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Criteria and Indicators for Individual and Group Certification of Sustainable Management of Medium-Long-Term Tree Plantations

PEFC
ITALY
STANDARD

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In the event of inconsistencies between the English and Italian versions, the English version of the standard approved by the PEFC Council shall refer.

Summary

DEFINITIONS AND FRAMING

All definitions necessary for the understanding and application of this standard are provided in the PEFC ITA 1000 Description of the PEFC Italy Sustainable Forest and Trees outside Forests Management Certification Schemes.

SFM Criteria and Guidelines and their use for certification standard for the sustainable management of tree plantations

The common frame of reference for verifying the sustainability of sustainable forest management (but also of plantations, as indicated in the spirit of their implementation by the promoters) are the Pan-European Operational Guidelines adopted at the fifth preparatory meeting at expert level of the Lisbon Conference on the Protection of Forests in Europe, 27-29 April 1998 in Geneva, Switzerland.
The Pan-European Operational Guidelines form a common framework of recommendations that can be used on a voluntary basis and as a complement to national and/or regional instruments to further promote sustainable forest management on natural (forests) and artificial (plantations) forest areas in Europe.

Brief description of the Pan-European Criteria and Guidelines
At the Second Ministerial Conference, held in Helsinki in 1993, the ministers responsible for the forestry sector in Europe signed the internationally accepted UNCED Forest Principles, taking the concept of sustainable forest management a step further by adopting, inter alia, Resolution H1 'General Guidelines for the Sustainable Management of European Forests' and Resolution H2 'General Guidelines for the Conservation of Biodiversity of European Forests'. These general guidelines represent the political commitment of the Helsinki resolution's signatory countries and provide a general policy direction and a long-term goal to meet European demands for the multifunctionality of forests (i.e. their ability to provide various goods and services) and plantations, in a manner consistent with their sustainable management and the conservation and enhancement of their biodiversity.
A new, common definition of 'sustainable forest management' was formulated in Resolution H1:
"the proper management and use of forests and forest land in such a form and at such a rate as to maintain their biodiversity, productivity, regeneration capacity, vitality and a potential to ensure, now and in the future, relevant ecological, economic and social functions at local, national and global levels and such that they do not lead to damage to other ecosystems".

Pan-European Criteria and Indicators were adopted for the implementation of the General Guidelines at the national level, developed by the Expert Group as part of the Follow-Up Process at the Helsinki Ministerial Conference in 1994. They are a policy tool for assessing and reporting progress towards sustainable forest management, as described in Resolution H1, in individual European countries and Europe as a whole.
The Pan-European Operational Guidelines were developed to further promote sustainable forest and plantation management in Europe by translating internationally agreed principles of forest planning and management practices. They represent a common framework of recommendations at the operational level that can be used on a voluntary basis. These guidelines are based directly on Resolutions H1 and H2 and follow the structure of the six Pan-European Criteria that have been identified as the core elements of sustainable forest management. For the sake of clarity, these guidelines have been divided into "Guidelines for Management Planning" and "Guidelines for Management Activities" and, within each Criterion, consider the basic ecological, economic and social requirements for sustainable forest and

plantation management. In the event that the tree plantation is associated with herbaceous crops managed with agronomic techniques, only products directly deriving from the presence of the trees are certifiable (e.g. veneer, poles, firewood, faggots, truffles, silkworms, etc.).
The management of associated herbaceous agricultural crops within the certified area is excluded from meeting the requirements of this standard.

The standard is composed of indicators related to planning and practice. The guideline consists of a number, statement of the Guidelines, measurement parameter and Criticality threshold. Where a Guidelines has not stated one or more measurement parameters and/or Criticality thresholds, compliance with the Guidelines remains a mandatory element.
The guidelines 1.pi.a, 2.pi.a, 2.pr.a, 4.pi.a, 6.pi.a cannot be applied at the level of individual plantations and must be considered on a larger scale (group certification), identifying appropriate buffer zones and uncultivated areas with a main environmental, ecological, cultural and social function.
In order to improve the value of the ecosystem services produced by planting, the size and distribution of such buffer zones and uncultivated areas must be identified at the planting stage, based on social, environmental and ecological assessments, and reassessed during subsequent replanting stages.

The scope of this standard includes tree plantations for the production of both timber and non-timber forest products (e.g. chestnuts, truffles, etc.).
In the case of chestnut groves, in addition to the requirements contained in this standard, it is essential to comply with the general and forest policy regulations specific to this type of cultivation.
Measures shall be implemented to address protection of the forest plantations from unauthorised activities such as illegal logging, illegal land use, illegally initiated fires, and other illegal activities. The use of fire shall be limited to regions where fire is an essential tool in tree plantations management for regeneration, wildfire protection and habitat management or a recognized practice of indigenous peoples. In these cases adequate management and control measures shall be taken..

Attachments
PEFC technical standards for the sustainable management of tree plantations with a medium to long term

CRITERION 1
MAINTENANCE OR APPROPRIATE ENHANCEMENT OF PLANTATION RESOURCES AND THEIR CONTRIBUTION TO THE GLOBAL CARBON CYCLE

Management planning			
n	Guidelines	Measurement parameter	Criticality threshold
1.pi.a	Management planning must aim to maintain or improve plantation and related ecosystem services and maintain or improve the quality of the economic, ecological, cultural and social value of plantation resources, including soil and water. This must be achieved by making full use of related services such as land use planning and conservation of the natural environment. Note: If this requirement cannot be applied at the individual certification level, it must be taken into account at the group certification level.	The owner/manager must: demonstrate that they take into account the requirements of EU, national and regional legislative and administrative provisions regarding sustainability, paying particular attention to soil, water and natural environment management report any subsidies/contributions requested from the public administration for the plantation/management of the plantation set their own objectives on the above issues.	Recall of documents and/or records in the planning document (see section 3.2 of ITA 1000).
1.pi.b	The inventory and mapping of plantation resources must be defined and maintained in a manner appropriate to local and national conditions and in line with what is described in these guidelines.	The owner/manager must have an inventory and mapping of their tree plantings.	Presence of an up-to-date and complete inventory system with cadastral information and records.
1.pi.c	Management plans, or their equivalent, appropriate to the size and use of the area must be drawn up and periodically updated. They must be based on current legislation as well as on existing land use plans for the area and appropriately include plantation resources.	The owner/operator shall define, file, maintain, and update a document as provided for in paragraph 3.2 of ITA 1000 with reference also to GL a). Note: the inventory must be updated annually, marking any changes in cultivation.	Presence, completeness and continuous updating of the planning document (see section 3.2 of ITA 1000).

1.pi.d	Periodically, a monitoring of the plantation's resources and an evaluation of their management must be carried out, the results of which must contribute (as a retroactive action) to the planning process.	The owner/manager must: keep under control: deadlines congruent with company size indicators, and keep - for planning purposes - records of the results of data processing from monitoring activities.	Presence of a register with notification of precise chronological information of all interventions carried out and their evaluation.
1.pi.e	The conversion of ecologically important non-forest ecosystems and forests by planting new plantations is not permitted unless in justified circumstances. In any case, the change of use must be in accordance with national and regional policy and legislation applicable at all levels for land use and forest management and must be the result of spatial planning, as defined by current regulations; must be established through a transparent decision-making process based on the active participation of the relevant stakeholders; must not have a negative impact on threatened or protected forests and non-forest ecosystems as well as culturally and socially significant areas, important habitats of threatened species or other protected areas; affecting a minority portion (not greater than 5%) of forests and ecologically important non-forest ecosystem managed by an organisation; must not affect areas with significantly high carbon stocks; must contribute to the long-term conservation, economic, and social benefits. Note: Reforestation and afforestation with plantation forests established in ecologically important non-forest ecosystems or forest		

	areas after 31 December 2010 are not eligible for certification.		

Management practice			
n	Guidelines	Measurement parameter	Threshold
1.pr.a	Management practices must safeguard the quantity and quality of the plantation's resources in the medium to long term and its capacity to store and sequester carbon, balancing the rate of harvest and increment, using appropriate measures and techniques, and giving preference to those that minimise direct or indirect damage to the plantation's resources, soil and water resources. Note: if this requirement cannot be applied at the individual certification level, it must be taken into account at the group certification level.	The owner/manager must adopt cultivation techniques consistent with what is planned (see GLGL for planning for Criterion 1). Note: All possible precautions must be taken when distributing plant protection products in order to reduce damage to the operator and the environment: comply with active ingredient dosages and water volume indications, carry out spraying in the absence of wind and during the coolest hours of the day, choose commercial products with the lowest toxicity considering their efficacy, carry out periodic maintenance work on equipment, use personal protective clothing.	Presence of a registration system for pesticide treatments.
1.pr.b	Appropriate management measures must be taken to keep the provision of available resources increasing - or to bring it - to a level that is economically, ecologically and socially desirable.	The owner/manager, in order to maintain the increasing quality and economic level of the plantation, must adopt: adequate pruning, as indicated in the 'PEFC Technical Standards' documents; working of the soil according to the 'PEFC Technical Standards' documents; an intervention plan for poplar forest pest management according to the 'PEFC Technical Standards' documents.	Respect of pruning schemes indicated by PEFC Technical Standards' documents and presence of relevant records. Presence of records of soil tillage (see Documents "PEFC Technical Standards" Section 1.1, Section 2.1, Section 4, Section 5, Section 6, Section 7.1. For poplar: Presence of an improvement plan for weed management, containing proposals for the experimentation of

			suitable clones (see Documents "PEFC Technical Standards" Par. 2.1)
1.pr.c	Consideration should be given to converting abandoned farmland and unforested areas into forest, whenever this can increase their economic, ecological, social and/or cultural value.	In the case of conversion of abandoned farmland and unwooded areas to plantations, the owner/manager must provide planning of the related activities and analysis of any economic, ecological, social and/or cultural impacts.	Presence of an Improvement Plan or Integrated Investment Plan with consideration of any economic, ecological, social and/or cultural impacts.
1.pr.d	Positive climate practices, such as maintaining or improving carbon absorption, reducing climate-altering gas emissions and efficient use of resources, should be implemented	Identification of climate-positive practices implemented by the organisation in its management operations, such as silvicultural practices for increasing carbon sequestration, reducing the emission of climate-altering gases, efficient use of resources, and evaluation of management by-products (such as bark and brushwood) where these are removed.	None

CRITERION 2 MAINTAINING THE HEALTH AND VITALITY OF TREE ECOSYSTEMS

Management planning			
n	Guidelines	Measurement parameter	Criticality threshold
2.pi.a	The aim of management planning must be to maintain and increase the health and vitality of ecosystems and to restore degraded tree ecosystems wherever possible. Note: if this requirement cannot be applied at individual certification level, it must be taken into account at group certification level.	Not applicable	Not applicable
2.pi.b	The health and viability of plantations must be maintained and periodically monitored, especially in relation to biotic and abiotic factors that can potentially damage the health and viability of ecosystems, such as pests, diseases, overgrazing, fire and damage caused by climatic factors, air pollutants and management operations.	The owner/manager must keep: under control: at intervals commensurate with the size of the company damage from biotic and abiotic factors and management activities recording of results .	Presence of records of biotic (from animals and human activities related to management) and abiotic damage.
2.pi.c	Management plans or their equivalents must specify ways and means to minimise the risks of damage to ecosystems. Plantation management planning must make use of policy instruments designed to support these activities.	The owner/manager must: indicate in the document - referred to in paragraph 3.2 of ITA 1000 - the management objectives, measures and actions to minimise damage with reference to what is also indicated by GLGL 2.pi.b), adopt a system suitable for planning consistent with the policy and the PEFC Technical Standards documents.	Presence of planning document (see par. 3.2 of ITA 1000). See "PEFC Technical Standards" Par. 1.1, Par. 2.1, Par. 3.1, Ch. 4, Ch. 5, Ch. 6, Par. 7.1.

Management practice			
n	Guidelines	Measurement parameter	Criticality threshold
2.pr.a	Management practices must make the best possible use of natural structures and processes and implement preventive biological measures, where and when economically feasible, to maintain and improve the health and vitality of plantations. Adequate genetic diversity, both species and structural, must also be encouraged (and/or maintained) to improve the stability, viability and resilience of plantations against adverse environmental factors and to reinforce natural self-regulating mechanisms. Note: if this requirement cannot be applied at the individual certification level, it must be taken into account at the group certification level.	The owner/manager must: adopt integrated pest management techniques; PEFC Technical Standards documents; limit mineral fertiliser inputs under favourable stationary conditions; PEFC Technical Standards documents; limit the establishment of monoclonal plantations, PEFC Technical Standards documents.	Compliance with PEFC Technical Standards Documents for: choice of poplar in plantations where it is present: adoption of certified clones with adoption criteria dictated in Appendix 1 - PEFC Technical Standard for Sustainable Poplar Plantation Management limits to monoclonal planting: Chapters 2 and 3 of the document "PEFC Technical Standards for the sustainable management of poplar plantations". for integrated pest management: Chapter 10 of the 'PEFC Technical Standards' documents; for fertilisers: Chapter 5 of the "PEFC Technical Standards" documents
2.pr.b	Appropriate management practices must be applied with species and provenances suited to the conditions or the use of cultivation, harvest and transport techniques that minimise damage to trees and/or soil. Spillage during management operations and indiscriminate accumulation of waste must be strictly avoided. Setting emergency procedures for the minimisation of risk of environmental	Compatible with the stationary characteristics, the owner/manager must: adopt cultivation measures and techniques (e.g. planting layout, pruning, soil tillage); use of vehicles for logging and transport	Availability of related records.See: Ch. 4, Ch. 6 and Ch. 7 of the "PEFC Technical Standards" document use of logging and transport vehicles

	harm arising from the accidental spillage and the need of avoiding indiscriminate disposal of waste on forest land.	suited to the soil conditions, use biodegradable lubricants, avoid waste (scrap) of non-wood origin. If the harvest work is contracted out to third parties, the contract of tender or sale contract, the owner/manager must state the obligation to use biodegradable disposable oil, the use of means appropriate to the soil conditions and the prohibition of leaving non-wood waste.	suited to the soil conditions presence of records on product characteristics used; no waste.
2.pr.c	The use of herbicides and pesticides must be minimised by considering appropriate crop alternatives and other biological measures. In any case, those listed in Tables 1A and 1B of the WHO, and those whose derivatives remain biologically active and accumulate in the food chain, and any pesticides banned by international agreements are to be excluded. GMO trees shall not be used	The owner/manager must: Indicate the active ingredients used, the date (period) and purpose of their use, the quantity used; Filing and preserving purchase records of commercial products used. If treatments are contracted out to third parties, the contract must contain the intervention indications provided in the planning and 'PEFC Technical Standards' Documents.	Chapters 8 and 10 of the 'PEFC Technical Standards' documents Presence of recordings
2.pr.d	If fertilisers are to be used, they must be applied in a controlled manner and with appropriate care for their environmental impact. Fertilizer use shall not be an alternative to appropriate soil nutrient management.	MEASUREMENT PARAMETER The owner/manager must: specify the fertilisers used, the date (period) and purpose of their use, the quantity used - PEFC Technical Standards documents.	Ch. 5 of the "PEFC Technical Standards" documents; Presence of recordings.

		Archive and store the purchase records of the commercial products used. If fertilisation is contracted out to a third party, the contract must contain the intervention indications provided in the planning and 'PEFC Technical Standards' documents.	

CRITERION 3 MAINTENANCE AND DEVELOPMENT OF PRODUCTIVE FUNCTIONS IN TREE MANAGEMENT (WOOD AND NON-WOOD PRODUCTS)

Management planning			
n	Guidelines	Measurement parameter	Criticality threshold
3.pi.a	Management planning shallaim to maintain the capacity of plantations to produce a range of wood and non-wood products and/or ecosystem services on a sustainable basis.	The owner/operator must identify the shrinkable products at the planning stage;	Presence of planning document (see section 3.2 of ITA 1000).
3.pi.b	Management planning must strive for sound economic performance, taking into consideration the possibility of new markets and economic activities related to all goods and services that can be derived from plantations.	The owner/operator must identify potential outlet markets for the harvestable products at the planning stage.	Presence of planning document (see section 3.2 of ITA 1000).
3.pi.c	Management plans or their equivalents must consider the different uses or functions of the area concerned. Management planning must make use of policy instruments developed to support the production of marketable and non-marketable goods and services.	The owner/manager must identify at the planning stage the potential sources - regional, national and EU - of subsidies for the activities and products that can be derived from the plantations.	Presence of planning document (see section 3.2 of ITA 1000).

Management practice			
n	Guidelines	Measurement parameter	Criticality threshold
3.pr.a	The quality of management activities must be ensured in order to maintain and improve plantation resources and encourage diversified production of goods and services in the long run.	At the time of use, the owner/manager must identify the products obtained. In the case of standing sales, indicate only the quantities obtained without distinction in products.	Presence registration of wood and non-wood assortments obtained (type and quantity).
3.pr.b	Cultivation, regeneration, harvest and transport operations must be carried out on time and in such a way as not to reduce the productive capacity of the site avoiding damage to the residual stand, both in terms of trees and soil, using appropriate working systems and techniques.	The owner/operator shall adopt planting arrangements consistent with the PEFC Technical Standards Documents and Criterion 2 GL practice letter b).	See Criterion 2.pr.b GL practice letter b) + paragraph 4.3 of the "PEFC Technical Standards".
3.pr.c	Harvesting levels of both wood and non-wood products shall not exceed the rate that can be sustained over the long term, and the best possible use shall be made of harvested products, with due consideration for the removal of nutrients.	Not applicable	Not applicable
3.pr.d	Adequate infrastructure, such as roads, logging tracks or bridges, must be planned, implemented and maintained to ensure efficient distribution of goods and services while minimising negative	Not applicable	Not applicable

	impacts on the environment.		

CRITERION 4 MAINTENANCE, CONSERVATION AND APPROPRIATE ENHANCEMENT OF BIOLOGICAL DIVERSITY IN TREE ECOSYSTEMS

Management planning			
n	Guidelines	Measurement parameter	Criticality threshold
4.pi.a	Management planning must aim to conserve and improve the biodiversity of the ecosystem, both in terms of species and at the genetic level, and where appropriate, also at the spatial level. Note: If this requirement cannot be applied at the individual certification level, it must be taken into account at the group certification level.	The owner/manager has to identify clones that are suitable for the plantation's conditions.	Presence of planning document (see section 3.2 of ITA 1000).
4.pi.b	Plantation management planning, field inventory and resource mapping must identify, protect or conserve ecologically important biotopes, taking into account the presence of any protected, rare, sensitive or representative ecosystems such as riparian areas and wetland biotopes, areas hosting endemic species and habitats of threatened species (as defined in recognised reference lists), as well as protected or endangered in situ genetic resources. Note: This guideline must be taken into account with particular regard during the planting phase and, if necessary, by identifying appropriate buffer zones and uncultivated areas with primary environmental, ecological, cultural and social functions.	The owner/manager must supplement GL 1.pi.b with indications of neighbouring protected areas affecting the plantation in the municipalities in which they are located.	Presence, completeness and continuous updating of documentation and/or records.

Management practice			
n	Guidelines	Measurement parameter	Criticality threshold
4.pr.a	Natural regeneration should be preferred, provided that the conditions are suitable to ensure the quantity and quality of the resources and that the source of the propagation material is qualitatively suitable for the site.	Not applicable	Not applicable

4.pr.b	Species of local origin and provenance that are well adapted to the conditions of the site shall be preferred. Only those introduced species, provenances and varieties whose impacts on the ecosystem, genetic integrity of native species and local provenances have been assessed and whose possible negative impacts can be avoided or minimised shall be used. Plantation forests, reforestation and other tree planting activities that contribute to the improvement and restoration of ecological connectivity shall be implemented.	The owner/manager should prefer species of local origin that are well adapted to the conditions of the site. The owner/manager must use poplar plants and clones that are suitable for the site conditions for all types of poplar plantations	Use of species of local origin and provenance. Ch. 2 and Sec. 3.1 of the documents "PEFC Technical Standards" GL 2.pr.a + Table V in the appendix of the "PEFC Technical Standard for Sustainable Poplar Plantation Management";
4.pr.c	Management practices, when possible, shall promote structural diversification both vertically and horizontally, and species mixing, as in mixed stands. When possible, these practices shall also aim to maintain or restore landscape diversity.	This guideline is fulfilled through the identification of appropriate buffer zones and uncultivated areas with main environmental, ecological, cultural and social functions.	Recall of documents and/or records in the planning document (see section 3.2 of ITA 1000).
4.pr.d	Traditional management systems that have resulted in the presence of appreciable ecosystems at suitable sites shall be supported when economically possible.	This guideline is fulfilled through the identification of appropriate buffer zones and uncultivated areas with main environmental, ecological, cultural and social functions.	Recall of documents and/or records in the planning document
4.pr.e	Crop care and harvest operations must be conducted in such a way that they do not cause permanent damage to ecosystems. Wherever possible, practical measures must be taken to improve or maintain biological diversity.	Fertilisation, pruning, soil management, pest control, use and choice of plant protection products. See also GL 2.pr.b, 2.pr.c, 2.pr.d	Chapters 5, 6, 7, 8, 9, 10 of "PEFC Technical Standards" Documents
4.pr.f	Infrastructure must be planned and constructed in such a way as to minimise damage to ecosystems, especially rare, sensitive, representative ecosystems and genetic reserves, so as to take into account threatened or other species of special importance (and in particular their migratory pathways).	Not applicable	Not applicable

4.pr.g	With reference to the management objectives, measures must be taken to balance the pressure of animal population and grazing on regeneration, growth and biodiversity.	Not applicable	Not applicable
4.pr.h	Standing dead and stunted trees, hollow trees, over 100-year-old trees and particularly rare species must be retained and conserved in the quantity and distribution necessary to safeguard biological diversity, taking into consideration the potential effects on the health and stability of forests and surrounding ecosystems.	Not applicable	Not applicable
4.pr.i	Particularly significant biotopes such as water sources, wetlands, rocky outcrops and gorges in the forest must be protected or, where necessary, restored if damaged by management interventions.	See also GL 2.pr.b, 2.pr.c, 2.pr.d	See also GL 2.pr.b, 2.pr.c, 2.pr.d

CRITERION 5 MAINTENANCE AND APPROPRIATE IMPROVEMENT OF THE PROTECTIVE FUNCTIONS OF TREE MANAGEMENT (WITH SPECIFIC ATTENTION TO SOIL PROTECTION AND WATER REGULATION

Management planning			
n	Guidelines	Measurement parameter	Criticality threshold
5.pi.a	Management planning must aim to maintain and increase the protective functions of plantations vis-à-vis the community, such as infrastructure protection, protection against soil erosion and protection of water resources, and must safeguard against other adverse hydrogeological phenomena such as floods or avalanches.	With regard to areas historically affected by flooding with damage to persons and property, the owner/manager must identify measures and actions that allow plantation management to contain soil erosion phenomena and limit damage to other crops and infrastructure.	Presence of planning document (see section 3.2 of ITA 1000).
5.pi.b	Areas that fulfil specific and recognised protective functions for the community must be recorded and surveyed on maps, and management plans, or their equivalent, must take these sites into adequate consideration.	Presence of planning document (see section 3.2 of ITA 1000).	Presence, completeness and continuous updating of documentation and/or records.

Management practice			
n	Guidelines	Measurement parameter	Criticality threshold
5.pr.a	Particular attention must be paid to cultivation operations on sensitive soils and erosion-prone areas as well as areas where operations could lead to excessive soil erosion in watercourses. Inappropriate techniques such as deep soil working and the use of unsuitable machinery must be avoided in such areas. Special measures must also be taken to minimise the pressure of the animal population on plantations.	The owner/operator must, in relation to the rotation term : define the frequency of cultivation operations related to soil tillage, and/or identify the characteristics of the machines used for cultivation operations Note: Tillage methods must be consistent with the PEFC Technical Standards Documents.	SeeChapter 7 Presence, completeness and continuous updating of documentation and/or records of work performed.
5.pr.b	Particular attention must be paid to management activities on areas with a water protection function in order to avoid negative effects on water quality	The owner/manager must, in relation to the rotation cycle define the frequency of	See Chapter 7 Presence, completeness and

	and quantity. The inappropriate use of chemicals and other harmful substances or improper cultivation practices that could adversely affect water quality must also be avoided.	cultivation operations concerning soil tillage, use of chemicals. Note: Par. 10.1 of the document "PEFC Technical Standards for the Sustainable Management of Poplar Groves" and Table 8 annexed thereto must be complied with.	continuous updating of documentation and/or records of interventions carried out and chemicals used; see also GL 2.pr.b, 2.pr.c, 2.pr.d
5.pr.c	The construction of roads, bridges and other infrastructure must be carried out in such a way as to minimise the exposure of bare soil to weathering, to avoid soil run-off into watercourses, and to preserve the natural level and function of watercourses and riverbeds. Roads must be provided with appropriate drainage systems, subject to adequate maintenance.	Not applicable	Not applicable

CRITERION 6 MAINTENANCE OF OTHER FUNCTIONS AND SOCIO-ECONOMIC CONDITIONS

Management planning			
n	Guidelines	Measurement parameter	Criticality threshold
6.pi.a	Management planning must aim to respect the socio-economic functions of plantations towards the community, considering the sector's role in rural development and the local economy, with particular reference to new training and employment opportunities related to socio-economic functions and the creation of sustainable supply chains. Note: If this requirement cannot be applied at the individual certification level, it must be taken into account at the group certification level.		
6.pi.b	Property rights and land tenure agreements must be clearly defined, documented and established for the relevant areas. Similarly, legal, customary and traditional rights must be clarified, recognised and respected.	The owner/manager has to prove the ownership/possession status of the plantation and any insistent constraints.	Presence, completeness and continuous updating of documentation and/or records.
6.pi.c	Adequate public access to plantations for recreational purposes must be ensured, respecting property rights and those of others, the effects on resources and ecosystems, and the compatibility with the other functions of the plantation.	Not applicable	Not applicable
6.pi.d	Sites of recognised and special historical, cultural or spiritual significance must be protected and managed in a manner that takes due account of the importance of the site.	Not applicable	Not applicable
6.pi.e	Plantation managers, contractors, operators and owners must be sufficiently informed and encouraged to keep up-to-date through continuous training courses on sustainable plantation management issues.	The owner/manager and farm operators must demonstrate that they are informed and up-to-date on developments in	Presence, completeness and continuous updating of documentation and/or records.

		Sustainable Plantation Management.	

Management practice			
n	Guidelines	Measurement parameter	Criticality threshold
6.pr.a	Plantation management practices must make the best use of local experience and knowledge available in the area, such as that of local communities, landowners, non-governmental organisations and locals.	The owner/manager must demonstrate that the cultivation practices employed have been validated both by operational experience in the area where the plantation is located and by research activities.	Presence of information sources and/or documentary references
6.pr.b	Working conditions must be safe and provision must be made for the provision of guides and appropriate training on the subject of safety at work.	Compatible with the size of the business, the owner/operator must demonstrate: the safety measures and actions taken with regard to management activities in the plantation; participation in safety courses for refresher purposes.	Presence of equipment, machines, auxiliary materials complying with safety regulations; Presence of sources of information and/or documentary references.
6.pr.c	Management operations must take into account all socio-economic functions, and especially the recreational function and aesthetic values of plantations, e.g. maintaining diversified structures, favouring the most attractive trees, collectives and other characteristic aspects such as colours, flowers and fruit. This must, however, be pursued in such a manner and to such an extent that it does not lead to negative effects on tree resources and plantations.	Not applicable	Not applicable
6.pr.d	Local experience and knowledge shall be evaluated, as well as innovations and good practices promoted by owners and managers, civil society organisations and local communities. The benefits of applying this knowledge shall be fairly distributed.		

ITA 1001-3 Annex 1

PEFC Technical Standards for Sustainable Management of Medium-Long-Term Tree Plantation

The technical standards of Sustainable Management of medium-long-term Tree Plantation are aimed at obtaining wood products for the wood, veneer, or other wood products industries (e.g. packaging wood, shredded wood, biomass) and non-wood products (e.g. fruit, honey, mushrooms, oils and resins, etc.).
The indications given are compatible with current legislation and are aimed at identifying sustainable management indicators for tree plantations (does not include Short Rotation Forestry).

Suitability

The land

Medium-long rotationPlantations must be established on soils suitable to the needs of the species and clones used for planting. Where present, reference must be made to Suitability Maps drawn up by territorial bodies and subjects for the suitability of species for tree plantations in order to guarantee high productivity for the plantations themselves. Areas with known and/or ascertained limitations in the planning phase must therefore be excluded.

Species-environment relationship

The species and clones used must be suitable for the characteristics of the station chosen for cultivation. When planting and managing plantations with robinia and other potentially invasive species, all precautions must be taken to prevent these species from spreading to the land surrounding the plantation.

Nursery materials

Quality requirements for nursery material
Nursery material must be produced and marketed in compliance with national and, where present, regional regulations.

Distances and planting densities

Tree Spacing and planting layout

Both open-field and linear plantations are permitted. The latter may consist of 1 row of trees, or trees and shrubs, and must be considered linear and have a width equal to or less than 10% of the length. The width, in young plants, is to be considered by conventionally assigning the projection of the crown to the ground of the adult plant 6 m in diameter. This implies that 1667 linear m corresponds to 1 hectare in open-field. In medium-long term linear plantations the number of tree plants per hectare must comply with regional regulations.
In open-field tree plantations the number of tree plants at the end of the cycle shall not exceed 400 per hectare.

Planting periods in relation to the characteristics of the nursery material

New plantings must be established with planting stock in dormant conditions (November-March), avoiding the most intense frost periods that may hinder the opening and proper closing of the holes.With the use of container-grown planting material, the planting period can be shifted to within one month of vegetative rest.

Planting according to site characteristics

For planting, careful preparation of the soil is indispensable; ploughing up to 30-50 cm is permissible, combined, in loamy-clayey soils or soils with poor drainage, with subsoiling up to 70-120 cm aimed at breaking up the tillage slab. Subsoiling is also desirable in deep soils and in situations where the transport of soil layers with unfavourable chemical or physical characteristics to the surface must be avoided.
For loamy-clayey soils, it is mandatory that the soil be prepared in a temperate state preferably by the end of October prior to planting.
Planting will be carried out using techniques suited to the characteristics of the planting material. If there is a risk of damage caused by wildlife, suitable protection must be used. Drainage ploughing towards the centre of the inter-row, necessary to avoid water stagnation, must be carried out in the autumn.

Fertilisation

In sensitive areas with good water availability, and frequently characterised by loose, deep, cool soils, good wood production can be achieved by limiting the input of mineral fertilisers.
Background fertilisation, where envisaged, should not include nitrogen, except for organic fertilisers (manure, compost or green manure of leguminous plants is recommended). Only the administration of phosphorous ($P\ O_{25}$) and potassium ($K_2\ O$) is allowed, which may not exceed 125 and 175 kg/ha respectively (higher doses are allowed in the case of special requirements supported by chemical analyses issued by accredited laboratories). Nitrogen fertilisation is permitted during the production cycle.

Pruning

Pruning must be adapted to the vigour and species of each individual plant, both in technique and intensity, and must be carried out at appropriate times of the year.
The qualification phase ends when a straight stem without branches (called the 'royal stem') of sufficient length is obtained from each plant at the end of the cycle.

Cutting modes

When removing an entire branch, the cut must be made close to the stem, but respecting the branch bead. No stumps of the branch should be left because these will turn into passing (or falling) knots that will greatly depreciate the timber of future semi-finished products.

Size of branches to be pruned

Pruning must be carried out before unwanted branches exceed a diameter of more than 3-4 cm.
In certain cases, especially in very fertile soils and in optimal stationary conditions for medium (e.g. walnut or cherry) or fast (e.g. poplar) growing species, in order to limit the diameter of the branches at the point of insertion into the stem, it may be necessary to carry out 'control pruning' on the most vigorous branches.

Production pruning (or limbing)

The purpose of limbing (or production pruning) is to contain the knots and scars resulting from the removal of branches, in as small a central cylinder as possible.
After each pruning, the foliage should be 2/3 to 1/2 of the total plant height.
At the end of the pruning period, limbing should not push the length of the actual stem (i.e. the one without branches) beyond 25-33% of the tree's final height.

Soil management

Operation plan for soil working

During the first 6-7 growing terms, in order to improve the structure and permeability of the active layer of soil and to control weeds, working the soil with disc harrows, rotary harrows, grubbers, hoes, tillers,

etc., depending on the type of soil, is of fundamental importance.
After the first 4-5 growing seasons, the number of annual tillage operations are gradually decreased until they are completely eliminated by the 10th[a] growing season. Should they still be necessary, they must be adequately justified in the tillage register. Any weeds can be controlled by mowing or shredding, avoiding operations in May (the period of reproduction of wildlife).

Pest control

Containment of spontaneous vegetation must be carried out mechanically (by mowing, harrowing, hoeing, milling or chopping) or by the use of mulching materials. The use of chemical herbicides is not permitted, with the exception of derogations authorised by the regional phytosanitary services.

Irrigation

Emergency irrigation may be carried out in the first years of planting in the event of particularly adverse seasons. All irrigation activities must be recorded in a special register.

Use and choice of plant protection products

No scheduled phytosanitary treatments are carried out for tree plantations. In the case of the emergence of adversities, only the targeted use of the active ingredients indicated for diseases, defoliators and woodworms is permitted on the affected plants, using the products allowed by Italian legislation only on specific derogations issued by the Regional Phytosanitary Service. All regulations and possible limitations of use must be observed. When distributing phytosanitary products, all possible precautions must be taken to reduce damage to the operator and the environment: comply with the dosages of the active ingredients and the indications regarding water volumes, carry out spraying in the absence of wind and during the coolest hours of the day, choose the commercial products with the lowest toxicity considering their efficacy, carry out periodic maintenance work on equipment, use personal protective clothing.

Uses for timber

The harvesting of the woody material must be carried out by felling all the plants in the plantation by specialised harvesting contractors that are obliged to operate in accordance with the legal regulations in force.
After cutting, the soil must be restored for agricultural use also by shredding or removal of the root system, with the exception of plantation stumps which, after harvesting, can be raised for further production terms. When the viability of the stumps is exhausted, the root systems must be removed and the soil restored for agricultural use.