



Dearbhú Cáilíochta  
agus Cáilíochtaí Éireann  
Quality and  
Qualifications Ireland

# QQI AWARDS STANDARDS.

Horticulture

December 2023



# Foreword

The Qualifications and Quality Assurance Act 2012 requires QQI to ‘determine the standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made by the Authority’. QQI award standards are based on the level indicators and award type descriptors of the National Framework of Qualifications (NFQ) and are governed by QQI Policy for the Determination of Award Standards.

Based on systematic engagement with subject matter expertise and public consultation, award standards for certain broad fields of learning were developed for QQI awards at level 1-4 on the NFQ. These standards represent an elaboration of the generic descriptors of the NFQ. They should facilitate experts in particular fields of learning to create the link between their programmes’ intended learning outcomes and the NFQ. Each award standard is cumulative, the statements of knowledge, skill and competence at NFQ levels 2, 3 and 4, build on the attainment of standards at lower levels, which are not necessarily reproduced at the higher level(s). The implementation and use of these standards is subject to QQI Policy and Criteria for the Validation of Programmes and QQI Policy for the Making of Awards. Whenever an award standard changes, programmes must be updated and validated against the new standards.

These standards are not programme specifications. It is through these, however, that the relationship between a programme, its component parts and the NFQ should be evident. The standards are a reference point and a point of comparison against which individual programmes may be justified.

They are intended to provide general guidance for articulating the learning outcomes associated with a particular field of learning. In designing programmes, providers must take cognisance of the standards for specific fields of learning where they generally relate to the programme being developed. It is, however, recognised that there is a significant growth in multi-disciplinary/inter-disciplinary programmes; there are emerging fields of learning; and in addition, within each field there is the vast spectrum of programmes possible based on a wide range of purpose. In this context, it is not possible to have a standard, or multiple standards, that cater for the complete range of programmes possible. It is therefore expected that the standards for specific fields of learning will be used as reference points for the design of programmes. In designing programmes, providers can draw from more than one standard.

In drafting the standards every effort has been made to ensure that they will provide for flexibility and variety in the design of programmes and therefore encourage innovation within an overall agreed framework. It is not expected that all programmes will include every learning outcome identified in a standard. It is, however, expected that many programmes will include learning outcomes that are not included in the relevant standard.

When designing a programme, each learning outcome in the standard should be considered. Where departure from these is necessary, it should be justified in the context of the specific orientation of the programme and other facts pertaining to it. Each programme provider should be able to demonstrate how the design and content of its own programmes has been informed by the standard.

The level descriptors of the Framework, the award type descriptors and consequently the standards for the specific fields of learning are divided into three different types of learning outcomes - knowledge, skill and competence. These strands are further subdivided into eight sub-strands. Each strand/sub-strand is important. The relative weighting of each strand in a programme will vary from programme to programme. The weighting will be determined by many factors, including for example, the practical nature of a programme, or otherwise.

Each strand/sub-strand should be addressed appropriately in every programme. Where a programme is multidisciplinary or inter-disciplinary in nature, the use of more than one standard may be necessary. In such cases, the scope, depth and balance of knowledge, skill and competence should be attended to.

The titles of awards made by QQI on foot of these award standards shall be consistent with QQI Policy on the Making of Awards with an exception in the case of major awards where the named award stem shall have the following form: 'Level X Certificate in Lifelong Learning in' [specialisation].

These standards are determined by QQI under section 49(1) of the Qualifications (Education and Training) Act 2012.

## AWARD STANDARDS – HORTICULTURE AT NFQ LEVELS 3 TO 4

### Purpose

The purpose of this broad award standard is to enable design of a variety of programmes enabling the learner to develop the relevant knowledge, skill and competence in horticulture at NFQ Levels 3 and 4.

**Note: The indicators at each level build on the skills from the previous one.**

The outcomes at each NFQ level include those of all the lower levels in the same sub-strand unless stated otherwise.



## KNOWLEDGE

NFQ	LEVEL 3	LEVEL 4
Knowledge breadth	Knowledge moderately broad in range	Broad range of knowledge
Knowledge kind	Mainly concrete in reference and with some comprehension of relationship between knowledge elements	Mainly concrete in reference and with some elements of abstraction or theory
	The learner should be able to show the following:	The learner should be able to show the following:
<b>Synopsis of knowledge</b>	General knowledge of the principles and practices of modern and sustainable horticulture.	General knowledge and understanding of the principles and practices of modern and sustainable horticulture.
<b>Sustainability</b>	General knowledge of the long-term sustainability and sustainable use of natural resources, including the land and plants (for example, organic methods).	General knowledge and understanding of the long-term sustainability and sustainable use of natural resources, including their economic and social benefit.
<b>Plant science</b>	General knowledge of: <ul style="list-style-type: none"> <li>• main parts and features of plants and their functions</li> <li>• the basic needs of plants as living things</li> <li>• the structures for servicing plant life functions</li> <li>• common plant species and wildlife.</li> </ul>	General knowledge and understanding of: <ul style="list-style-type: none"> <li>• main parts and features of plants and their functions</li> <li>• the basic needs of plants as living things</li> <li>• the sophisticated structures for servicing plant life functions.</li> <li>• common plant species and wildlife.</li> </ul>



<b>Propagation and growth</b>	<p>General knowledge of:</p> <ul style="list-style-type: none"><li>• plant propagation techniques, plant physiology and the range of 'growing media' and equipment available for propagation</li><li>• natural and artificial propagation methods</li><li>• the general requirements for plant propagation and seed germination</li><li>• natural and artificial methods of increasing plant numbers</li><li>• factors that affect plant growth and reproduction</li><li>• tools and equipment used to improve plant growth and reproduction</li><li>• techniques and maintenance carried out during the growing process.</li></ul>	<p>General knowledge and understanding of:</p> <ul style="list-style-type: none"><li>• plant propagation techniques, plant physiology and the range of growing media and equipment available for propagation of a wide variety of plants, flowers, shrubs, crops and trees</li><li>• the difference between natural and artificial propagation methods</li><li>• the general and specific requirements for plant propagation and seed germination for a variety of plants</li><li>• the natural and artificial methods of increasing plant numbers and the benefits and consequences of increasing plant numbers.</li><li>• factors that affect plant growth and reproduction and their implications</li><li>• a wide range of tools and equipment used to improve plant growth and reproduction</li><li>• techniques and maintenance carried out during the growing process.</li></ul>
<b>Growing media</b>	<p>General knowledge of:</p> <ul style="list-style-type: none"><li>• standard growing media and the main functions and uses of range of fertilisers</li><li>• soil formation composition and fertility</li><li>• characteristics of fertile soil</li><li>• importance of protecting the environment and sustainable work practices within the horticulture sector.</li></ul>	<p>General knowledge and understanding of:</p> <ul style="list-style-type: none"><li>• the function and use of a wide variety of fertilisers</li><li>• soil formation, composition and fertility and the benefits of fertile soil in growing plants</li><li>• characteristics and benefits of fertile soil.</li><li>• standard and emerging growing media in use today.</li><li>• importance of protecting the environment and sustainable work practices within the horticulture sector.</li></ul>
<b>Gardening / landscaping</b>	<p>General knowledge of:</p> <ul style="list-style-type: none"><li>• everyday garden tools and equipment.</li><li>• garden design of garden types for different purposes.</li></ul>	<p>General knowledge and understanding of:</p> <ul style="list-style-type: none"><li>• garden tools and equipment (including power tools).</li><li>• garden design and features of garden types for different purposes.</li></ul>



## Market / gardening

General knowledge of:

- the floristry, fruit or vegetable industry
- plant health, disease, pest identification and control
- flowers, fruit and vegetable grown locally
- biosecurity measures for an enterprise
- importance of protecting the environment and sustainable work practices.

General knowledge and understanding of:

- the floristry, fruit and vegetable industries from production to retailing and the potential these areas hold for development and employment
- techniques for plant health, disease, pest identification and control
- flowers, fruit, and vegetable grown locally and globally and their contribution to society
- quality assurance system used to classify the quality of a commercially grown crop
- importance of protecting the environment and sustainable work practices.



## KNOWLEDGE

NFQ	LEVEL 3	LEVEL 4
Know-how and skill range	Demonstrate a limited range or practical and cognitive skills and tools	Demonstrate a moderate range of practical and cognitive skills and tools
Know-how and skill selectivity	Select from a limited range of varied procedures and apply known solutions to a limited range of predictable problems	Select from a range of procedures and apply known solutions to a variety of predictable problems
	<p>Show ability to:</p> <ul style="list-style-type: none"><li>• care for a limited range of plants using common appropriate techniques including plant handling techniques</li><li>• act in accordance with basic good soil management principles under direction</li><li>• sustainably compost from garden</li><li>• use and store everyday garden tools</li><li>• draft garden designs incorporating a number of features that serve particular purposes</li><li>• use correct harvesting techniques for a wide variety of plants, shrubs, trees and flowers</li><li>• follow a basic range of procedures (including record keeping) and apply known solutions appropriate to predictable problems in a horticultural context</li><li>• carry out routine tasks in line with safe work practices</li><li>• communicate identified difficulties, issues and problems to the relevant person.</li></ul>	<p>Show ability to:</p> <ul style="list-style-type: none"><li>• care for a wide range of plants using common appropriate techniques including plant handling techniques</li><li>• act in accordance with basic good soil management principles</li><li>• sustainably compost from garden and household waste</li><li>• use, maintain and store everyday garden tools</li><li>• correct harvesting techniques for a variety of plants</li><li>• follow a variety of procedures (including record keeping) and apply known solutions appropriate to predictable and unpredictable problems in a horticultural context</li><li>• appropriately communicate and report identified issues and problems</li><li>• identify environmental hazards and potential risks associated with work activities</li><li>• correct and safe use of tools, chemicals and specialised equipment for tasks.</li></ul>



## KNOWLEDGE

NFQ	LEVEL 3	LEVEL 4
Competence context	Act within a limited range of contexts	Act in familiar and unfamiliar contexts
	Act in a limited role in a limited range of contexts under supervision.	Act in a range of roles and contexts in familiar and unfamiliar contexts.

## KNOWLEDGE

NFQ	LEVEL 3	LEVEL 4
Competence role	Act under direction with limited autonomy; function within familiar, homogenous groups.	Act with considerable amount of responsibility and autonomy
	Work as part of a team, under supervision, in a learning and / or work environment. Take responsibility for own behaviour in relation to colleagues, the wider horticultural community, and the natural environment.	Work independently and as part of a team in a learning and / or work environment. Take responsibility for own behaviour in relation to colleagues, the wider community, and the natural environment.





## KNOWLEDGE

NFQ	LEVEL 3	LEVEL 4
Competence learning to learn	<b>Learn to learn within a managed environment</b>	<b>Learn to take responsibility for own learning within a supervised environment</b>
	Use curiosity and insight to improve personal growth and development.  Use structured feedback and personal experience to inform and develop own contribution in a learning environment.	Take responsibility for personal learning in a structured context to improve horticulture specific knowledge and skills.  Use feedback, self-awareness, and reflection to develop professional skills, personal growth and knowledge.

## KNOWLEDGE

NFQ	LEVEL 3	LEVEL 4
Competence insight	<b>Assume limited responsibility for consistency of self-understanding and behaviour</b>	<b>Assume partial responsibility for consistency of self-understanding and behaviour</b>
	Be aware of own attitudes and values and their influence in horticulture work environments.  Show an awareness of environmental hazards associated with work activities in horticulture settings.	Behave consistently with essential ethical and professional norms and standards when working in horticulture environment.  Show commitment to sustainable work practices within the horticulture sector.



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