

Olive Nursery Certification Standards

Minimum Fruit Plant Certification Standards for
Olive (*Olea europaea*): Basic Requirements of
GPU/Mother Block, Multiplication Block and
Nursery Registration & Certification



GOVERNMENT OF PAKISTAN
Ministry of National Food Security and Research
National Seed Development and Regulatory Authority
(NSDRA)





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Islamabad, the 2nd December, 2025

NOTIFICATION

F.No.04/Coord/NSDRA/25: In exercise of the powers conferred by Section 4 (J) of the Seed (Amendment) Act, 2024, the Minimum Fruit Plant Certification Standards for Olive (*Olea europaea*) are notified as under:

Basic Requirements of GPU, and Nursery Registration and Certification

Section	Criteria / Requirement	Details
1. Location and Land Requirement	General Requirements and Soil Health	- Land must be free from nematodes, weeds, soil-borne pathogens, and waterlogging. - Proper drainage system required. - The site must not have any fruit or vegetable cultivation for at least two years to ensure phytosanitary safety. - In case of nursery carried out in the soil after pulling out the plants, before establishing the new nursery cycle, a three-year rotation with cereals is needed.
2. Isolation Requirements	Pre-basic block GPU/ Mother Block	- Preferably in a protected screen house in a pot filled with soil/mixture free from nematodes, soil-borne pathogens. If not available, in an open field free from nematodes, soil-borne pathogens, and waterlogging, must maintain 500 m isolation from any uncertified olive plant and other vegetation within 20 m. - Maintain 3.0 m plant to plant and 5.0 m row to row distance.
	Basic block Multiplication block	- Maintain 20 m vegetation-free surroundings. - Maintain 1 to 1.5 m plant to plant and 3 to 4 m row to row distances according to the specific growth habits of the cultivars.
	Certified category Nursery plants	- Maintain 15 m isolation from uncertified plants. - Maintain 3 m vegetation-free surroundings. - Maintain 20 cm plant-to-plant and 50 cm row-to-row distance (Nursery established in the Soil).
3. Inspection Schedule	No. of inspections	- The Pre-basic and Basic Blocks should be monitored twice a year for varietal integrity and health status. - Minimum two inspections will be carried out for nursery



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		plant production: 1. At the time of rooting and transplanting. 2. Before the sale of nursery plants.
4. Purity Standards	Trueness to Type	i. Extreme care will be taken in establishing the GPU. Trueness to type must be proved through source verification and/or DNA profiling. The molecular technique used for varietal identification must be repeatable, reproducible, and efficient in varietal identification. In case of the establishment of a new GPU in the private or public sector, relevant Research Institute(s)/organization and FSC&RD may get involved to facilitate the establishment. ii. Layout of the Pre-Basic and Basic Blocks of the GPU will be properly displayed, and 100% varietal purity will be ensured in these blocks. iii. For Nursery plant propagation a. The plants should be 99.8 % True to type.
5. Pest and Disease Tolerance	Monitoring	- Annual monitoring of Pre-basic and Basic blocks for varietal integrity and health. Immediately remove diseased, abnormal, or off-type plants. - Regular pest and disease monitoring shall be carried out in the nursery to ensure early detection and prevention of infestations. The diseased, abnormal, or off-type plants should be immediately removed. - Use axillary buds/apical shoots for nursery plant production when <i>in vitro</i> plant propagation technology is applied. - Prefer container-grown plantation by using sterilized containers, tools, and soil to minimize soil disease, nematodes, etc.
6. Scion and Root Source Requirements	Graft quality	i. Grafted plants should have functional grafts, no buds/shoots below the graft union and having vigorous upright main stem/shoot should be selected for sale. The grafted plant should bear the following characteristics:



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		Grafted plants should have: • Functional graft union. • No buds/shoots below graft union. • Vigorous upright main stem/shoot.
	Grafting height	10–15 cm from the ground.
	Rootstock diameter	1.0 to 1.5 cm rootstock diameter
Nursery Plants and Source of Cutting	Cutting Details and Record Keeping	- Cuttings should be obtained from a certified and registered Multiplication Block. - Cuttings should be taken from the middle part of one-year-old shoots (flexible semi-hardwood); length $\approx$ 7 - 10 cm, and diameter of $\approx$ 0.4 - 0.7 cm with 2–3 active nodes. - Records of the quantities of usable propagation material (cuttings) that can be collected from each mother (source) plant should also be maintained. - Variety-wise detailed records and the success ratio of plant development from cutting must be documented.
	Plant Characteristics	- Nurseries should sell plants between 12 to 24 months old. - The nursery plant height, at the time of certification, should be from 50 cm to 75 cm. It must be grown in poly bags having at least a height of 20 – 25 cm, with a 10 – 15 cm diameter, and having side holes for proper drainage. - The nursery plant should be on a single stem. - The nursery plant should have a well-developed root system.



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Form 1

“DISEASE FREE” HEALTH STATUS
TABLE FOR “PRE-BASIC”,
“BASIC” AND “CERTIFIED” MATERIAL:
DISEASES AND HARMFUL ORGANISMS.

Disease / Harmful organism	Health status			
	Acronym	Mother Block/Pre Basic	Multiplication Block/Basic	Nursery/Certified
Tolerance Range of Different Diseases				
VIRUSES				
Arabis mosaic	ArMV	X	X	X
Cherry leafroll	CLRV	X	X	X
Strawberry latent ringspot	SLRV	X	X	X
Olive leaf yellow associated	OLYaV	X	X	X
FUNGI				
Verticillium wilt: <i>Verticillium dahliae</i>		X	X	X
BACTERIA				
Olive knot	PSDMSA	X	X	X
<i>Xylella fastidiosa</i>	XYLEFA	X	X	X
NEMATODES				
<i>Meloidogyne incognita</i> and <i>M. javanica</i> (Root knot Nematodes)		X	X	X
<i>Pratylenchus vulnus</i> (Lesion Nematodes)		X	X	X
<i>Xiphinema diversicaudatum</i> (Dagger Nematodes)		X	X	X

Note: Proper sanitary checks should also be adopted for the control of the insect vector.

HEALTH STATUS: Certified Disease-free

Date



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Form 2

Procedure for the assessment of “Disease-free” health status of Primary Sources, “Pre-basic” and “Basic” propagating materials

Disease and/or Harmful organism	CHECKS				
	Visual inspection		Laboratory testing		
	Time	Frequency	Sampling type and time	Technique	Frequency
VIRUSES					
Arabis mosaic Cherry leafroll Strawberry latent ringspot Olive leaf yellow is associated	Spring and Autumn	Bi- Annual	<u>Cortical scrapings from well-lignified branches:</u> in Spring or early Autumn	RT- PCR or Standard visual and laboratory diagnostics	In doubtful cases
FUNGI					
Verticillium wilt: <i>Verticillium dahliae</i>	From April to September	Bi- Annual	Vascular tissues of 1-2 years branch portions.	Standard visual and laboratory diagnostics	In doubtful cases
BACTERIA					
Olive knot: <i>Pseudomonas savastanoi</i> pv <i>savastanoi</i> <i>Xylella fastidiosa</i> sub <i>pauca</i>	Spring and Autumn	Bi- Annual	Affected plant areas	Standard visual and laboratory diagnostics	In doubtful cases
NEMOTODES					
Meloidogyne incognita and M. Javanica (Root knot Nematodes) Pratylenchus vulnus (Lesion Nematodes) Xiphinema diversicaudatum (Dagger Nematodes)		Bi-Annual	Random soil sampling of whole plot	Standard isolation and diagnostics	Random soil sampling of the whole plot

HEALTH STATUS: Certified Disease-free

Date



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Form 3

Procedure for the assessment of “Disease Free” health status of Nursery Plants

Disease and/or Harmful organism	CHECKS				
	Visual inspection		Laboratory testing		
	Time	Tolerance Range	Sampling type and time	Technique	Frequency
VIRUSES					
Arabis mosaic	Time of Certification	Nil	<u>Visual Inspection</u>	Referring to the laboratory in doubtful cases	All Suspected Plants
Cherry leafroll					
Strawberry latent ringspot					
Olive leaf yellow associated					
FUNGI					
Verticillium wilt: <i>Verticillium dahliae</i>	Time of Certification	Nil	<u>Visual Inspection</u>	Referring to the laboratory in doubtful cases	All Suspected Plants
BACTERIA					
Olive knot: <i>Pseudomonas savastanoi</i> pv <i>savastanoi</i> <i>Xylella fastidiosa</i> sub <i>pauca</i>	Time of Certification	Nil	<u>Visual Inspection</u>	Referring to the laboratory in doubtful cases	All Suspected Plants
NEMOTODES					
Meloidogyne incognita and M. Javanica (Root knot Nematodes)	Time of Certification	Nil	Random soil sampling	Standard isolation and diagnostics	Complete Nursery Soil Analysis
Pratylenchus vulnus (Lesion Nematodes)					
Xiphinema diversicaudatum (Dagger Nematodes)					

HEALTH STATUS: Certified Disease-free

Date



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Role and Responsibility

Sr. No.	Organization/ source	Role & Responsibility
1.	NSDRA/FSC&RD	i. Participate, from a regulatory point of view, in the establishment of the GPU. ii. Registration and Monitoring of the GPU. iii. Point of contact for all stakeholders. iv. Certification of the Nursery Plants.
2.	Provincial Research System	i. Monitor and maintain the GPUs established in the respective provinces for pest and disease management, and all sorts of practices recommended in this document. ii. Keep a record of all management practices. iii. Assist FSC&RD in disease testing.
3.	Olive Nursery	i. Get registered with FSC&RD. ii. Take propagating material from recognized GPUs. iii. Timely application to FSC&RD for certification of the nursery plants. iv. Keep a record of all nursery management practices and propagating material.

The Olive Certification and Nursery Standards have been developed in accordance with international NEPPPO (Near East Plant Protection Organization) standards, and in adherence to the Pakistan Fruit Plant Nursery Certification Rules, 1998 (amended 2003), in consultation with the Italian OliveCulture Scaleup Project implemented by CIHEAM BARI, Italy, and extensive stakeholder consultation.

This issues with the approval of Chairperson NSDRA.

(Dr Nasim Begum)
Director Coord NSDRA