



IfATE

Shaping skills training

Standard Draft Preview

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Standard in development

L3: Crop technician

Version 1.1

Title of occupation

Crop technician

UOS reference number

ST0018

Core and options

Yes

Option title/s

Soil Based Systems Crop Technician

Container Based Systems Crop Technician

Level of occupation

Level 3

Occupational maps data

Route: Agriculture, environmental and animal care

Pathway: Agriculture, Land Management and Production

Cluster: Production Horticulture Operative/Technician

Typical duration of apprenticeship

24 months

Target date for approval

31/12/2024

Resubmission

No

Would your proposed apprenticeship standard replace an existing framework?

No

Does professional recognition exist for the occupation?

No

Regulated occupation

Is this a statutory regulated occupation?

No

Occupation summary

This occupation is found in a diverse range of businesses, spanning from small enterprises to international organisations.

Crop Technicians in the agriculture and horticulture industries serve as the foundation for both food production and landscaping.

Their work encompasses various environments, including soil-based systems and container-based systems.

In soil-based systems, crop technicians are likely to operate large, technically advanced machinery in open fields.

Crop technicians working in container-based systems may spend some time outside, but the majority of their work occurs in controlled environments. These environments require constant monitoring and adaptation to suit the growth stage and species being cultivated.

The broad purpose of the occupation is to optimise crop and plant yields through establishment, management, harvest, and post-harvest operations while maintaining and improving the surrounding environment.

They stay up to date with technological advances and may specialise in either soil-based or container-based systems. Soil-based systems involve growing crops in fields, adapting to weather conditions, while container-based systems are managed environments used for horticulture and tree growth.

In their daily work, an employee in this occupation interacts with the crops they manage. They monitor growth stages, assess health, and address any issues, such as pests or diseases.

They will work with colleagues and supervisors to coordinate tasks, share insights, and work together to achieve optimal crop yields.

An employee in this occupation will be responsible for ensuring high-quality sustainable crop production.

Crop technicians will work independently and as part of a team. They need to be self-motivated to complete tasks.

Some routine tasks are automated, requiring technical skills to operate machinery.

They are typically responsible for the efficient use of natural resources such as soil and water. They will also manage plant nutrients and adapt their approach to changing weather conditions and environments.

Crop technicians adopt sustainable practices to minimise environmental impact and adhere to safety protocols when operating machinery or handling chemicals.

Typical job titles

Arable technician

Horticulture operative

Are there any statutory/regulatory or other typical entry requirements?

No

Core occupation duties

DUTY	KSBS
<p>Duty 1 Promote and maintain health, safety, hygiene and site security across productive and non-productive areas of the site.</p>	<p>K1 K2 K3 K4 K5 K12 K20 S1 S2 S3 S6 S12 S13 S25 S26 B1 B2 B3 B4 B8 B9 B10</p>
<p>Duty 2 Manage digital or paper-based record keeping including crop quality related data, chemical, productivity and legislated financial records.</p>	<p>K3 K4 K9 K13 K20 S1 S2 S6 S7 S10 S25 S26 B1 B2 B3 B4 B10</p>
<p>Duty 3 Manage the end-to-end crop production process to ensure compliance with current environmental legislation and ensure economic sustainability.</p>	<p>K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K15 K16 K20 S1 S2 S3 S4 S5 S6 S7 S9 S10 S11 S12 S13 S14 S15 S16 S25 S26 B2 B3 B4 B5 B6 B7 B8 B9 B10</p>
<p>Duty 4 Operate and carry out maintenance on machinery, equipment or technology.</p>	<p>K1 K2 K3 K5 K10 K16 K20 S3 S6 S8 S10 S11 S25 S26 B1 B4 B5 B10</p>
<p>Duty 5 Operate and maintain vehicles appropriate to the organisation in line with certified requirements where applicable. For example, telehandler, electric vehicle, all terrain vehicle or forklift.</p>	<p>K1 K2 K5 K20 S3 S6 S9 S10 S25 S26 B1 B4 B6 B10</p>
<p>Duty 6 Plan and carry out the end-to-end crop development cycle from receipt, establishment and growth through to harvest and dispatch in accordance with the customer specification and the environment</p>	<p>K4 K6 K7 K8 K13 K14 K20 S4 S12 S14 S15 S25 S26 B1 B2 B3 B4 B5 B7 B8 B9 B10</p>
<p>Duty 7 Identify the likely pests, weeds and diseases and create an integrated pest management plan for treatment and storage of relevant materials, chemicals and biological agents.</p>	<p>K1 K2 K3 K5 K6 K10 K11 K13 K20 S2 S7 S25 S26 B1 B2 B3 B4 B5 B6 B8 B9 B10</p>

<p>Duty 8 Apply nutrients and irrigation as required by the crop taking in account plant requirements and changes in conditions.</p>	<p>K1 K2 K3 K4 K5 K6 K7 K8 K9 K11 K14 K20</p> <p>S3 S5 S6 S8 S12 S14 S15 S16 S25 S26</p> <p>B1 B3 B4 B5 B6 B7 B10</p>
<p>Duty 9 Plan and carry out the harvesting/dispatch operation using appropriate techniques to match crops requirements for condition and quality.</p>	<p>K1 K2 K3 K6 K9 K11 K13 K14 K20</p> <p>S1 S2 S3 S6 S10 S11 S12 S25 S26</p> <p>B1 B2 B3 B4 B5 B6 B7 B8 B9 B10</p>
<p>Duty 10 Plan storage and movement ensuring that crop quality is maintained</p>	<p>K1 K2 K3 K6 K12 K13 K14 K20</p> <p>S1 S6 S10 S11 S12 S13 S25 S26</p> <p>B1 B2 B3 B4 B5 B7 B8 B9 B10</p>

Option duties

Soil Based Systems Crop Technician duties

DUTY	KSBS
Duty 11 Carry out maintenance of productive areas	K1 K2 K3 K6 K7 K8 K10 K11 K13 K17 K20 S1 S4 S5 S7 S9 S14 S15 S16 S17 S19 S25 S26 B1 B2 B3 B4 B5 B7 B8 B9 B10
Duty 12 Set and monitor machine performance to ensure good seed establishment, planting and plant growth	K1 K2 K5 K10 K17 K20 S1 S3 S4 S6 S7 S9 S10 S11 S17 S18 S25 S26 B1 B3 B4 B6 B9 B10
Duty 13 Set machinery to match crop and soil condition and quality requirements during harvest	K1 K2 K5 K17 K20 S1 S3 S6 S10 S11 S12 S18 S25 S26 B1 B3 B4 B6 B9 B10
Duty 14 Assess the impact of machinery on soil structure in accordance with current legislation	K1 K2 K3 K5 K10 K11 K13 K17 K20 S1 S3 S4 S5 S6 S7 S9 S10 S11 S14 S15 S16 S17 S18 S19 S20 S25 S26 B2 B3 B9 B10

Container Based Systems Crop Technician duties

DUTY	KSBS
<p>Duty 15 Carry out maintenance of productive and non-productive areas.</p>	<p>K1 K2 K3 K4 K5 K6 K7 K8 K10 K11 K12 K13 K18 K19 K20</p> <p>S1 S2 S3 S4 S5 S6 S7 S9 S12 S14 S15 S21 S22 S23 S24 S25 S26</p> <p>B1 B2 B3 B4 B5 B7 B8 B9 B10</p>
<p>Duty 16 Plan and carry out plant removal following completion of the growing, harvesting and dispatch cycle</p>	<p>K1 K2 K3 K4 K5 K6 K9 K13 K18 K19 K20</p> <p>S1 S2 S3 S6 S21 S22 S23 S24 S25 S26</p> <p>B1 B2 B3 B4 B5 B7 B8 B9 B10</p>

KSBs

Knowledge

- K1:** Health and safety legislation, regulations, guidelines and procedures relevant to own role. (Core)
- K2:** Risk identification and mitigation techniques for risk assessments relevant to own organisational policies and procedures. (Core)
- K3:** Workplace specific health and safety processes and procedures to ensure everyone is safe in the workplace. (Core)
- K4:** Environmental issues, legislation, codes of practice and company policies. (Core)
- K5:** Methods to maintain paper or electronic records in accordance with legislation. (Core)
- K6:** Policies, procedures, guidance and legislation related to the safe setup, operation, maintenance and storage of machinery, equipment, tools. (Core)
- K7:** Preparation methods, timing of activities, aftercare and monitoring requirements for the crops grown on-site. (Core)
- K8:** Crop identification and establishment process including principles and methods. (Core)
- K9:** Principles of plant growth, development and plant health. (Core)
- K10:** Input costs, cost of production, margins and impact on financial resilience and sustainability. (Core)
- K11:** Principles for developing and implementing an integrated pest management plan. (Core)
- K12:** The relationship between environmental conditions, plant protection methods and crop growth. (Core)

K13: The importance of biosecurity and how risks can be managed through disinfecting, cleaning and correct disposal of waste in line with company procedures, national regulations and legislation such as COSHH. (Core)

K14: Quality standards and specifications relevant to their business and their importance. (Core)

K15: Principles of environmental sustainability. (Core)

K16: Emergency response and first aid protocols and procedures. (Core)

K17: The impact of machinery on soil structure and potential damage it can cause and the associated legislation to consider. (Soil based)

K18: Different growing mediums and their impact and relevance to production on site. (Container based)

K19: The impact of different growing mediums on planning and crop growth. (Container based)

K20: Methods to identify and undertake learning and continuing professional development opportunities. (Core)

Skills

S1: Identify and mitigate risks to promote and maintain health, safety and security. (Core)

S2: Manage accurate paper or digital records within the workplace. (Core)

S3: Maintain and operate machinery and equipment in accordance with manufacturer operating instructions. (Core)

S4: Maximise economic sustainability by optimising plant growth when carrying out operations. (Core)

S5: Establish crops to ensure efficient and sustainable growth. (Core)

S6: Operate vehicles in accordance with manufacturer operating instructions. (Core)

S7: Control pests, weeds and diseases using integrated pest management. (Core)

S8: Apply and store pest management treatments in accordance with standard operating procedures, legislation and regulations. (Core)

S9: Carry out plant nutrient application or irrigation tasks required by the crop. (Core)

S10: Carry out harvesting and dispatch operations. (Core)

S11: Assess and monitor crops for quality, performance and specification requirements. (Core)

S12: Select harvesting techniques taking account of crop condition and quality requirements. (Core)

S13: Maintain biosecurity and hygiene practices in line with legislation, regulations and organisational requirements. (Core)

S14: Keep harvested crops in suitable conditions to maintain quality. (Core)

S15: Maintain soils or substrates to ensure sustainable, efficient and healthy growth. (Core)

S16: Sample and evaluate soils or substrates to determine nutrition requirements. (Core)

S17: Set and monitor machinery performance to ensure good seed or plant establishment and crop growth. (Soil based)

S18: Set machinery and equipment taking into account the crop, environment, soil condition and specification requirements. (Soil based)

S19: Maintain non-productive areas. (Soil based)

S20: Assess the impact of machinery on soil structure and identify potential damage in accordance with legislation. (Soil based)

S21: Optimise growth conditions for crops, based on the specific needs of the plant relative to the environment. (Container based)

S22: Maintain productive and non-productive areas. (Container based)

S23: Plan for and carry out the removal of waste materials following harvest or dispatch. (Container based)

S24: Evaluate and select different growing mediums taking into account site conditions and production requirements. (Container based)

S25: Comply with health and safety legislation, regulations, guidelines and procedures relevant to own role. (Core)

S26: Participate in learning and CPD activities. (Core)

Behaviours

B1: Promote and adopt a safety culture and apply proactively for self, colleagues and visitors.

B2: Act in a professional and ethical manner, with a flexible, positive attitude to work.

B3: Demonstrates a strong work ethic, takes pride in own work, pays attention to detail, and acts with integrity.

B4: Ability to use own initiative and is aware of limits of responsibility.

B5: Manage own time to achieve tasks to schedule.

B6: A willingness to learn and contribute to their own continuing professional development.

B7: Act in a way that builds and maintains positive relationships with colleagues, customers and suppliers.

B8: Team focused and works effectively with colleagues and others.

B9: Consider different approaches to current working practices, identifying improvements, developments and innovative ideas.

B10: Committed to keeping up with technological advancements, industry developments and best practice.

Qualifications

English and Maths

Apprentices without level 2 English and maths will need to achieve this level prior to taking the End-Point Assessment. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.

Does the apprenticeship need to include any mandated qualifications in addition to the above-mentioned English and maths qualifications?

Yes

Other mandatory qualifications

Safe Use of Pesticides. On completion of the pesticides foundation unit, also choose one of the following units: Boom sprayer, mounted, trailed or self-propelled equipment Granular applicator equipment Handheld applicator equipment

Level: 2

Additional information: <https://www.gov.uk/guidance/how-to-comply-with-pesticide-regulations-from-1-january-2021>

Ofqual regulated emergency first aid at work (1 day)

Level: 3

Consultation

Progression Routes

ST1320 Assistant farm manager 1.0 L4

Production horticulture manager L4

Supporting uploads

Mandatory qualification uploads

Mandated degree evidence uploads

Professional body confirmation uploads

Subject sector area

3.1 Agriculture