spread the manure (compost) and leave it on the surface and prohibit the injection of liquid manure into the soil or its direct introduction into the soil.	Olive orchard	A
4.3.12 Use advanced formulation fertilisers, such as slow-release and low-carbon fertilisers, or fertiliser additives such as urease inhibitors or nitrification.	Olive orchard	A
4.3.13 Build soil carbon with cover crops.	Olive orchard	A
4.3.14 Building soil carbon with conservation tillage.	Olive orchard	I
4.3.15 There is a biofuel supply point in the cooperative.	Mill	A
4.3.16. Building soil carbon with certified Biochar.	Olive orchard	A
4.4 Air pollution sources		
4.4.1 There is evidence of the registration of existing atmospheric sources and mandatory periodic regulatory inspections according to current legislation.	Mill	M

4.2.5 Soil management and conservation

With soil being the foundation of all agricultural production, one of the biggest threats to agricultural activity is soil erosion and land degradation. It is an issue that has the potential to prevent adequate food production to serve a global population.

Annually, at least 100 million hectares of healthy land now lost and 40 % of agricultural land worldwide is already degraded [13]. According to the European Commission, available data indicate that 60 % to 70 % of EU soil is currently in an unhealthy state [14].

When soils are allowed to degrade, precious nutrients are lost and the planet is at risk of biodiversity loss, ecosystem instability, lack of nature conservation and reduction of food production across the world. Some cultivation practices specifically can involve the elimination of vegetation cover, intensive ploughing, use of pesticides and chemical fertilizers – all which impact soil's capacity to sequester carbon.

A sustainable future for the olive oil sector relies on correct soil management and maintenance. No one knows about their specific soil more than the farmers themselves. Working hand in hand, farmers and their partners can create a bespoke soil maintenance system for each olive orchard – bringing together farm-specific expertise with a legacy of industry knowledge and sustainability practices. These soil maintenance systems are designed with both the present and future in mind – created to support the optimization of water use, reduction of nutrient loss and maximization of the soil’s carbon sink properties while reducing risks for the future and promoting long-term fertility.

The protocol is focused on implementing ways to preserve ground productivity and biological activity to maximize yield and minimize contribution to soil erosion and degradation.

Requirement	Scope	Level
5.1 Soil operational control		
5.1.1 There is complete and traceable sampling of the soil physic-chemical condition every five years, and/or according to specialist recommendations.	Olive orchard	B
5.1.2 Prior to the start of exploitation (new plantations), the organisation has carried out a study of the suitability of the soil.	Olive orchard	A
5.2 Measures to prevent soil erosion, compaction and pollution		
5.2.1 Use of minimum impact machinery (disc plow, disc harrow, chisel plow, subsoiler, among others).	Olive orchard	B
5.2.2 Maintenance or improvement of the plant cover of the soils, avoiding that soils remain uncovered.	Olive orchard	B
5.2.3 Minimum or zero tillage (comply with the rules of integrated production of the olive orchard).	Olive orchard	B
5.2.4 Mulch-type coverage or incorporation of pruning remains in the planting row.	Olive orchard	B
5.2.5 Soil levelling to prevent runoff.	Olive orchard	I
5.2.6 Use of plants that promote soil enrichment in nutrients (such as nitrogen).	Olive orchard	I
5.2.7 Gully control (use of the plow or harrow at the beginning of the gully, and/or through the protection of the upper part of the gully by installing bags, seeding or redirecting the water flows to ditches on the sides of the gullies).	Olive orchard	I
5.2.8 Localised irrigation.	Olive orchard	I
5.2.9 Use of organic amendments including biochar to improve the structure and water retention capacity of the soil.	Olive orchard	I
5.2.10 Management of stocking rates through rotation in animal grazing, to prevent loss of plant cover and soil compaction.	Olive orchard	A
5.2.11 Reforestation with native species in non-productive areas (edges, entrances, etc).	Olive orchard	A
5.2.12 Minimize the use of copper-based fungicides.	Olive orchard	I
5.3 Measures to increase biological activity and soil productivity		
5.3.1 Minimisation of soil tillage to preserve the structure.	Olive orchard	B

Requirement	Scope	Level
5.3.2 Use of agrochemicals according to an efficient and controlled use plan.	Olive orchard	B
5.3.3 Prevention of contamination with nitrates in places near water lines.	Olive orchard	B
5.3.4 Promotion and maintenance of ground cover.	Olive orchard	B
5.3.5 Incorporation of chopped pruning, straw and stubble.	Olive orchard	B
5.3.6 Minimisation of machinery movement on wet ground.	Olive orchard	B
5.3.7 Manure and compost application free of antibiotics and vet products. Preferable plant-derived.	Olive orchard	I
5.3.8 Use of intercrops.	Olive orchard	A
5.3.9 Use of microbial plant biostimulants as fertilizers.	Olive orchard	A
5.3.10 Soil moisture management through maintenance of drainage in humid climates and through moisture conservation practices in dry conditions.	Olive orchard	A

4.2.6 Biodiversity management

A more sustainable future relies on biodiversity protection and the services that biodiversity provides. Increasing awareness about biodiversity preservation is crucial for reducing species loss and encouraging more sustainable alternatives to become common practice.

Understanding the direct and indirect causes of biodiversity loss can help to combat these effects and minimize risks.

Olive oil production can have a significant impact on biological diversity, yet it also suffers greatly from the effects. This is why it is crucial to join together to assess the collective production processes and business strategy to minimize their impact on landscape and nature conservation. The protocol helps to adopt new measures designed to protect animal and plant species and make the olive oil production processes more sustainable in the long term.

The Protocol focuses on the conservation of biodiversity. From ants, insects, birds, small mammals and reptiles to invaluable flora, we want to emphasize their importance and introduce ways to promote conservation across production processes.

Requirement	Scope	Level
6.1 Biodiversity conservation planning		
6.1.1 There is evidence of the existence of a biodiversity plan.	Olive orchard	M
6.1.2 The existence of a type of olive orchard with a life expectancy of more than 30 years is evidenced, which implies a fixation of biodiversity in the long term.	Olive orchard	B
6.1.3 There is evidence of the implementation of the actions included in the biodiversity plan and its periodic review.	Olive orchard	B
6.1.4 There is evidence of the implementation of the actions included in the biodiversity plan with a degree of compliance of at least 50 % and its periodic review.	Olive orchard	I

Requirement	Scope	Level
6.1.5 There is evidence of the implementation of the actions included in the biodiversity plan with a degree of compliance of at least 90 % and its periodic review.	Olive orchard	A
6.1.6 There are alliances with other organisations to improve biodiversity.	Olive orchard	A
6.1.7 Maintenance and conservation of native varieties of olive trees.	Olive orchard	A
6.2 Conservation actions for birds		
6.2.1 Depending on the current legislation, night harvesting is not carried out.	Olive orchard	M
6.2.2 Decreased use of insecticides applied to trees to increase food availability for insectivorous birds associated with the trunk of olive trees, especially during the bird reproduction season.	Olive orchard	B
6.2.3 Construction of infrastructures such as nests, bird perches, ponds, etc.	Olive orchard	I
6.2.4 Installation and/or maintenance of isolated trees of high size, producers of fruits, pinecones or acorns that attract insectivorous and frugivorous birds of all kinds and that serve as innkeepers and observation points.	Olive orchard	I
6.2.5 Maintenance and installation of small water points (fountains) and pools frequented by birds and many other vertebrates during the summer and which are also a source of insects.	Olive orchard	I
6.2.6 Presence of stone walls used by birds that breed in holes in the ground.	Olive orchard	I
6.2.7 Installation of artificial nesting boxes in human constructions since the lack of nesting sites in other places or farms can limit the appearance or abundance of some species.	Olive orchard	A
6.2.8 Restoration and repopulation work is carried out on roads, boundaries, gullies, slopes or streams with native species.	Olive orchard	A
6.2.9 In the event of massive replacement of old olive trees with new olive groves, avoid or reduce the removal and replacement of old olive trees with new ones, which affects insectivorous trunk birds and other vertebrates that use the replaced trunks.	Olive orchard	A
6.3 Actions for the proliferation of pollinators		
6.3.1 There is a reduction or elimination plan for the massive and indiscriminate use of pesticides.	Olive orchard	I
6.3.2 Restoration of ground covers rich in functional groups with flowers attractive to insects.	Olive orchard	I
6.3.3 Creation of nesting places for solitary bees through artificial nests ('bee hotels').	Olive orchard	A
6.3.4 Installation of hives for the honeybee in the environment of the olive orchard.	Olive orchard	A

Requirement	Scope	Level
6.4 Actions for the proliferation of ants and other insects		
6.4.1 Maintenance of the presence and/or recovery of remnants of natural habitat, plant covers and other unproductive vegetated areas in the olive orchard landscape.	Olive orchard	B
6.4.2 Planting or maintenance of boundaries with plant species that function as a refuge for native fauna and as an attraction for predatory insects of olive tree pests.	Olive orchard	I

4.2.7 Waste and by-product management

Current systems must change in order to protect and preserve natural resources for the future. A more sustainable production of extra virgin olive oil relies on maximising resource efficiency and minimising the generation of waste – creating a circular economy which positively contributes to more profitable, sustainable and environmentally friendly production.

The protocol approaches waste and by-product management in a more responsible and more innovative way, rethinking how limited resources' waste products such as water could be repurposed.

The protocol is focused on efficient management of residual waste, encouraging the repurpose of residual water generated through olive oil production and innovating new ways to use by-products, all to promote a circular economy and positively contribute to the sustainability of the sector.

Requirement	Scope	Level
7.1 Waste management		
7.1.1 Authorisation for the production of hazardous and non-hazardous waste is available in accordance with applicable legislation.	Olive orchard & mill	M
7.1.2 There is a contract with an authorised manager for the waste produced, depending on the current legislation. Deliveries of waste are verified and proof of delivery or control and monitoring is available (for example, DCS).	Olive orchard & mill	M
7.1.3 There is a physical or computerised record book for all hazardous waste, according to the applicable legislation. Two deliveries of waste are verified and correctly registered.	Mill	M
7.1.4 There is a physical or computerised record book for all non-hazardous waste. Two deliveries of waste are verified and registered correctly.	Mill	I
7.1.5 It is verified that the storage point for contaminated empty containers (for example, punto sigfita) or equivalent is roofed and has a waterproof screed.	Mill	B
7.1.6 It is verified that at the storage point for contaminated empty containers (for example, punto sigfita) or equivalent, the containers are inside the bags and these are correctly labelled.	Mill	B
7.1.7 It is evident that the storage of hazardous waste has good waste segregation, container labelling, order and cleanliness.	Mill	B
7.1.8 It is evident that the storage of non-hazardous waste has good waste segregation, container labelling, order and cleanliness.	Mill	I

Requirement	Scope	Level
7.1.9 It is evident that the staff responsible for waste management is trained.	Mill	I
7.1.10 There is a waste management guide.	Mill	I
7.2 By-products management and circular economy		
7.2.1 The reuse of the olive pit for the boiler is evidenced.	Mill	B
7.2.2 It is evident that the bone is certified.	Mill	A
7.2.3 The organisation provides firewood collection and management services to the members of the cooperatives.	Olive orchard & mill	A
7.2.4 The <i>alperujo</i> is removed by a company specialised in its recovery.	Mill	I
7.2.5 The organisation has an owned composting plant.	Olive orchard & Mill	A
7.2.6 The leaves are removed for recovery and valorising.	Olive orchard & Mill	A
7.2.7 It is evident that picket waste pruning is removed for recovery and valorising.	Olive orchard	I
7.2.8 There is a record of all the by-products produced quantities and final use.	Mill	I
7.3 Process residual water management		
7.3.1 The organisation correctly manages the wastewater it generates in accordance with current and applicable legislation.	Mill	M
7.3.2 The transport of residual water to the pond is carried out by collectors.	Mill	I
7.3.3 The transport of residual water to the pond is carried out by gravity.	Mill	A
7.3.4 The organisation carries out a pre-treatment of the residual water before it is discharged or deposited in a pond.	Mill	I
7.3.5 According to the forecast of the campaign, the storage capacity in a wastewater pond is dimensioned.	Mill	I
7.3.6 The organisation reuses treated wastewater. There are quality records of the wastewater reused before its use.	Olive orchard & mill	A
7.3.7 There are indicators of the consumption of treated residual water with respect to the total water used	Olive orchard & mill	A

4.2.8 Agrochemical management

Producing enough food for a growing population has led to increased use of agrochemicals in today's agricultural practices.

The protocol helps to re-evaluate current agrochemical practices across the supply chain to ensure that olive orchard fertilization is done in a way that is both productive and sustainable. Combining existing practices with sustainability guidelines and committing to regenerative agriculture, A personalised approach to agrochemical management can be developed, considering the conditions and functioning of

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soils and the nutritional needs of crops. From this, it can be determined what is strictly necessary for soil productivity, minimising unnecessary use of fertilizers and agrochemicals.

Sustainable agrochemical application and storage management across the supply chain ensures that the sector is doing its part to protect people and the environment through more responsible agrochemical use.

Requirement	Scope	Level
8.1 Management and efficient use of fertilizers and phytosanitary products		
8.1.1 There is evidence that only authorised phytosanitary products are used.	Olive orchard	M
8.1.2 Leaf analyses are carried out annually and are traceable.	Olive orchard	B
8.1.2 The organisation systematically informs partners about pests that are affecting crops locally and the recommended solutions.	Olive orchard	B
8.1.3 The organisation has its own field technicians to advise the groves to the partners.	Olive orchard	I
8.1.4 The staff in charge of the use of agrochemicals are trained in their responsible use.	Olive orchard	M
8.1.5 The application of agrochemical products takes into account the minimisation and optimisation of the use of agrochemicals through treatment orders.	Olive orchard	B
8.1.6 The application of agrochemical products takes into account the weather forecast (temperature, humidity, rain or wind).	Olive orchard	I
8.1.7 The application of agrochemical products takes into account the state of the soil where the agrochemical is applied (do not apply on frozen, compacted, cracked soil, with stagnant water or on slopes).	Olive orchard	A
8.1.8 They only use agrochemicals approved by the Integrated Olive Production Standard.	Olive orchard	I
8.1.9 They only use agrochemicals approved by the Organic Production Standard.	Olive orchard	A
8.1.10 There is a favourable report without deviation from the inspection of compliance with the integrated production regulations.	Olive orchard	I
8.1.11 There is a favourable report without deviation from the inspection of compliance with the Organic production regulations.	Olive orchard	A
8.1.12 The organisation has implemented some technology related to precision agriculture.	Olive orchard	A
8.1.13 Efficient sprayer utilisation.	Olive orchard	I
8.2 Fertilizers, phytosanitary products warehouse management		
8.2.1 According to the applicable legislation, the phytosanitary products warehouse is officially registered.	Mill	M
8.2.2 According to the applicable legislation, the storage of fertilizers and phytosanitary products is carried out in cabinets, in rooms or in premises intended solely for that purpose on waterproofed ground.	Olive orchard & Mill	M

Requirement	Scope	Level
8.2.3 According to the applicable legislation, the storage is correctly marked and there are means of retaining leaks of up to 10 % of the stored load.	Olive orchard & Mill	M
8.2.4 According to the applicable legislation, the layout of the storage ensures that it is away from bodies of surface water or water extraction wells and from places or areas that can be flooded in the event of floods and separated from any inhabited premises.	Olive orchard & Mill	M
8.2.5 According to the applicable legislation, there is an emergency plan and response capacity for leaks or spills of fertilizers and phytosanitary products during storage.	Olive orchard & Mill	M
8.2.6 According to the applicable legislation, the personnel who store the fertilizers and phytosanitary products have training on safe handling, good practices and incompatibilities in the storage of agrochemicals.	Olive orchard & Mill	M

Annex A
(normative)

Compliance of the protocol

The implementation of the Protocol shall be considered as satisfactory when, following a full evaluation of the items described in section 4.2, a minimum of the requirements indicated has been achieved:

— Overall:

- 100 % of the basic requirements (Mandatory (M)) are met.
- 70 % of the fundamental practices (Basic (B)) are met.
- 40 % of the improved practices (Intermediate (I)) are met.
- 15 % of the best practices (Advanced (A)) are met.

— Each key area:

- 100 % of the basic requirements (Mandatory (M)) are met.
- 40 % of the fundamental practices (Basic (B)) are met.
- 20 % of the improved practices (Intermediate (I)) are met.
- 10 % of the best practices (Advanced (A)) are met.

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